SECTION III

Multilevel climate governance & the integration of local governments

1. Definition and stakes around the multilevel governance

A. A need for cooperation recognized by national governments

The need for cooperation between the different levels of governance, and in particular the integration of the potential of action by cities and regions, is now widely recognised as a necessary effort to reach the objectives of the Paris Agreement and to make its implementation credible. This was the main message of the International Conference on Climate Action (ICCA) in May 2019 in Heidelberg, which the Director of the World Resources Institute (WRI) summarised as follow: "*harnessing the full power of towns and cities to drive the shift to a low-carbon, climate-resilient future requires action at all levels of government, with strong supportive policy frameworks, incentive systems and financial resources for sustainable infrastructure*" (WRI, 2019).

National States recognised at various occasions the need to strengthen the capacities for climate action of local and subnational authorities and to cooperate further with them. The IPCC (Intergovernmental Panel on Climate Change) clearly identified multilevel governance as a lever to achieve the Paris Agreement's objectives: "*Strengthening the capacities for climate action of national and sub-national authorities, civil society, the private sector, indigenous peoples and local communities can support the implementation of ambitious actions implied by limiting global warming to 1.5ºC*" and precises further "*Cooperation on strengthened accountable multilevel governance that includes non-state actors such as industry, civil society and scientific institutions […]*" (IPCC; 2018). So does the "Paris Rulebook" - the guidelines for the implementation and monitoring of the Paris Agreement - which includes (amongst other things) guidance on inclusions in NDCs[1] and "*reaffirms the key role of a broad range of stakeholders, including regions, cities, the private sector, intergovernmental organisations, non-governmental organisations, decision makers, scientists, youth, women and indigenous peoples*" (UN-Habitat, 2020).

The greater attention given to the specific role of local authorities in the issue of climate change has been motivated by various arguments along the past decades: better suited and more agile than central governments to address sustainability challenges (air quality, local development, etc.) they are all confronted to; their capacity to innovate and experiment policies and tailored strategies; the failure of intergovernmental cooperation and the COP process, etc. (Hickmann, 2021). Other benefits of municipal action include short decision-making pathways, good knowledge of the local situation, and proximity to citizens and to visible results (GIZ, 2021).

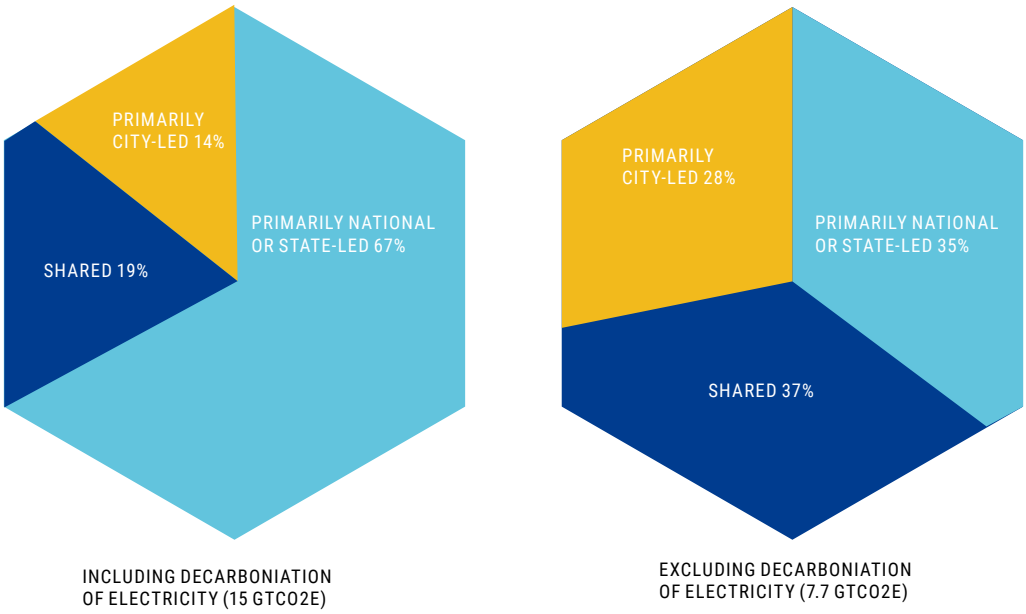
According to the *Coalition for Urban Transitions*, local governments in the world have in average direct power over less than one third of the emissions reduction potential in their cities (**fig. 1**). National and state governments have control over a further one third. More than one third relies therefore on different levels of government to work together to cut emissions, making the future of cities a vital collaborative effort (CUT, 2019).

1 Nationally Determined Contributions (NDCs) embody each country's efforts to reduce its national emissions and adapt to the effects of climate change (UNFCCC).

FIGURE 1

PROPORTION OF 2050 URBAN ABATEMENT POTENTIAL OVER WHICH DIFFERENT LEVELS OF GOVERNMENT HAVE PRIMARY AUTHORITY OR INFLUENCE

Source: Stockholm Environment Institute for the Coalition for Urban Transitions, 2019.



INCLUDING DECARBONIATION OF ELECTRICITY (15 GTCO2E)

EXCLUDING DECARBONIATION OF ELECTRICITY (7.7 GTCO2E)

The way in which this cooperation between local, subnational and national governments is achieved differs greatly from country to country and depends on the institutional history of each country and the historical relationships between these different levels. The question of financial means, the technical expertise held by local governments, of course, greatly determines the possibilities. In this section, Climate Chance therefore analyses the issues related to a better integration of local, subnational and national climate planning processes, and highlights relevant experiences.

B. The different dimensions and characteristics of the multilevel climate governance

A multilevel governance is a complex cooperation system between actors at all levels of government with several dimensions, that shapes the decision-making process (Odysee Mur, 2018[2]; **fig. 2**). We will mainly focus on the reciprocal integration between local, subnational and national levels but other dimensions of cooperation ensure an effective multilevel governance such as:

- the ability of local governments to work together or cooperate transnationally or "horizontally". This is particularly the role of the initiatives and networks described and analysed in Section I of this Synthesis Report on Local Climate Action 2021.

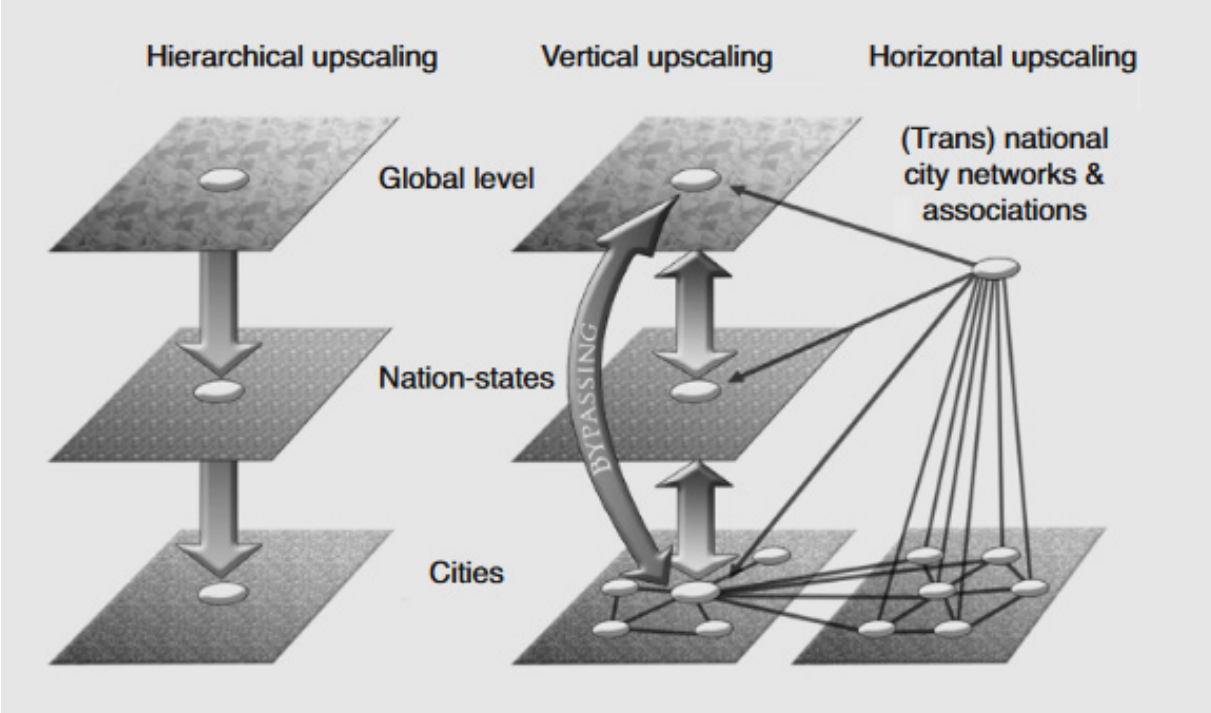
- the capacity to integrate citizens as well as private and local actors in the formulation of public policy, but also in its implementation and monitoring. Indeed, local authorities have often limited resources and are dependent on support from other governmental levels, but also "*international funding, civil society engagement and private corporations that all operate in the multi-level governance system*" (Hickmann, 2021).

2 Faberi,S (2018). Multi-level governance: linking up local, regional and national levels to deliver integrated sustainable energy action plans and projects. Odysse-mur project.

FIGURE 2

EMBEDDED UPSCALING IN MULTI-LEVEL CLIMATE GOVERNANCE

Source: Fuhr, H., Hickmann, T., & Kern, K. 2018. Based on Kern 2014.



The dimension we are interested in sometimes referred as "vertical integration" that can be defined as "*the efforts of coordination and reciprocal consideration of climate policies by the different levels of administrative governance of a country, in order to jointly develop, implement or monitor a climate mitigation or adaptation strategy*" (GIZ, 2018).

In a more recent report, the same author organisation defines the principle of Collaborative Climate Action (CCA) as a "*politically intended, well-organised cooperation across different levels of government to achieve defined climate targets, ideally through joint action*". By well organised, it also means a cooperation able to prevent contradictory measures (GIZ, 2021).

There is an undoubtable growing acceptance that cities and territories are an unavoidable level of action for both the formulation and implementation of national mitigation and adaptation policies, but thinking their cooperation beyond the mere top-down approach or each level respective approach, and identify better the resources and capacities of each authorities, has additional benefits.

Through the existing literature we can identify a series of objectives and gains (Biermann et al.,2009; Broekhoff et al.2015; Andonova et al.,2009; Fuhr, H., Hickmann, T., & Kern, K. 2018; GIZ, 2021), of which the most commonly posted are:

- greater efficiency in the local implementation of national or regional climate programmes;
- preventing contradictory measures and thus support coherence between policy and municipal action;
- a catalytic effect on the will and action of regional and local governments, eased by a stronger ownership;
- avoiding policy gaps between the different levels of climate planning;
- a better allocation of human and financial resources between different levels;
- the sharing of information and experience between different levels of governance.

Experiences and possibilities for integration are different according to the institutional, national, and even regional contexts. However, still based on this literature, we identified three main characteristics that can be used to assess the cooperation between levels of authorities.

1. THE RECIPROCAL CONSIDERATION OF AUTHORITIES

- a "top-down" approach with the integration of national climate strategy by local and subnational levels through the adoption of common objectives, or the implementation and adaptation to local context of priorities, policies, tools.

- a "bottom-up" approach with the integration of local and subnational policies into national strategies, by encapsulating the diversity of local characteristics that could be put to good use with adapted tools and policies.

Local and subnational governments are more likely to be integrated by National States as actors in the implementation of national objectives, as a vehicle at local level for national and often sectoral orientations. Consultation with local and sub-national governments - and through them the actors in their territories - during the design of national climate policies is progressing, as shown by our recent case studies on multi-level governance in the G20 countries (see **part 3**). However, little experience shows that their implementation and impacts are really taken into account in order to contribute to national policy cycles, their evaluation and their renewal and adjustment.

This is the objective of initiatives such as the Climate Action Aggregation Tool (CAAT). This online tool distils the step-by-step process laid out in the ICAT Non-State and Subnational Action Guide and was developed to support government experts, analysts and policymakers to identify, quantify and aggregate the impact of non-state and subnational actions. As a result, they can be integrated into mitigation targets, projections, and scenarios in support of policy development, policy evaluation and target-setting. Specifically, the CAAT enables users to (1) better quantify the impact of region, city, and business emissions reduction efforts, (2) evaluate how they overlap with or complement national policies, and (3) determine the impact of combined national and subnational efforts for integration into more holistic target-setting (ICAT, n.d).

2. STAGES OF A CLIMATE PLANNING PROCESS

Vertical integration can be facilitated at different stages in the implementation of a climate policy:

- Formulation: the most observed form of integration, consisting in adopting similar climate objectives and priorities, given by the higher administrative level.

- Implementation: some policies can benefit from a common implementation between different levels to preserve coherence in the territory. This is for example the case for mobility programmes and transport-related infrastructures, since the inhabitants cross several communities daily. Cooperation is also needed to use respective competencies.

- Monitoring-evaluation: integrating the monitoring evaluation process (M&E) of local policies at intermediate and national levels allows a more accurate vision of the progress and difficulties of implementation by local and regional authorities, a vision often weakened at national level. It also strengthens the coherence of measurement and accounting tools, as for now most cities and regions use different reporting systems from those used by national governments , or from one local government to another.

3. NATIONAL REGULATIONS AND THE COMPETENCES DEVOLVED TO CITIES AND REGIONS

National governments can create favourable conditions for local and subnational climate change mitigation through reporting systems, awarding environmental labels, certificates and prizes, or increasing municipal incomes that can be used for climate change measures as well as the coordination and cooperation among local authorities (UN-Habitat, 2020). The national legal, technical, and financial national frameworks greatly influence first the level of integration of local climate action into the national strategy, and secondly the level of articulation between local, subnational, and national climate planning processes. In parallel, the competences devolved to local and subnational authorities may also differ greatly from one country to another and can hamper cross-level interactions.

2. The articulation of adaptation policy

The cooperation between local, subnational, and national authorities – and through them non-state actors at these levels – is of particularly importance for the formulation and implementation of national adaptation strategies. The impacts of climate change manifest locally and can vary greatly from one territory to another, and so can the solutions and the adaptation pathways. These adaptation strategies should eventually not be limited by political boundaries, but rather by an understanding of the landscape and its interactions (e.g. transboundary watersheds). Consequently, the implementation of adaptation measures is largely the responsibility of local authorities and stakeholders.

Local and subnational governments and actors are often poorly associated when it comes to framing the problem and even designing adaptation measures. As an illustration the Coalition for Urban Transitions found that only 50 countries refer to urban adaptation efforts and urban resilience in their Nationally Determined Contributions (NDC) (CUT, 2019). In 2019, Climate Chance Observatory also gathered the most recent data to show that a growing number of cities were making public adaptation commitments towards international climate initiatives and networks, but cities are still struggling to get out of the diagnostic stage and enter the planning and implementation phases. We also point out the "silent adaptations'' occurring elsewhere in the world and not included in the aggregated data. Not listed as such, these actions are struggling even more to access funding (Climate Chance, 2019).

To ensure a proper consideration of adaptation issues, it is therefore important that adaptation components of the NDCs, which provide direction and principles for climate action, are informed by structured adaptation processes, e.g. the National Adaptation Plans (NAPs), which elaborate adaptation options and strategies for implementation (NAP Global Network, 2019). In the first round of NDCs, though not mandatory 131 out of 176 countries opted to include adaptation in their first NDC, but only 57 NDCs (44%) with an adaptation component referenced the country's NAP process (GIZ, 2017), a trend that appears to be picking up in the new round of NDCs (NAP Global Network, 2021).

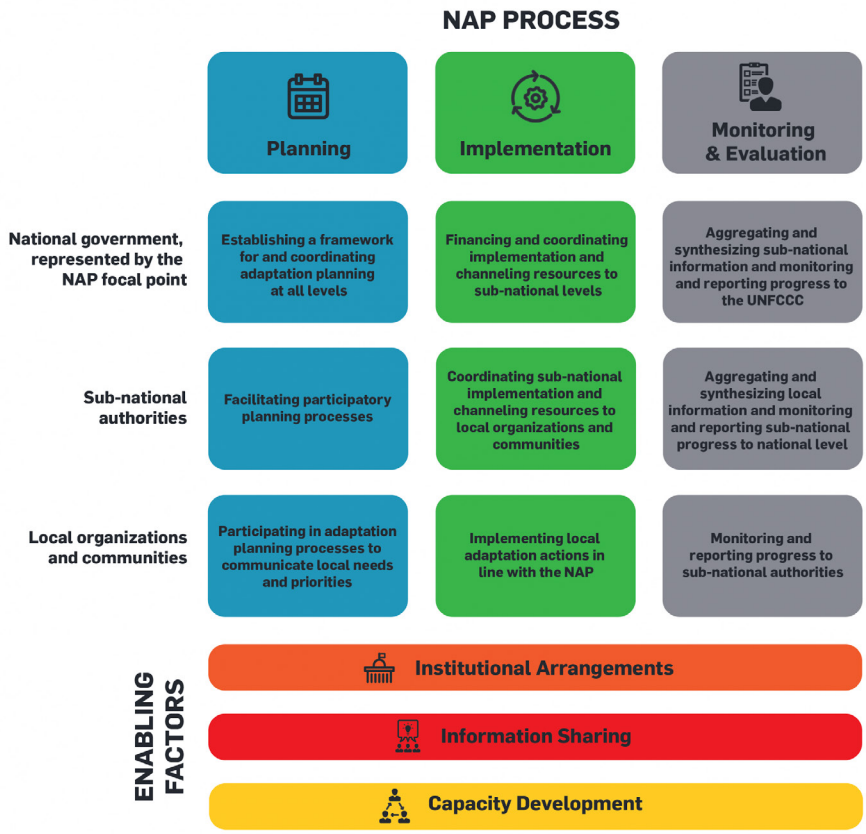
As described by the NAP Global Network platform, it is essential that NAPs reflect the issues and experiences of local governments, and provide the information, resources and tools that specifically strengthen their actions. "*The question now is how to ensure that NAP processes build on these experiences, further empowering sub-national actors with information, capacity and resources to support local adaptation into the future. This process, called vertical integration, aims to create intentional and strategic linkages between national and sub-national adaptation planning, implementation, and monitoring and evaluation (M&E)*" (NAP Global Network, 2017).

The following table proposes a sort of standard division of responsibilities to facilitate the implementation of an integrated adaptation strategy at the national level, for each level of governance and for each stage of the NAP process (**tab. 1**).

A guide further develops the factors enabling this vertical integration, which are **institutional arrangements** (decentralization, spaces for dialogue and cooperation, distribution of roles, etc.), **information sharing** (measuring the need for information, making it accessible and manageable, etc.), **capacity development** (integrating training and the mastery of tools by stakeholders throughout the process, etc.), and **financing** (tools to channel financing to local authorities) (NAP Global Network, 2016).

TABLE 1

FUNCTIONS AND ROLES OF THE DIFFERENT LEVELS OF AUTHORITIES IN A NATIONAL ADAPTATION PLAN PROCESS - *Source: WeAdapt, 2017*



Several factors can promote a more vertically integrated implementation process of adaptation, according to NAP Global Network. These include granting explicit mandates to bodies working on promoting the rights of vulnerable groups and marginalized populations; a wide representation of minorities; recognizing that decentralization processes can bring prominence to sub-national actors; paying attention to the role of language and knowledge in adaptation; and creating opportunities for research and partnerships to flourish.

Peru has been particularly keen on integrating stakeholders during its NAP development process over ten workshops in 2019 and 2020, to ensure the inclusion of the perspective of indigenous people, civil society, private sector, academia, regional governments but also cross-sectoral national level (governmental). Workshops continued despite the pandemic, serving as a confirmation of Peru's commitment to making the NAP and the adaptation process as participatory as possible (NAP Global Network, 2020).

The weight of the institutional system on the capacity of local, national governments and stakeholders to cooperate is highlighted in a study covering 10 OECD countries, showing that advanced decentralization of powers and responsibilities facilitates the vertical integration of adaptation strategies since decision-making mechanisms at the local government level already exist and are all the more relevant when it comes to locally adapted adaptation measures (Bauer et al., 2012). Across the 10 countries studied, integration and support for local governments is particularly strong in federal countries such as Germany or Australia, where local governments either have

adaptation-related competencies or benefit from adaptation commissions or working groups that bring together all levels of governance. Unitary countries such as Denmark, Finland or Norway show comparatively stronger centralization of these competences.

Two countries, the United Kingdom and Sweden, were already using monitoring and evaluation as a means of integrating local adaptation policies. The United Kingdom is noteworthy, being one of the few countries where there is an obligation to report on climate-risks (Nachmany et al., 2020). In the 2000s the government invested in research to improve the quality and accessibility of climate information, and made local authorities able to assess climate change risks and opportunities. However, better knowledge has not translated into tangible adaptation actions and "*budget cuts and a lack of political support from the central government have sapped institutional capacity and political appetite to address long-term climate vulnerabilities*" (Porter, J. and al., 2015). Additionally, between 2007 and 2010, "National Indicator 188" played a key role in making local authorities across the UK familiar with climate change adaptation by requiring them to report on local adaptation. It measures the progress made in terms of evaluation and management of risks by local governments and by actors in their territories. But because local budgets were cut and the National Indicator 188 was abolished in 2011 (presently, it is voluntary), local adaptation processes faded and demand for respective support declined accordingly (Clair, C. Steuner, R., 2018).

Decentralisation of decision making can bring obvious prominence to local and subnational actors, but the real impacts of decentralization should be determined case by case. In all cases, when an ambitious climate agenda for local governments does not come along with adequate resources (budgets, staff, capacity building) or does not recognise capacity differences among them, it reaches the implementation stage with difficulty. To remedy this, the German Federal Government funds since 2008 more than 760 "climate managers" in municipalities across the country, an expert hired up to 6 years to coordinate local climate activities (Climate Chance, 2021).

Regions4, a network of subnational governments on adaptation, made similar observations on the barriers to implementation through a survey conducted in 2019 over 33 member regions on their experience of adaptation planning, implementation and monitoring (Regions4, 2019):

- Most regions having formulated an adaptation plan and report have competences in areas related to adaptation. However, while most were able to participate in the development of the national strategy, 20% were not involved and 30% received little support in their formulation process.

- Joint implementation of action is rare, and funding and technical capacity are the main barriers identified by the regions that could be further addressed by the national government.

- Monitoring and evaluation are provided for in 50% of the regional plans, and for the most experienced regions this monitoring of implementation also includes evaluation of results. Here, the lack of common metrics and methods is naturally the greatest challenge that national governments could partly solve by proposing coordination of monitoring and evaluation data and processes across the different levels.

- At the global scale, the Grantham Institute made a recent survey in 100 countries about their framework laws and policy on adaptation. It estimates that about half of them explicitly delegate some responsibility for managing adaptation to local governments. Around 50% also include regulatory measures to incentivise adaptation (building code, land use requirements, etc.), but only 10% include economic incentives such as subsidies for resilient technologies (Nachmany et al., 2020).

3. Multilevel governance in G20 countries: Germany, France, Canada and Brazil

G20 countries are responsible for 80% of GHG emissions (German Watch, n.d.) and strong evidence is needed to show how national governments are integrating actions led by local and subnational governments in their national climate strategy.

Voluntary or mandatory national policies can incentivize the adoption of climate plans by local and subnational governments, in a more or less structuring way, whether they provide methods, tools, or a reporting platform. We therefore wish to provide an overview of various institutional contexts and approaches that facilitate the articulation between climate local, subnational, and national policies, and to understand whether the highest emitting countries provide the necessary legislation to their local governments to design, implement and monitor their climate plans.

The first case studies cover Germany, France, Canada and Brazil (Climate Chance, 2021). These analyses do not seek to compare the efficiency of institutional arrangements or their national climate strategies, but to provide instead an understanding of what drives climate action at municipal and subnational levels in different contexts. We offer here a synthesis of these cases highlighting the major points and based on the analyses carried out by our national partners: ESSA in Canada, Adelphi in Germany, I-Care in Brazil.

A. In federal countries, municipalities' capacities and competencies depend mostly on the climate ambition of subnational governments.

In Germany, legislation on energy, environment and climate change is a shared function, which leaves certain leeway for Länders to regulate issues at their level, but the power to regulate local governments lies exclusively with Länders, the federal level cannot legislate local government issues or transfer tasks directly to municipalities. The federal Climate Change Act explicitly ensures that Länders may enact their own legislation on climate change and that existing ones will continue to apply if it is compatible with federal law.

In Canada, local governments' competencies are established by provincial legislation and mandating and tracking their climate actions is a task that falls to the provinces/territories. It is therefore difficult to synthesize and compare approaches, and local governments must comply with provincial/territorial regulations which differ in scope, approach, and requirements. However, increased support for climate planning at the provincial level and the adoption of provincial emissions targets, was found to be associated with more ambitious local climate planning and with higher local government GHG emissions targets (Zukowski, 2016). To streamline efforts to achieve Canada's climate objectives, the Federal government in 2016 set up minimum climate goals in 2016 with the Pan-Canadian Framework on Clean Growth and Climate Change, which allows provinces/territories flexibility in implementing their own carbon pricing systems, if they meet the federal targets.

In Brazil, since the federal government has reduced its efforts to combat climate change, each entity seeks to lead the subject. However, the lack of top-down regulation does not allow a clear and explicit articulation between the federated entities, and nor the National Plan, the National Policy, or any other policy does establish clear parameters in all sectors for achieving the goals, nor how the national goals will be distributed to state and local levels. Like Germany, the Brazilian Federal government mostly focused on sector-based climate strategies rather than defining roles and responsibilities of states and municipalities.

Ontario - Canada

Multilevel Climate Governance in Ontario

To know more about multilevel governance in Canada, read our case study here.

In 2007 Go Green: Ontario's Action Plan on Climate Change established GHG emissions reduction targets (15% below 1990 levels by 2020 and 80% by 2050), replaced in 2015 by the Climate Change Strategy which added a 2030 target (37% below 1990 levels) and instituted an emissions cap-and-trade system. Ontario requires climate change mitigation and adaptation policies in municipal official plans but did not specify reporting requirements. Despite a 2016 audit of Ontario's Climate Change Strategy, which concluded that local governments should be given additional resources to enable local mitigation and adaptation strategies, its 2018 Made in Ontario Environment Plan does not address the role of local governments.

The Community Emissions Reductions Plan established in 2017 common methods for municipal climate planning, and Ontario introduced in 2019 specific requirements for municipalities in the Toronto region to develop GHG inventory and reductions plan. But funds for municipalities are inconsistent: the Atmospheric Fund for carbon reduction and air quality, is only available in the greater Toronto and Hamilton area, and funding through the Ontario Climate Change Action Plan limit the way municipalities can spend the funds (Hill and Perun, 2018).

Monitoring Ontario's mitigation policy

Annual emissions reporting has been required since 2009. A decrease can be observed for the last 10 years particularly from the electricity production that fell by 8-fold since 2005 as well as heavy industry (-20% since 2005 and -46% since 1990). Ontario has led in phasing out coal fired electricity generation by permanently banning it in 2015.

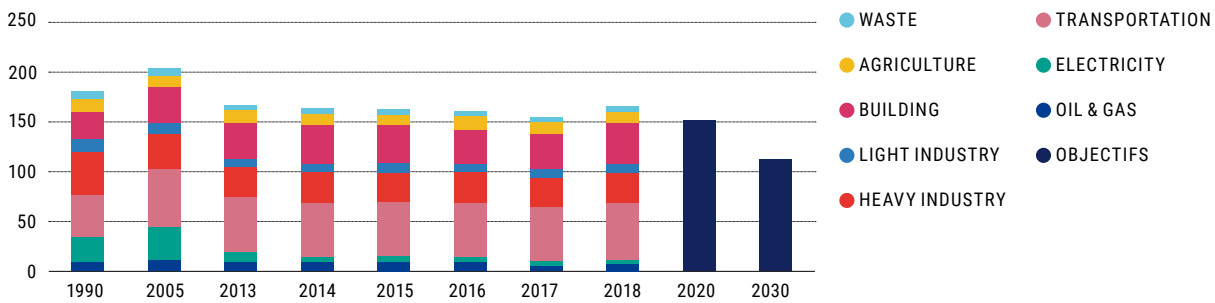
Transportation and building increased between 1990 and 2005 and are quite stable since then. Ontario is on its way to reach its 2020 goals if the 6% increase in 2018 remains an exception. But the cancellation in 2018 of the cap-and-trade program and other programmes to shift consumer choices like GreenON (rebates for insulations and energy efficiency in households) or the Green Commercial Vehicle (helps diesel trucks shifting to electric/cleaner vehicles) may have hampered efforts such as limiting SUV growth, on the rate of retrofitting or renewable energy installation (Environmental Defence, 2020). The 2018 cold winter and hot summer also provoked a higher use of natural gas and air conditioners.

Ontario's emissions performance standards (EPS) program came in 2019 as an alternative to the federal "carbon tax and dividend" strongly opposed by Ontario (Climate Chance, 2018). It requires large industries emitting more than 50,000 tCO_2e/year, to reduce emissions or purchase compliance units to cover the unreached annual reductions goals, which price starts at \$20/tCO_2e in 2020 to reach \$50 by 2023.

Adaptation

The Climate Risk Institute in Ontario delivers services related to climate change risk assessment, adaptation planning, policy evaluation and resiliency. Three CRI flagship programs include the Infrastructure Resilience Professional (IRP) training engineers and other professionals; the Program on the Public Infrastructure Engineering Vulnerability Committee (PIEVC) Protocol; and Canada's Climate Change Adaptation Community of Practice, an online platform where researchers, experts, policy-makers and practitioners from across Canada can come together to ask questions, share knowledge on adaptation (CRI, n.d.).

ONTARIO'S ANNUAL GHG EMISSIONS IN KT CO_2E. *Source: Canada Government, 2020.*



B. Few local governments are required to adopt a climate plan and goals in the federal countries observed, where climate action is more funds-based.

In France, a unitary country, the State has been imposing planning obligations since 2010 that apply now on regions and inter-municipalities with more than 20,000 inhabitants. It does not set specific emission reduction targets but the requirements and content of climate plans, the emission sectors that must be covered, and the regularity of GHG inventories. Many mandatory tasks were initially voluntary, and have been extended progressively to more local governments. It concerns now more than 760 of them.

In Germany, Climate change mitigation and adaptation have to a certain extent been integrated into federal and Länders' legal frameworks, which in turn influence municipality's scope of action, yet they do not constitute mandatory municipal tasks. The federal level simply aims to "*examine how regional and local authorities can successfully be persuaded to accord greater importance to climate action and how the activities of those authorities can be reinforced*" (BMU, 2016). As for Länders, some impose to incorporate climate goals into urban planning tools like Bremen, or specific tools such as a heat supply plans to reach carbon neutrality like Baden-Wuerttemberg, or technically support them to plan and report as in North Rhine-Westphalia (**cf. case study 10**). But Länders mostly refrain from defining mandatory climate tasks, as in Germany, any new competence devolved to municipalities must entail relevant financial transfer. Therefore, most municipal planning and action rely on funding support programmes like in Canada.

Canadian cities mostly do not have obligations, making how and to what extent they address climate change uneven (Guyadeen et al. 2019). Various experiments are taking place at provincial level. Nova Scotia is the only province that requires municipalities to develop a climate action plan. The Ontario Community Emissions Reductions Plan establishes common methods for municipal climate planning, while in Quebec, Climate Municipalities Program funding and support for 235 local governments to inventory GHG emissions and develop climate change mitigation and adaptation plans.

Most local climate plans have been made with the support of the voluntary "Partners for Climate Protection (PCP)" program, managed by ICLEI and the Federation of Canadian Municipalities (FCM). It provides funding resources, from the Government of Canada and ICLEI Canada to member municipalities that are developing climate change actions plans. Membership reached 500 municipalities (70% of the population), with 85 having reached the final milestone: quantifying and reporting on GHG emissions reductions from action plan measures.

In Brazil, despite the advancement of climate policies, there was little connectivity between the National Climate Policy with states and municipal policies. It provides some guidelines for states and municipalities but does not require them to formulate climate plans or adopt specific objectives. Climate policies differ among Brazilian states and municipalities, and not any states have made it mandatory for municipalities to adopt emissions reduction goals or a climate plan. Since 2001, municipalities above 20,000 inhabitants have been required to formulate a Master Plan, representing the basic instrument of urban development policy. Some cities are integrating climate and environmental priorities in these plans on a voluntary basis. All the sector-based climate Plans have no explicit obligation or guidance to states and municipalities.

North Rhine-Westphalia - Germany

Multilevel Climate Governance in NRW

To know more about multilevel governance in Germany, read our case study here.

NRW enacted in 2013 its *Climate Protection Act,* making emissions reduction targets legally binding and defining adaptation targets. The Climate Protection Plan approved in 2015, is NRW's current roadmap to reduce GHG emissions by 25% below 1990 levels by 2020, and by 55% by 2030. It initially includes 154 measures, previously identified, and elaborated through an innovative participation process: six working groups moderated by independent think-tanks organised workshops for municipalities, citizens, and businesses. Stakeholders can also follow the state of implementation of these 154 (NRW). NRW adopted in early 2021 the first Climate Adaptation Act of the whole country, along with a "climate protection audit", a new instrument to continue the current Plan and to check on a regular basis the efficiency of measures (NRW, 2020).

NRW does not state any binding meeasures for municipalities but greatly support them and 358 of the 396 municipalities developped a plan or employed a climate protection manager. They also benefit from guidelines, free tools and access to data through NRW's Energy Agency (EnergyAgency.NRW) or the State Agency for Nature, Environment and Consumer Protection (LANUV).

The State Lander does not directly fund local climate plans, but the "KommunalerKlimaschutz.NRW" project call of €160m from State and European funds selected in 2018 28 projects that pursued "a *holistic strategy and a model approach*" (KKS.NRW) and to be achieved by 2021. The KlimaExpo.NRW is running from 2014 to 2022 to showcase climate projects from around 500 municipalities and companies.

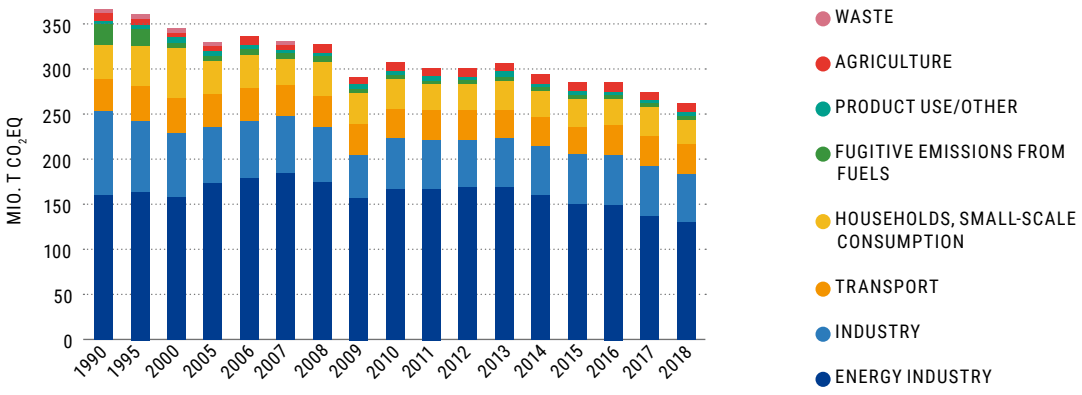
Monitoring NRW's climate policy

With most of Germany's hard coal and lignite production, NRW emissions represent about 1/3 of nationwide emissions. In 2018, 261.2 MtCO2e were emitted in NRW, 5% less than in 2017 and 29% less compared to 1990. Half of 2018's emissions are from the energy sector followed by the industry (21%), transport (12.5%) and households (11%). Since 2014 emissions have mostly decreased from power generation, except in 2016 when new gas-fired power plants opened. Transport's emissions fell by 3% in 2018 despite the rise in vehicles, a fall mostly coming due continuous tightening of exhaust gas emissions values and improved fuel qualities. The number of registered hybrid and electric vehicles also increased significantly in 2018. As for households, emissions decreased by 12% in 2018 due to lower energy consumption, mild weather, and energy efficiency gains. Conversely, emissions from product use increased by 13% due to cars and building air conditioning systems (NRW, 2020).

Adaptation

Impact of climate change on all areas of environment and human living is currently monitored through more than 30 indicators related to seven fields: atmosphere, water, ecosystems and biodiversity, ground, and agriculture and forestry. NRW is therefore able to monitor the slow evolution of the humas, tropical nights, weathering, etc (LANUV, 2021).

EMISSIONS EVOLUTION OF NRW 1990-2018 (IN $MTCO_2E$) - *Source: NRW, 2020*



C. Coordination or vertical integration mechanisms seem to focus on consultation upstream of the implementation of climate plans, with little during implementation or monitoring.

In Germany, the federal Climate Chance Act states that national climate programmes will be developed in consultation with Länders and local governments – along with other private and civil society actors. This has to date not been specified further. Biannual sectoral conferences that bring together line ministers from both federal and Länder level, for example the Conference of Environmental Ministers (Umweltministerkonferenz). These conferences are prepared by multi-level technical committees and working-groups that facilitate discussion and the development of joint sector-based recommendations. The joint conferences and working committees are important vertical coordination mechanisms that also offer room for discussions on how to best leverage climate action at municipal level. As for Länder governments, all have set up inter-ministerial climate change coordination units and/or climate and energy agencies (Klima- & Energieagenturen).

In France, the law provides for a national consultation body with local authority's associations, but the articulation between plans is generally organised by regulation, since local climate plans observe different levels of predefined conformity with regional or national climate plans and tools. The same applies to other local or regional planning tools on other climate-related competencies (mobility, urban planning etc.). The law also provides for the validation of local plans by the central administration, but for the High Council on Climate (HCC) "*the constitutional principle of non-supervision limits regions' capacity to organize actions concerning the jurisdictions of other local authorities and their groupings, and therefore to make concrete the climate strategies that they establish.*" (HCC, 2020) More dialogue at regional level on subjects related to the transition is recommended both to feed into regional strategy and to facilitate its acceptance by stakeholders and ensure their cooperation.

On implementation and monitoring, although the local and regional plans are seen by the National Low-Carbon Strategy as "effective tools" for implementing this strategy, the parallel timetables for drawing up these plans limit their full coordination once adopted.

Brazil has institutionalised several climate change dialogue forums since 2000. In 2000, the Central Government created the "Brazilian Forum on Climate Change", a hybrid scientific body (federal government, local governments, civil society) to assist the Presidency of the Republic on climate policy. Given its replication at subnational levels, with about 23 state or municipal forums, the Brazilian Forum focuses efforts on articulating itself with these forums and coordinating the different regions' climate agendas and policies. It coordinates with the Presidency of the Republic the Interministerial Committee on Climate Chance to ensure the participation of local actors. In 2013, the Federative Articulation Center for Climate (NAFC) shortly attempted to articulate national policies with states and municipalities within the various climate sectoral policies, but its results were never internalized by higher levels and its work stopped in 2014. More recently, the private sector has gained higher representation in existing concertation mechanisms (i.e. Forums; National Fund...), and collegiate bodies of the federal public administration have been weakened such as the Amazon Funds which projects aimed to support federal, state and municipal governments in actions to strengthen forest management.

Occitania - France

Multilevel governance in Occitania

To know more about multilevel governance in France, read our case study here.

In France, local and regional authorities are required to adopt a climate plan. The Regional Plan for Spatial Planning, Sustainable Development and Equality (SRADDET) must consider the National strategy and incorporate its targets. Conversely, local climate plans must be compatible with the SRADDET. In 2020, the Occitania region adopted its new SRADDET and aims to cover 100% of final energy consumption with renewables, compared to 20% in 2020, to reduce energy consumption of transport by 40% and by 20% for buildings and achieve net-zero artificialisation.

Before it was adopted, a public consultation gathered local authorities, economic actors, the national State, etc. A regional citizens' convention also took place and submitted proposals to the regional council. At the operational level, the Regional Energy and Climate Agency (AREC) co-finances energy saving projets and pilots a Regional Energy Observatory (OREO), a monitoring tool as well as a platform for discussions between regional energy players and with a capacity for proposals. It supported 84 municipalities in Occitania to adopt local climate plans, whose monitoring though remains a national competence.

Climate policy monitoring

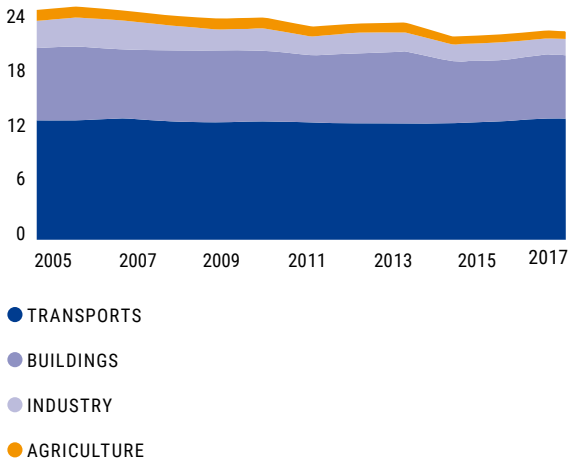
In 2017, an Occitan emitted an average of 3.6 tCO_2e/year. Following a significant increase between 1990 and 2005, energy-related CO_2 emissions have been falling since 2005 (-9%), then stagnating or even increasing since 2014 due to transport. While the building sector, the second largest sectoral emitter, stabilised, industry more than halved its emissions since 1990. Energy efficiency efforts and the substitution of fuel-oil by RE largely explain this decrease. Energy consumption keeps increasing, but at a lesser pace than GHG emissions due to increasing use of RE, up to 33.5% of the mix (mostly wood and hydro).

In the agricultural sector, Occitania experiments the setup of a the "Parliament of the Sea" and the "Parliament of the Mountain" gathering local stakeholders and local authorities which have enabled their contribution to "Littoral 21" and " Montagne" plans, two tailor-made plans for these two economic ecosystems. In the Housing sector, the "Ecocheque logement" supports low-income households for renovation up to €1,500 and can be combined with national funds. In mobility, ridership by train has increased by 60% since 2002 and to keep up efforts the "Rail and Intermodality General Assembly", a major consultation in 2016, identified 10 projects to be carried out by 2030 to improve intermodality, upgrade regional network, maintain small lines opened, harmonise tariffs. Occitania also implemented "Rezo Pouce", a local car-sharing network with more than 1,500 users and 500 stops to cover short distances.

Adaptation

The approach launched in 2017 "H2O 2030, water shared" with the regional water agencies, the State, the departments, the natural parks, and the citizens, resulted in an integrated water management intervention plan to preserve water resources, reduce risks, and eventually create a regional public water service. It consists in implementing 21 priority projects such as the creation of a regional water information system (SIRE) or the optimization of storage and underground resources. It is setting up local calls for projects to support investments aimed at saving water, protecting water environments, and preventing flooding. More recently, the network of expertise on climate change in Occitania "RECO" was created to mobilize networks of researchers and territorial actors to assist decision-making.

GHG EMISSIONS PROFILE OF OCCITANIA, 2005 - 2017 IN MTCO2E - *Source: OREO, 2020*



D. Harmonisation of accounting methods is quite rare, as are monitoring and evaluation methods. Information is also rarely centralised.

In Germany, national climate policies have to date not harmonised targets, planning, and accounting methods across government levels. There is no central database that tracks the total number of local governments that have adopted climate action plans and inventories, nor any specific reporting mechanisms for municipalities to report achievements to national or Länders governments. Reporting obligations merely exist for LGs that receive support from a regional or national funding programme such as the "Masterplan 100% climate protection".

In France, local climate plans were required to closely follow the ambitions and deadlines defined by EU and national objectives. They must explicitly interface with the existing regional plan, including their indicators with regional ones. However, regional and local reporting mechanisms and monitoring tools are different, making difficulte for local data to be integrated into the regional monitoring process.

The law says "*The calculating method shall be defined by regulation in a way that is easy to apply, verify and compare with other territories.*" (LTECV, 2015) but this article has to date not been implemented by the State and there is currently no mechanism to ensure that the sum of territorial strategies is consistent with the national ambition. At local level, the French Agency for Ecologic Transition (ADEME) supports the use of the method "Bilan Carbone", and animate the "Territoire-Climat" platform that catalogs local climate plans validated or implemented. At regional level, like in Germany, regional energy-climate observatories consolidate emissions and other energy and climate related data. But they have been constituted in different ways depending on the region and their GHG inventories are not standardized, and feature different calculation methods and data sources.

Canada maintains an official and annual GHG inventory that all provinces are required to submit to annual carbon accounting (Federal Government, 2020). Federal, provincial, and territorial governments work with the Canadian Council of Ministers of the Environment (CCME) to ensure consistent reporting of progress and emissions. A collaborative audit of federal, provincial, and territorial climate plans evaluated their content, and progress towards their goals. The audit determined that many provinces and territories were not meeting their climate goals and had little guidance on implementation. Furthermore, the audit reported that most provinces and territories were not reporting on climate progress in a regular or timely manner. No such platform for local data is available for municipalities.

In Brazil, the decentralisation, or the lack of federal piloting, creates a problem of compatibility and comparison between climate strategies. At Federal level, the absence of monitoring mechanisms and the National Climate Change Plan does not allow measuring the impacts of the Plan. States are developing plans and laws for climate action without precise federal guidance in a different way, usually developing laws and plans internally through their environmental departments. Cities and states follow different planning tools, mostly from international initiatives. However, the Climate Observatory in Brazil has built the Greenhouse Gas Emission and Removal Estimating System (SEEG) that estimates for each states and cities emissions based on the IPCC guidelines (IPCC), on the Brazilian GHG Inventories prepared by the Ministry of Science, Technology and Innovation (MCTI), and in data obtained from government reports, institutes, research centres, sector entities

and non-governmental organizations (SEEG, n.d). The SEEG method was adopted in India and Peru based on the Brazilian experience.

E. None of these countries impose or propose a method for analysing the accounting of local public expenditure and investment with local, and by extension national, climate objectives.

However, experiments are being conducted in France and Germany. In France, the Institute for Climate Economics (I4CE) is currently conducting several pilot projects with French cities (Lille, Paris, Lyon, Strasbourg) to co-construct a common methodology for evaluating a local budget from the perspective of climate issues (I4CE, n.d.). In Germany, municipalities who have decided to check their actions and spending against climate compatibility criteria. The German National Sustainable Development Strategy underlines the importance of sustainable public procurement (Federal Government, 2018) and Länder regulations do include binding criteria for sustainable public procurement processes for municipalities. Many municipalities also choose to adopt more ambitious sustainable procurement procedures, i.e. some are certified according to the Eco Management and Audit Scheme (Hermann et al., 2019).

Bahia - Brazil

Multilevel Governance in Bahia

Bahia established its State Policy on Climate Change in 2011. In the process of its renewal, Bahia wished to reactivate the Bahia Forum on Global Climate Change and Biodiversity (Inema, 2020). In Brazil since the 2000s, about 23 state or municipal forums have been created and coordinated by the "Brazilian Forum on Climate Change" at the federal level to assist the Presidency of the Republic. In Bahia, the renewed Forum will be composed of 14 governmental bodies and 14 representatives of business entities, academics and organized civil society, in charge of drawing up guidelines for the policy and approving the new State Plan to Combat Climate Change (Government of Bahia, 2020).

No representative of municipalities seem to be associated with the Forum, but Bahia's capital Salvador, also launched its first climate action plan in 2020 with 57 short, medium and long-term mitigation and adaptation actions, and with the goal to reach carbon neutrality by 2049. Because of the weak federal mobilisation, each government seeks to lead the subject, but the lack of top-down regulation does not facilitate the articulation between federated entities climate policies (Climate Chance, 2021).

Monitoring Bahia's mitigation policy

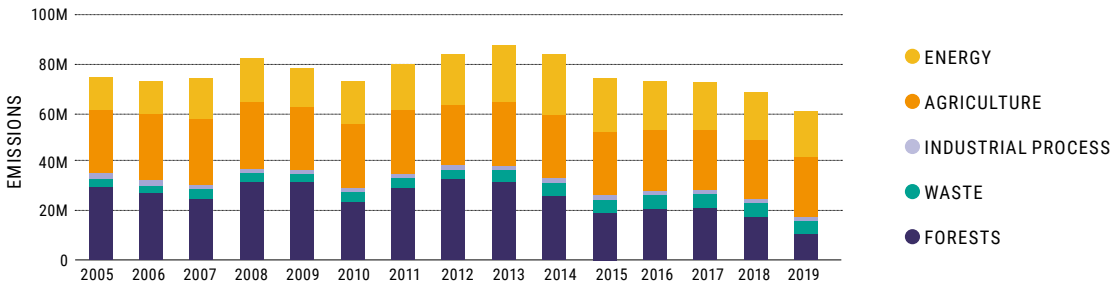
Bahia will start to monitor its GHG emissions with the new State Policy. In the meantime the spatialization tool created by the Climate Observatory in Brazil evaluates that Bahia, with 61 MtCO2e in 2019, concentrates around 3 % of the GHG emission of Brazil (SEEG). Emissions in 2019 have decreased by 30% since 1990 and 17,5% since 2005. Emissions from land use and forestry have sharply decreased in Bahia by 66 % since 2005, which is encouraging since 7 of the 10 cities with the highest emissions in Brazil are located in the North region, and these emissions are the result of activities associated mainly to deforestation (ICLEI, 2020). Salvador for example, beyond its Dial Atlantic Forest program, which provides native seeds for inhabitants, has planted over 51,230 trees, revitalized and expanded local parks and protected areas (Cityfix, 2019). The recent federal trend may have reversed this progress.

Conversely, emissions from energy increased by 40 % over the same period, mainly due to transport, which accounts for over 50% of these emissions. For electricity production, Bahia was one of the first states to map the solar potential of its territory about ten years ago, and has adopted an offensive strategy to facilitate investments in wind power (standards for land regularisation, tax incentives) (Inema, 2020) such as the on-going Statkraft's 520 MW wind capacity project (Statkraft, 2021), but not without consequences for land use (Turkovska, O; and al., 2021). Bahia now wishes to diversify its mix and invest in biomass for electricity and biogas production.

Adaptation

The growing impact of climate change has been a motivating factor to renew the State Policy and address better adaptation. 87% of Bahia territory is in the Area Subject to Desertification (ASD), the largest in Brazil, where 289 municipalities and 4 millions of people are located. The drought between 2012 and 2018 that occured in Nordeste of Brazil was the longest in history. Bahia counts with 1,100 km long coastline, subject to erosion (PBMC, 2019).

GHG EMISSIONS OF BAHIA 2005-2019 BY SECTOR ($MTCO_2E$). *Source: SEEG, n.d.*



F. Summary table of the main characteristics of climate governance in the countries studied

	Germany	France	Canada	Brazil
General governance aspects				
Historical country governance	**Federal** State power shared between the national federal government and Länders governments. Municipalities enjoy self-government.	**Unitary** Began devolving powers towards local authorities from the 1980s.	**Federal** Very devoluted. The Constitution does not address municipalities' competencies.	Federal States are accountable to the Central Government and municipalities to the States.
Regulating authorities for municipalities	**Länders** Power to regulate local governments lies exclusively with the Länders.	**National State** The National State regulates both regional and municipal competencies.	**Provinces/Territories** Municipal competencies are exclusively established by provinces/territories.	**Local** Governments must comply with state and federal laws but are not a creation of the states, are granted the status of federal, and are ruled by an organic law.
Share of public investments by local and subnational governments	62%	58%	87%	75%
Climate competencies for local and subnational authorities	**Voluntary** Energy, environment, and climate change is a shared function between Federal and Länders. No specific climate competencies for municipalities.	**Mandatory** Mandatory climate competencies are set by the central State for both regions and municipalities.	**Voluntary** Provinces/territories are each engaged and responsible to develop their own climate change policies. No specific climate competencies for municipalities.	**Voluntary** Each State can define a climate law, policy and plan, but it is required. No specific climate competencies are defined.
Climate regulations and vertical integration				
Climate obligations from central State	**NO** Länders/municipalities must act within the framework of federal law and may enact their own policies on climate, but no specific obligations (target, etc.).	**YES** Municipalities above 20,000 inhabitants and regions must formulate a climate plan, including city-wide emissions for municipalities and patrimonial emissions for regions.	**NO** Provinces/territories must establish a carbon price, but have flexibilities as long as federal targets are met. No federal obligation to LGs.	**NO** National policy provides some guidelines for states and municipalities.
Climate obligations from subnational authority	**MOSTLY NO** Mainstreaming climate into local policies is supported by Länders through tools/guidelines. Länders refrain from mandating municipalities and climate planning is mostly motivated by national or state funding programmes.	**NO** Obligations to municipalities are made by the national government.	**MOSTLY NO** Only Nova Scotia province made climate plans mandatory for municipalities. Ontario and British Columbia require to include climate and GHG targets in municipal plans.	**NO** Not any States have made it mandatory for municipalities to adopt emissions reduction goals or climate plans.
National carbon budgets	**YES** Numerous climate sectoral plans.	**YES** Carbon budgets are legally binding for 4 year-periods	**NO**	**NO** Numerous climate sectoral plans.
Climate regulations and vertical integration				
Harmonized climate target / planning / monitoring	**NO / NO / NO** National climate policies have to date not harmonised climate change target setting, planning, implementation and reporting across government levels.	**YES / YES / NO** Law requires local climate plans to adopt quantitative objectives consistent with France's commitments. The planning method is imposed on both cities and regions. No harmonised monitoring.	**YES / NO / NO** Provinces can set targets if they meet Federal ones. No planning methodologies or monitoring process are harmonised.	**NO / NO / NO** Not any minimum target is required from States or municipalities.
Reporting and centralisation of information	**NO** No nationwide reporting modalities for municipalities or Länders. No central database that tracks the total number of local governments that have adopted climate action plans.	**YES** Online platform "territoire-climat" offers a national view on on-going or implemented climate plans, but no on emissions.	**NO** No Canada-wide database or summary of local climate plans has been developed? No reporting of action is required from provinces nor LGs at the Federal level	**YES** SEEG online platform offers a spatialization of climate data by states and cities regularly updated. No reporting of action is required from provinces nor LGs.
Carbon accounting obligation	**NO** No nationwide obligatory carbon accounting mechanisms in place for LGs or Länders. Standardised methodology proposed by some Länders for municipalities.	**YES** Regions and LGs are required to furnish GHG emissions balance at a regular pace.	**YES** Only provinces need to provide data for the Federal annual reporting. No obligations made for LGs.	**NO** But estimations are available with the SEEG program.

4. Renewal of NDCs and integration of local governments

A. Cumulated ambition of already-renewed NDCs

By 2021, all signatories of the Paris Agreement for the climate must submit a new Nationally Determined Contribution (NDC) raising their ambitions to limit global warming to 2°C or even 1.5°C.

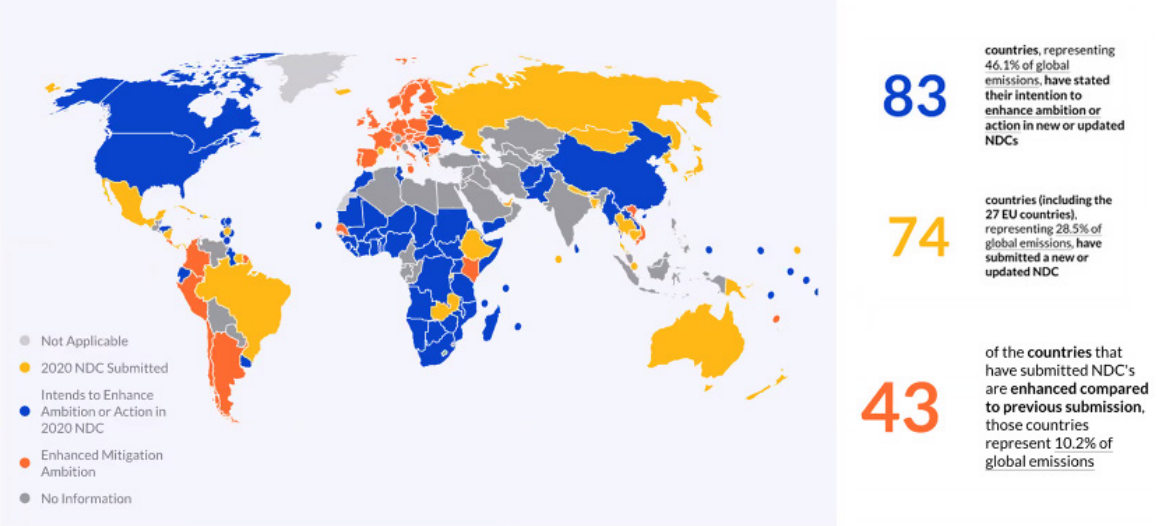
The annual review of the United Nations Framework Convention on Climate Change published in February 2021 indicates that very few countries have already renewed their NDCs and that the cumulative ambition of these NDCs is still far too low to hope to achieve the targets set out in the Paris Agreement (UNFCCC, 2021). Only 48 NDCs have been updated as of 31st December 2020, representing the commitments of 75 countries, i.e. 40% of the signatories to the Paris Agreement and 30% of global emissions. Among the countries that have submitted a new NDC but have not increased their level of ambition are several large emitters such as Russia, Australia, and Brazil (**fig. 3**).

The main message of the report is rather gloomy: if the new commitments of these 75 countries are met, global GHG emissions in 2030 will only be 0.7% lower than in 1990 and 0.5% lower than in 2010. However, to limit warming to 1.5°C, a 45% reduction is needed by 2030 compared to 2010, and 25% to limit it to 2°C.

FIGURE 3

2020 NDC SUBMISSIONS PROCESS - *Source: Climate Watch (WRI)*

Retrieved and modified by the authors from WRI online presentation on March 10, 2021



Yet many countries mention climate or carbon neutrality, or a net-zero strategy by 2050, and most have increased their emission reduction commitments by 2025 or 2030. But these additional commitments would only lead to an additional 0.3% reduction in emissions by 2025 for these 60 countries compared to their previous commitments, and 2.8% by 2030 (UNFCCC, 2021). Finally, it should be noted that the synthesis report makes no mention of the monitoring and evaluation mechanisms planned by the countries, which are certainly absent from most of the newly published strategies.

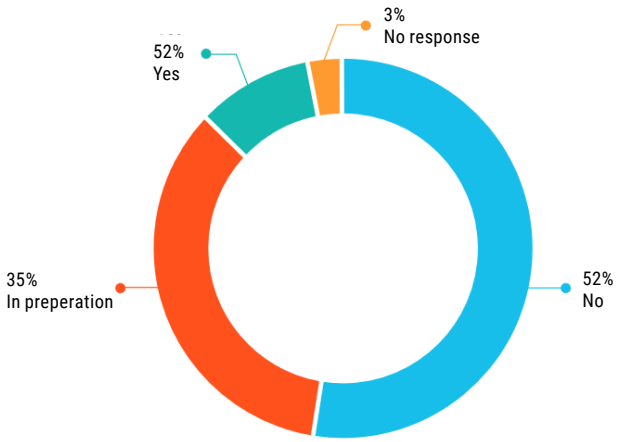
B. Integration of local and subnational governments into NDC renewal process

The renewal of these national long-term strategies also provides excellent opportunities to harness the benefits of cooperation across all levels of government. Indeed, drafting a long-term strategy requires taking stock of on-going action led by all levels of government and their potential of action. Such knowledge improves the quality of long-term strategies and, eventually, common targets are the best prerequisite for joint implementation of measures in order to reach climate targets (GIZ, 2021).

Very few NDCs initially formulated in 2015 speak about urban issues and mitigation - around 20 - even from some of the most urbanised countries (UN-Habitat, 2017; CUT, 2019). As a consequence, only 10% of countries said they have mainstreamed their NDC targets into subnational policies, and budgets (**fig. 4**), and 35% are in preparation to do so. "*There is less progress on ensuring that NDCs are part of budgets, especially at regional levels, and in regional development planning. This suggests that governments have not yet considered how to fund a long-term shift to net-zero carbon and have not sufficiently engaged sub-national actors.*" (UNDP, 2019).

FIGURE 4

MAINSTREAMING OF NDC TARGETS INTO SUB-NATIONAL PLANS AND BUDGETS - *Source: UN-Habitat, 2020, based on data from the NDC Global Outlook Report 2019 (UNDP, 2019).*



The *Coalition for Urban Transition* pointed out the limit of the sectoral approach as many countries have urban-relevant pledges in their NDCs, promising to reduce emissions from buildings, electricity generation, transport and waste. "*However, sectoral approaches miss two important opportunities in cities. First, they fail to capture the mitigation potential associated with spatially concentrating people, infrastructure and economic activity. For example, higher densities enable people to walk or cycle rather than using motorised transport. Second, sectoral approaches may not sufficiently empower local governments to pursue ambitious climate action within their jurisdictions. It is therefore important that national governments explicitly recognise cities as systems in their climate policies and plans.*" (CUT, 2019)

Of the more than 60 countries that have submitted an updated NDC in 2020 and 2021 on the UNFCCC portal, only a handful mention local and sub-national governments as actors in the implementation of their strategy. Several countries do not mention them at all or only as an example without this being related to the governance of their climate strategy, such as Australia, Bangladesh, Colombia, the European Union, Brazil, the United Kingdom, Russia, Thailand, New Zealand, Lebanon, Switzerland, and Angola.

Some countries document how their national strategy impacts or coordinates the strategy of local and sub-national governments, or simply identify the planning work undertaken by local and subnational governments and climate integration, but do not necessarily integrate them. For example, the Ministry of Local Government in Rwanda (MINALOC) "*provides coordination oversight in facilitating local government data management flows to central level institutions*" (Rwanda, 2020). In Vietnam, the Department of Natural Resources and Environment is responsible for advising and assisting the Provincial People's Committee in monitoring and evaluating the implementation of tasks at the local and community level in the province (Vietnam, 2020).

Japan says it promotes actions proposed by local governments in their action plans (Japan, 2020), while South Korea's NDC more formally recognises the importance of the role of local governments primarily in implementing adaptation measures. For this reason, the government has made it mandatory for communities to adopt an adaptation plan since 2012; to date 226 local governments have established and implemented their own adaptation measures (Republic of Korea, 2020).

It is in Latin America that the consideration and integration of the action of local authorities in the implementation of NDCs is most evident from their contributions: Peru, Cuba, Chile, Argentina and Mexico integrate local authorities into their governance to varying degrees, but all mention coordination between the different levels.

- **Peru:** The State set up a "Grupo de Trabajo Multisectoral" (GTM) for almost two years to structure the dialogue around the renewal of the NDC and to facilitate the integration of contributions from different ministries but also from non-state actors. The update of the NDC in 2020 was approved by the High Level Commission for Climate Change composed by the Presidency of the Council of Ministers, thirteen ministries, but also by the National Assembly of Regional Governments and the Association of Municipalities of Peru (AMPE) (Pérou, 2020).

- **Chile:** The Climate Chance Observatory had already analysed the multi-level governance implemented by the government in a case study on the country's energy production (Climate Chance, 2019). Chile makes the regions the keystone of the national-local articulation with the creation of Regional Climate Change Committees (CORECC) that contribute to the planning and implementation of mitigation actions in collaboration with municipalities and the government. Four pilot regions are currently developing Regional Climate Change Action Plans (Chile, 2020).

- **Argentina:** The National Cabinet for Climate Change is leading a Provincial Articulation Panel or "Mesa de Articulación Provincial" to help develop regional action plans. The State is also considering the creation of regional platforms to deal with extreme events according to the particularities of each region and to territorialise the national early warning system. Finally, the NDC explicitly mentions the need for national and provincial authorities to work together to strengthen the specific planning capacities and skills of local governments (Argentina, 2020).

- **Colombia:** the *Sistema Nacional de Cambio Climático* (SISCLIMA), established in 2016, is responsible for coordinating Colombia's climate action from the subnational to the supranational level. SISCLIMA also includes a platform for subnational actors – the Regional Nodes for Climate Change, the main network for Colombia's subnational climate policy, that accompanies the implementation of subnational climate strategies. On the other hand, municipalities are required by the climate change law to formulate climate change management plans

which address both mitigation and adaptation actions. Aside from subnational government levels, the Regional Nodes can include civil society stakeholders, indigenous communities and academic institutions relevant to the region (GIZ, n.d.).

Examples are also notable on the African continent. The platform *Partnership for Collaborative Climate Action* analyses the renewal of Kenya's strategy and its multilevel governance (GIZ, n.d.).

Kenya shows a devolved cooperative governance system, where county governments are not necessarily subordinate to the national government (National Climate Change Action Plans (NCCAP) mainstream climate change into national, sectoral and subnational development planning, and like the NDC itself are updated every five years. The Kenyan Climate Change Directorate oversees their implementation and lends support and technical assistance on coordinating the implementation of the plans, on reporting and on capacity building at county level. At the subnational level, counties are to establish so-called Climate Change Units (CCU), which coordinate county-level climate change action. Within the NDC revision process, Kenya assembled a broad coalition of stakeholders, from different governmental levels, civil society, academia, and the private sector to further facilitate stakeholder ownership and ease its implementation.

Regarding monitoring, reporting and verification (MRV), Kenya established an integrated system, where counties are to downscale and contextualise indicators into their planning, and are responsible for preparing county sectoral plans. "*This shows how, while targets and systems are prescribed by the national government level, the counties demonstrate ownership for MRV which creates ownership of climate change actions.*"(GIZ, n.d.)

On the African continent, Energies 2050 and the United Cities and Governments (UCLG) network have assessed the opportunities for territorialising the African NDCs via Local Determined Contributions or "LDCs" and the mobilising role that local governments can play in their territory to get closer to the targets set at national level (Energies 2050, CGLU Afrique, 2016). The study proposes five areas of intervention to strengthen the articulation between national commitments and local dynamics, as well as the capacities of local governments to formulate their own contributions:

1. Reconsidering multi-level governance and horizontal articulation between local governments.
2. Strengthen the exchange of experience (customary as well as scientific) on the specific aspects of each territory.
3. Carry out integrated climate-friendly territorial plans in quantity and quality.
4. Financing climate-friendly urban development in Africa, which requires facilitating access to international funds and streamlining administrative procedures.
5. Establish measurement, reporting and evaluation (MRE) systems for cities.

These LDCs have no concrete applications yet but a similar approach has been adopted within the Convention for Biological Diversity (CBD), the equivalent of UNFCCC for Biodiversity. Following the notion of National Biodiversity Strategies and Action Plans (NBSAPs), the united local and regional governments developed the term "LBSAPs", Local Biodiversity Strategies and Action Plans. While LBSAPs should also (but not only) translate the national biodiversity strategies into local actions, the NBSAPs should include the local targets, plans, strategies and actions while supporting these through national means (UNCBD, 2008 mentioned by GIZ, 2020)

C. National Energy and Climate Plans (NECP) in Europe

Partnership is one of the key principles in the management of European Union funds: all programmes "*should be developed through a collective process involving authorities at European, regional and local level, social partners and organisations from civil society.*". It also mentions the importance to consider this cooperation at "*all stages of the programming process, from design, through management and implementation to monitoring and evaluation.*" to ensure that action is adapted to local and regional needs and priorities (European Commission, n.d.). What about Member States' tools such as the National Energy and Climate Plans (NECP)?

EU Member States must formulate NECP, an obligation established by the 2018 Energy Union Governance Regulation (EU) 2018/1999. These plans cover the entire period 2021-2030 and must include both national climate and energy targets for GHG emissions, energy efficiency and renewable energy, as well as the policies and measures planned to implement them. These plans, which are to be reviewed every 5 years, provide an opportunity for the EU to better identify its capacity to raise its climate change ambition under its NDC.

In the new legislative framework adopted in March 2019 "*Clean Energy for all Europeans Package*", the Parliament has required from the Member States to set a multilevel dialogue at national level and to be able to integrate potential mitigation and adaptation actions from local actors (cf. article 11 of the Energy Union and Climate Action Governance Regulation), with a view to helping them to formulate their National Energy and Climate Plans (NECP).

The European network Energy Cities is part of a the *PlanUp* project that tracks the development of National Energy and Climate Plans in EU Member States. Their first analysis in 2018 dealt with the first draft of NECPs submitted in December 2019 and have shown a lack of recognition of local governments from States: only five NECPs (Belgium, Greece, Latvia, Romania and the United Kingdom) explicitly highlight at least one city's action, while seven of them recognize local actions without highlighting specific actions (Energy Cities, 2019). As for their practical integration in the drafting process, only five States set specific consultation processes for local authorities (Estonia, Hungary, Greece, Latvia, Portugal), while seven others indirectly consulted them through city associations.

A second analysis in 2020 on the definitive NECPs leads to the same observations with EU countries failing in leveraging cities' key role and the prevalence of a top-down perception in many plans (Energy Cities, 2020). Local and subnational authorities are mostly referred for their need to get higher technical and financial capacities and their key role to implement national laws and programmes. Conversely, the report acknowledges that Belgium, Ireland, and Luxembourg fully understand the key role of local authorities.

- 4 EU Member States explicitly mention at least one good practice by local authorities in their final NECPs : Belgium, Latvia, Italy, and Romania.
- 12 Member States recognize local authorities' actions in the implementation of the energy and climate transition in their final NECPs: Belgium, Bulgaria, Czechia, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, The Netherlands, Portugal, Spain.
- 10 Member States mention the Covenant of Mayors (see **Section I**), up from 4 in the previous assessment. Luxembourg also mentions the European Energy Award.

These good practices are not systematic yet and the current lack of multilevel dialogue and recognition of local governments into National Energy and Climate Plans contrasts with efforts made by cities to overcome traditional top-down methods. The evolution of practises takes two forms (1) the direct involvement of citizens: from punctual actions (protests, etc.) to citizens and community projects (energy cooperatives) and citizens movement (Transition Towns, Alternatiba), to civil disobedience (Ende Gelande) and (2) the evolving role of cities: from a simple role of project leader to a role of local actors' projects facilitator (Energy Cities, 2019).