

07



North America

Regional chapter



The Alaska Railroad at the Turnagain Fjord (photo: Lawrence's lenses, bit.ly/2AZkodB).

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1. Introduction

Canada and the United States are among the world's most developed countries with 374 million inhabitants and a high-level ranking on the Human Development Index (position 12 and 13 respectively in 2018). This gives both significant advantages in respect of the Sustainable Development Goals (SDGs). The vast majority of residents enjoy a wide range of basic services that function relatively well in both countries, including provision of potable water, waste collection, public education, and access to electricity and other types of energies.

Despite their relative wealth, both countries also experience serious socio-economic inequalities. This is especially true of the United States, where urban segregation, poverty, and violence still remain at high levels when compared

with other countries in the OECD.¹ Many more citizens who are not technically impoverished face significant economic hardship. Housing affordability is nearing crisis in the United States, with average housing prices rising 84% between 2000 and 2017, while median household incomes have risen only 2.4%.²

The level of inequality in Canada is less stark than in the United States but Canada has also experienced increasing rates of homelessness and issues around social and affordable housing. Furthermore, it has become more and more concerned about the social crisis affecting, in particular, indigenous peoples (e.g. the First Nations). Areas of particular social concern affecting indigenous communities include housing, access to water, employment, education,

Downtown Detroit, one of the urban areas most affected by the housing and financial crises (photo: Stephanie Tuba, t.ly/dPmD6).



health, social distress, and high suicide rates. These are only some of the challenges that both countries will need to address to fully meet the ambitious targets of the SDGs.

In the United States, the federal administration of President Donald J. Trump has been stepping back from the global environmental commitments enshrined in the Paris Climate Agreement of 2015 — perhaps the most notable shift in international environmental relations since this global agenda was first adopted. This controversial decision is matched by domestic policy changes that promote coal power, lower vehicle emission standards, and either repeal or reduce the enforcement of other environmental regulations. Meanwhile, many state and local governments have responded differently, exercising their authority to set policy, raise revenue, and determine spending priorities by declaring their intention to support the Paris Climate Agreement at the sub-national level. Some states have created cap-and-trade systems, such as the Regional Greenhouse Gas Initiative that includes ten U.S. states; or the Western Climate Initiative, which includes both U.S. states and Canadian provinces. Twenty-three of the 50 state governors in the United States have joined the U.S. Climate Alliance, and more than 400 cities have joined the Climate Mayors campaign. Both represent commitments to advocate for stronger climate policy and share local strategies to meet the goals of the Paris Climate Agreement. As a very significant part of the international consensus on the new global development policy, the commitments on climate change, resilience and sustainability have had a strong impact on multilevel governance, and in turn competence and budget allocations.

In Canada, the situation is slightly different. In 2018, for the first time, Canada adopted national strategies that explicitly seek to meet the SDGs. It also submitted its Voluntary National Review (VNR) on progress in the implementation of the 2030 Agenda to the United Nations High-Level Political Forum (HLPF).³ Over the past few years, Canada has maintained a clear international stance in terms of its commitments on climate change. Further it has promoted gender equality policies; has maintained, through social and fiscal policies, its commitment to support the ‘middle class’ and reduce socio-economic inequalities

in its communities; and has actively promoted a more peaceful and secure world, notably by adopting an overtly feminist approach to policy-making and empowering women both in its territory and around the world. Far from being a straightforward or easy process however, the federalist nature of the Canadian territorial organization has created disparities and divisions across different tiers of governance in the quest to implement and localize the global agendas.

Ultimately, when it comes to achieving the SDGs, both the United States and Canada have key social and economic assets, but there is still a lot of work to be done. The United States has not yet established a national framework to implement the SDGs nor has either really made an institutionally proactive or formal effort to implement the SDGs or align its national strategies with the Global Goals. Canada, on the other hand, has drafted a first iteration of a strategy that will be formalized in early 2020 (Canada 2030 Agenda).

There are complex institutional, legal and political barriers preventing Canada and the United States from establishing centralized frameworks and overcoming these will be essential to the localization of the SDGs: as expressed by the United Nations, realizing the 2030 Agenda will require the commitment of all stakeholders and a broad ownership of the SDGs by all tiers of governance, in both developing and developed countries. Thus, in North America also, local governments will be expected to serve an important function in the implementation of the SDGs: they will need to become valued stakeholders and be granted the resources and political leeway to contribute to the achievement and fulfilment of all the complex dimensions of sustainable development.

The geography and territorial organization of the United States and Canada means the commitment of cities as well as rural and remote areas will be essential to making localization a reality in the region. While both countries have high urbanization rates (roughly 82%), the number of centres of high population is in fact relatively small, with the rest of the urban population scattered in smaller settlements across a huge territory. Both countries in fact, have a relatively low population density. Under these conditions, the most common urban design and land-use pattern across all of North America has been neither urban nor rural but rather suburban sprawl. This has enormous consequences for the socio-economic, political and productive fabric of the typical North American city and community. Most Americans and Canadians live in relatively dense communities — between 580 and 1,000 people per square kilometre (km), or 1,500 and 2,500 people per square mile — that are nonetheless largely isolated from urban services or infrastructural fabric, and often

Both the United States and Canada have key social and economic assets to achieving the SDGs, but they have yet to establish a formal national framework for the implementation of the Global Goals.

dozens of miles away from the nearest, truly urban 'centre'. With the significant independent authority and autonomy that is necessary to adapt to this geography, in both the United States and Canada, many policy competences such as land use, public education, housing development, water and sanitation and waste management services are almost entirely managed by state, provincial, or local governments. These services have a significant impact when it comes to the achievement — and localization — of the SDGs.

As with all the other world regions, SDG 11 on sustainable urbanization and making cities and human settlements more inclusive, safe, and resilient is particularly significant for local governments in North America. Where they are equipped with relevant competences, local governments have championed many of the SDGs and contributed meaningfully to transformative social, economic, and environmental change. In fact, local and regional concerns, input and support have been integrated for all the SDGs (albeit often implicitly) — and not just SDG 11.

Nearly all 17 Goals include targets that directly or indirectly relate to the work of municipal governments in the region. The role of these municipal governments goes beyond mere implementation. Since they are often best-placed to link global agendas with local communities, sub-national ownership is vital to the wider achievement of the SDGs.⁴ As both policy-makers and service providers, local governments in North America are strategically well-placed to guide and catalyse sustainable development through local action.

This chapter on North America will focus primarily on the United States and Canada simply because of their relative size, economic strength, and the range of the localization efforts already underway in each country. It is important to note, however, that Jamaica, an upper middle-income island nation in the Caribbean, is also included in the North American region. Despite the country's limited (financial and political) resources (and visibility), linked to its geography and location, Jamaica passed a series of three local government reform acts in 2016 that established a new governance framework, based on the principles of participatory local governance and local self-management. These regulations also expanded local mandates to foster sustainable development. Jamaica also created its own Roadmap for SDG Implementation in April 2017, and submitted a VNR in June 2018.⁵ This is an outstanding effort when compared with surrounding countries that share a similar socio-economic and political context.

The main part of this chapter is divided into two main sections. The first section deals with the institutional frameworks in which local governments are evolving in the United States



Crowd at the West Indian Day Parade, New York, United States (photo: Alex, bit.ly/2Vt8lcs).

and Canada. This includes the national, regional and local structure of governments, along with the fiscal structure and an overall analysis of 'infra-governmental' relations. The second section focuses more directly on local and regional contributions to the localization of the SDGs. This assesses the role of local government associations (LGAs) and non-governmental organizations (NGOs) in SDG implementation. It then reviews how LRGs are making communities more inclusive, safe, resilient, and sustainable; their contribution to carbon reduction; how they foster sustainable and modern energy along with sustainable mobility; and how they provide water and sanitation, social housing and other crucial services for community wellbeing and socio-economic advancement. The chapter concludes with an examination of the means of implementation, and actual opportunities, tools and choices available to local governments to improve localization. 📍

2. National and local institutional frameworks for the implementation of the SDGs

Neither Canada nor the United States have a formal national framework for the implementation of the SDGs. This means there is no clear definition of the role of LRGs in the process of localization, except for those tasks they were already carrying out before the establishment of the SDG framework. Moreover, a national-level conversation regarding the SDGs is lacking, which limits local governments' exposure to and awareness of the SDGs and hindering progress towards the explicit implementation and monitoring of the Goals.

The lack of a more formally coordinated framework for SDG implementation at all levels of government is preventing the integration of the SDGs with regional and local government monitoring systems, with widespread effect. This is particularly relevant when it comes to LRGs assessing their own performance or aligning their policies and initiatives with the SDGs and their (local and national) targets.

Owing to the high level of economic development and a strong tradition of liberal democracy in Canada and the United States, several objectives and regulatory systems at all levels of government share the spirit of the SDGs. This can be seen in nationwide public education; residential and commercial recycling systems; decades-long enforcement of sanitary, drinking water and air quality standards; and workplace safety and minimum wage protections, for example. Furthermore, local governments in North America are generally well-staffed and well-resourced, especially in large urban centres. In terms of actual production, so far as the strategic alignment at the local level is concerned, the total number of local sustainability plans is unknown. However, in a 2015 survey of 1,800 local governments in the United States, 32% responded that they had adopted plans aligned with the spirit and purpose of the SDGs – at the very start of period of the 2030 Agenda.⁶ A 2015 report further identified at least 114 cities in the United States with specific emissions reduction targets.⁷ There are nearly 200 members of the United States-based Urban Sustainability Directors Network, a membership association that seeks to represent sustainability professionals in the largest North American municipalities. In Canada, the FCM has implemented a similar program called the Partners for Climate Protection, to assist Canadian municipalities in taking action on climate change by reducing their emissions in their municipalities.

This program is now being seen as the Canadian chapter of the Global Covenant of Mayors for Climate and Energy, in partnership with the International Urban Cooperation.

While progress is clearly visible in some key areas, the legacy of a long-standing federal system of checks, balances, the rule of law, and the separation of powers has prevented bold, centralized action necessitated by the 2030 Agenda and the other global commitments. At the same time, however, the federal organization of these countries has also given sub-national authorities greater capabilities and room for manoeuvre. Localization, in other words, is all the more essential to the realization of the SDGs in a political and institutional context such as North America.

The prospects for localization in the region, however, have to be measured against a complex process of decentralization and devolution imposed by the federal system: on the one hand, sub-national governments (SNGs) (including states or provinces, counties, and cities) are empowered with several fundamental competences and responsibilities; on the other hand, the ability to make policy and, most importantly, govern local income via taxation and spending is *shared* between national, state/provincial and local governments. Addressing this complexity with strategies to improve and streamline processes will be essential for North American local governments to fully contribute to the SDGs.

Addressing the complex process of decentralization and devolution will be essential for North American LRGs to fully contribute to the SDGs.

2.1 National frameworks

Important questions with regard to national frameworks include: What is the 'enabling environment' (be it institutional, political or administrative) in which North American local governments have to act for the localization of the SDGs? What national tools or initiatives can 'trickle down' to the local level and foster implementation in territories and communities?.

At the national level, for example, the United States has yet to volunteer to submit a Voluntary National Review (VNR) to the HLPF. As with all other UN member states, it is bound to do so twice before 2030. Moreover, no federal agency has been put in charge of drafting the VNRs. A related statistical project, Measuring America: U.S. Statistics for Sustainable Development,⁸ is collectively managed by the U.S. Office of Management and Budget, Office of Information and Regulatory Affairs; the Department of State's Bureau of International Organizations; the General Services Administration; and the Office of Science and Technology Policy. The site aggregates and links data with dozens of key national datasets and SDG metrics.

An independent report from the Sustainable Development Solutions Network's (SDSN) gives the most complete picture of U.S. progress towards the implementation of the SDGs. It concludes that: 'significant progress must be made to achieve the Sustainable Development Goals by 2030'.⁹ Although some states perform better than others, 'even the best performers have not achieved any of the Goals, and all states have some Goals [in which major challenges remain]'.¹⁰ The report determines that the United States is making most progress on SDG 6 (water), SDG 12 (responsible consumption and production), and SDG 15 (life on land). The indicators in which most states have major challenges include

SDG 1 (end poverty), SDG 13 (climate action), and SDG 16 (peace, justice and strong institutions).

The United States' approach to the 2030 Agenda and the SDGs is heavily influenced not only by the country's institutional structure but also by the national political discourse. The United States has two historically dominant political parties, with political agendas that will ultimately define (and limit) the political conversation and policy-making. So far as global development policy and international relations are concerned, policy positions on the SDGs span the full political spectrum in the U.S. from overt support to a more reserved stance that questions the role of the federal government in the process while explicitly supporting greater local control. This political dynamic precedes the SDGs, of course, but as a consequence it has resulted in the politicization of the Goals as well as the other global environmental commitments, to an extent that is almost unmatched in other developed nations.

Notwithstanding, the United States federal government has driven improvements in key areas and over the course of several decades. Citizens enjoy a relatively strong protection of civil rights regardless of age, gender, and race. Federal law in the United States has unquestionably advanced SDG-related goals for several decades. The federal Clean Air Act was passed in 1963 and the Clean Water Act dates back to 1972, laws that have clearly advanced SDGs 6, 13, and 14. Both acts are still in force today albeit with amendments to adjust acceptable pollution levels or to redefine which pollutants would be subject to regulation. The Clean Water Act is a particularly comprehensive set of federal regulations applying to drinking water, the management of stormwater, and the protection of major rivers and lakes. However, and with increasing visibility in the public discourse over the last few years, multiple cities in the United States have recorded water treatment, sanitary sewer and stormwater systems that fail to meet federal water standards. Since 2014, the population of Flint, Michigan, has been exposed to twice the level of lead in drinking water than before, with long-term health consequences for both adults and infants.¹¹ This case exposed a controversial mix of lack of transparency,

The United States' approach to the 2030 Agenda is heavily influenced by the country's institutional structure and national political discourse.

management bottlenecks and dangerously obsolete infrastructure. Federal law does provide for a system of legal settlements that stipulate how and when the city intends to upgrade its systems to achieve compliance, but examples such as that in Flint prove that a complex system of multilevel competences and responsibilities can weaken accountability and detract from policy effectiveness.

U.S. federal laws also contain numerous provisions guaranteeing equal protection under law and seeking to eliminate discrimination (SDGs 5, 10, and 11). The Fourteenth Amendment to the U.S. constitution guaranteed civil rights to all citizens in 1868 following the American Civil War and the abolition of institutional slavery. In 1964, the Civil Rights Act outlawed discrimination based on race, colour, religion, gender, and national origin. Later court cases would establish that these protections also extend to sexual orientation. There are legitimate indicators that the trajectory drawn by the evolution of American legislation on equality is not just compatible, but a catalyst even for the kind of vision and progress heralded by the SDGs and the other global agendas. In spite of this progressiveness, however, the history of how these laws have been applied — particularly with respect to racial and gender equality — is extremely fraught.

Thus, while in most instances, efforts were made to reduce the practice of discrimination, there was no corresponding effort to remedy the long-standing effects of past injustices. The pay gap between men and women is frequently cited as an example. The Institute for Women's Policy and Research has found that women in the United States make 80 cents on the dollar compared with their male counterparts.¹² Interracial wealth gaps are even starker. In 2014, the U.S. Census found that the average wealth of white households was USD 130,800, while the average wealth of Hispanic households was USD 17,530, and that of black households was more than 92% lower, at USD 9,590.¹³ In neighbouring Canada, the power to implement the SDGs at the federal level is organized through the parliament's legislative power, the executive branch, and several regulations and powers already granted to each sectoral department. The coordination of the SDGs at the federal level is done through Employment Social Development Canada. The constitutional distribution of legislative powers, however, often limits the intervention of the federal government in many SDG-related areas. Provinces have exclusive powers in several of them, such as health, education, and local governance. In these fields, the power of the federal government, albeit essential, is often limited to funding. In the multi-party Canadian political system, most parties are broadly aligned with the SDGs, although as is also the case in the United States, the Goals have rarely



An environmental demonstration in Oakland, California, United States (photo: Rainforest Action Network, bit.ly/329AiOE).

been 'foundational' for their political platforms. However, some parties have either implemented or at least adopted political platforms that, in many respects, align with the SDGs. All federal political parties in Canada, moreover, support the Paris Climate Agreement, but the level of commitment and the policies designed to reach its targets may of course vary significantly from one party to another.

Canada has been an overt supporter of the SDG framework since it was established in 2015. For the past four years, the SDGs have been the main framework through which Canadian institutions have worked on international assistance. More recently, however, under the current federal administration, Canada has committed to make the SDGs a development framework of its own. In its latest budget, the national government committed USD 37 million (approximately CAD 50 million) to establish an SDG unit with Employment Social Development Canada and monitor and report on Canada's efforts on implementation.¹⁴ On 17 July 2018, Canada presented its first VNR at the HLPF, highlighting Canada's progress and action plans to achieve the agenda at home and abroad.¹⁵ Furthermore, Statistics Canada launched the Sustainable Development Goals Data Hub in 2018 as a centralized knowledge resource to track SDG implementation. The federal government has made an effort to engage provincial and local governments along with the private sector and civil society in meetings and documents preparation. For the time being, however, commitment from these partners has remained non-compulsory and somewhat marginal. 📍

2.2 Local and regional government institutional frameworks

The United States has one of the most complex sets of regional and local government laws in the world. As a federal presidential republic, it comprises approximately 89,000 local governments, including 3,031 counties, 19,522 municipalities, 16,364 townships, 37,203 special districts, and 12,884 independent school districts (see Table 1). While municipal systems among many states are similar in policy, methods, and practice, there are numerous variations, exceptions and differences in form and function. These differences even exist within states. A complex system of taxes and transfers has been established to provide services at the three levels of government. Income tax rates are moderately progressive, and it is estimated that 44% of people living in the United States — mostly low-wage workers — paid no federal income tax in 2017. After taxes, various national welfare, nutrition and housing assistance programmes continue to help support the poorest in the population to achieve minimum standards of living.

Organized in a similar federal model, Canada also has three levels of government: federal, provincial (the federated state level), and municipal. Municipal governments have no formal constitutional status or rights. They are created by provinces, which retain the constitutional right to legislate the municipal sectors in each of their jurisdictions. Over time, Canadian municipalities

have gained the de facto status of a legitimate self-standing level of government. There are approximately 5,000 municipal governments in the country. Municipal governments include cities, towns, villages, rural (county) and metropolitan municipalities.

Local government laws in Canada are under the jurisdiction of provinces. However, Canada's municipal systems are generally similar in policy, methods and practice across most provinces — apart from certain variations, most of them are more or less derived from a common British model. A province and its municipalities are not equal status: provinces assign certain responsibilities to municipalities and regulate them. The jurisdictional relationship between the federal government and municipalities is limited, and usually handled through federal-provincial/territorial agreements. However, in particular over the last decade, all levels of government have been engaged in mutual dialogue on national topics of common concern, including infrastructure, social and affordable housing, climate and inclusion. Municipal governments in Canada are run democratically by municipal councils led by elected mayors.

As regards the division of responsibility for public services delivery and provision, local governments across North America are by and large comparable. In general, municipalities are usually responsible for waste collection,

Table 1 Number of sub-national levels of governments in the United States and Canada

Indicators	United States	Canada
National	1 federal government	1 federal government
Intermediate	50 states	10 provinces
Local		
Upper tier	3,031 counties	199 counties, regions, districts
Lower tier	16,364 townships 19,522 municipalities 37,203 special districts	5000 municipalities

Source: OECD Data.; U.S. Census Bureau; Statscan.

management and recycling, public transit, fire services, policing, local economic development, libraries, local roads and bridges, parks and recreation, and other local recreational facilities and services, along with other types of local services. As far as basic services are concerned, perhaps the biggest difference between local government responsibilities in Canada and the United States is the level of involvement of local governments in primary and secondary education: in the latter, local governments play a significant role in education, while in Canada this is fundamentally the responsibility of provinces.

Municipalities can outsource some services, but they also rely on a professional public service and employ large numbers of staff to deliver direct services to the population. Furthermore, they can create special purpose bodies to manage specific services, e.g. transit, water, or conservation authorities. These have some degree of independence from municipal jurisdictions, but they rely on municipalities for funding, regulation, and oversight.

One structural challenge facing local governments is the discontinuity in priorities, staff and focus created by local election cycles. Municipal election frequency varies by city, but many cities in the United States have mayoral elections every two years, and city council members may be elected on a rotating basis, with some members of the council up for re-election every year. This problem is not as significant in Canada, where municipal democracy is ruled by fixed election dates based on provincial and territorial legislation.

Local financial structures

The system and mechanism of financial powers to tax and raise revenue are similar in complexity to structure of the LRGs. Cities in the United States and Canada balance a combination of revenues, expenditures for services, and long-term maintenance obligations. In both countries, municipal governments raise and manage their own revenues and receive intergovernmental grants from the state and federal levels of government.

In the United States, total local government spending was estimated to be USD 1.6 trillion in 2016. This compares to USD 1.4 trillion spending by states and USD 3.3 trillion spending by the federal government on non-defence services.¹⁶ Figure 1 demonstrates that the specific sources of revenue for local governments vary greatly between states. Property taxes, which fluctuate significantly according to state, generally make up the majority of city government revenue. For example, in the state of Maine, property taxes constitute approximately 98% of the state's city government revenue, while in Oklahoma the figure is only make up about 12%. Most states

allow municipalities to collect sales tax, but some, such as Connecticut, do not. For states such as Maine and New Hampshire, the proportion of total revenues is less than 1%. Just 17 states allow cities and counties to collect income tax.¹⁷

Besides own revenues, intergovernmental transfers are another essential source of funding at the local level. U.S. municipalities receive a much larger share of their revenues from state governments than they do from the federal government. According to the U.S. Census, in 2015 approximately 38% of the revenues that municipalities received from state governments were dedicated to education, 17% to general local government support, and 13% to public welfare. About 40% of the revenues that municipalities received from the federal government were allocated to housing and community development, and about 13% to public welfare. The result of this financial and regulatory variation is that LRGs are ultimately granted significant political and economic discretion and leeway to align with, remain neutral, or even work *against* the priorities set at other levels of governance. Finally, municipal governments in the United States may issue their own bonds to support major capital projects. The U.S. municipal bond market is fairly unique in that the interest paid to investors on this debt is often tax-free. This, combined with the fact that local government bonds are typically viewed as low-risk, results in very low interest rates for cities to borrow.

Canadian municipal governments raise and manage their own revenues and receive intergovernmental grants. With a few exceptions (Saskatchewan and British Columbia), municipal own-source revenues come mostly from property taxes.¹⁸ Municipalities can control and regulate their own property-tax rate to cover the cost of services not funded by intergovernmental transfers. Municipalities can levy a few other taxes (such as permits and, occasionally, sales taxes or tourist-related fees) and they can also generate cost recovery for public utility services through user fees which represent the second largest own-source revenues. But these revenues remain relatively small compared with property taxes. Municipalities can also borrow money to pay for capital infrastructure expenditures, but this is limited by strong provincial regulations and borrowing restrictions. The other important source of municipal revenues is intergovernmental transfers. Provincial transfers are much more important than federal transfers. Federal transfers to local governments are normally subject to agreements with provinces prior to proceeding with allocations to municipalities. Municipalities moreover can control and regulate their own property tax rate to cover the cost of services not funded by intergovernmental transfers.¹⁹ ◉

Figure 1

Own-source revenue for U.S. municipalities by state ⁽¹⁾

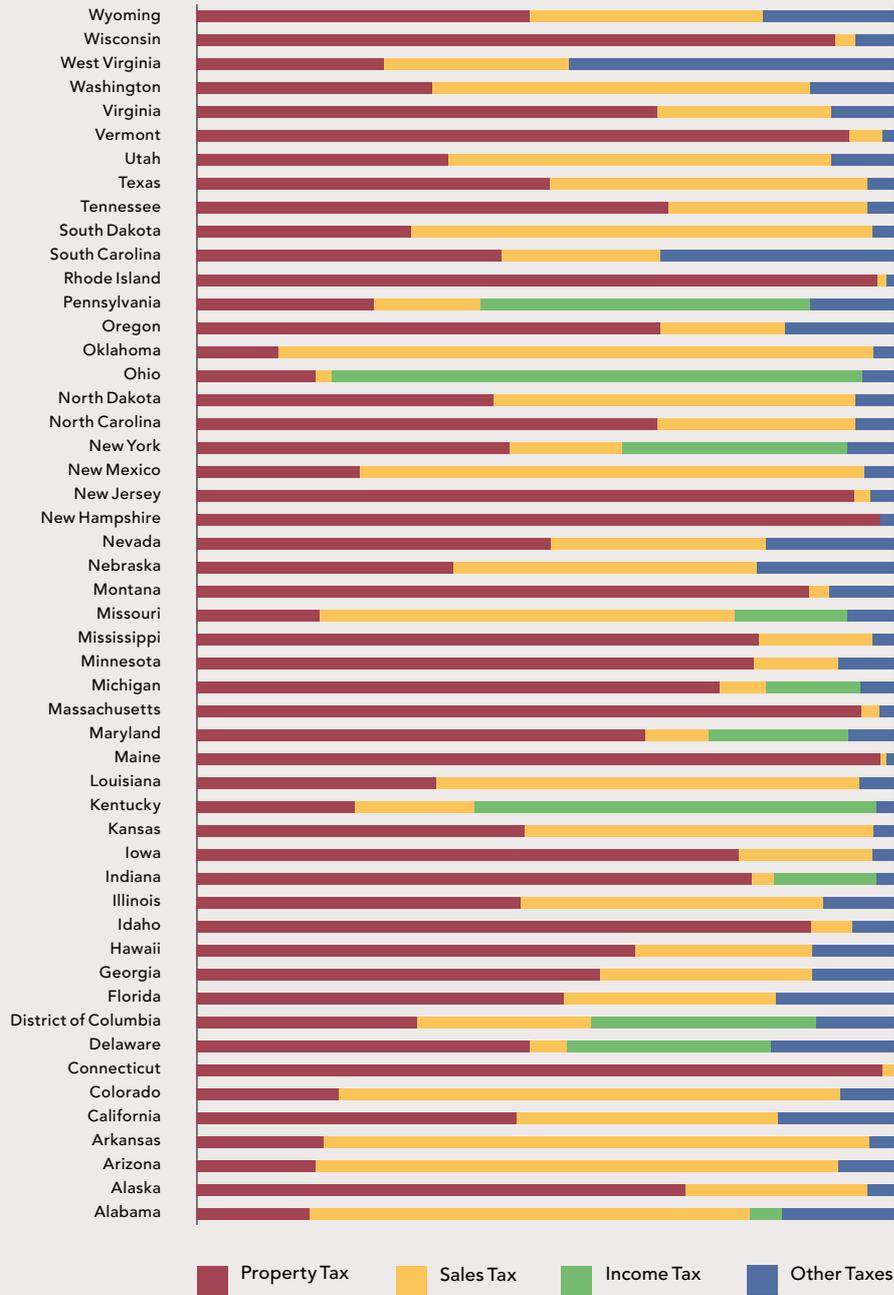


Figure 2

Own-source revenue for Canadian municipalities by province ⁽²⁾



(1) Source: U.S. Census Bureau State and Local Government Finance, 2015.

(2) Source: Statistics Canada. Table 10-10-0020-01 Canadian government finance statistics for municipalities and other local public administrations.

2.3 Intergovernmental relations: How multilevel governance works in North America

The essence of multilevel governance and power-sharing is embedded in the constitutional structure of the United States. The U.S. Constitution — the core of the mechanism of checks and balances that regulates powers and competences in the country — says, according to Amendment 10 (the last of the amendments introduced by the original Bill of Rights in 1791), that any power not explicitly granted by the constitution to the federal government is automatically a prerogative of the federation's states. There is no mention of local government within the constitution, and each state sets its own rules in the definition of the powers of cities, towns, counties, and other municipal governments.

With regard to intergovernmental coordination, a wide array of programmes is established at the federal level, and funding is allocated to state and local governments through proscriptive spending formulas and competitive grant applications. A clear example is the management of the federal highway system. Every year, the U.S. Department of Transportation allocates billions of dollars to all 50 state Departments of Transportation for the construction and maintenance of the highway network within each state's jurisdiction. States are also responsible for raising additional revenue to match this funding, even though the federal formulas are designed to reduce inequalities between urban and rural, larger and smaller, and wealthier and poorer states. Certain standards are federally regulated to guarantee consistency in design, service and interoperability, but ultimately no federal agencies are involved in planning, procurement or management of any of such construction or maintenance projects. Similar formula-based, multilevel funding and grant programmes exist for the provision of affordable housing, public transit, aviation, freight rail, energy and water infrastructure, and other critical infrastructure systems. These are long-standing mechanisms of the federal system and have historically been well-funded. By preserving the effectiveness of universal infrastructural and service provision access — from paved roads, to clean water, access to jobs and global routes,

housing and food security — the United States has, to a certain extent, guaranteed a significant contribution to the achievement of many SDGs and targets.

In Canada too, coordination among local, regional and federal governments for the implementation of the SDGs has not been clearly or institutionally defined. Multilateral or cross-tier initiatives are, in fact, often used for policy coordination purposes. For instance, the Pan-Canadian Framework on Clean Growth and Climate Change is managing Canada's plan towards the fulfilment of the Paris Agreement's commitment on climate change, in collaboration with provinces and territories. These kinds of initiatives do not normally involve municipal governments directly. Provinces would work on more sectoral plans with the municipalities to achieve specific economic, social, or environmental goals. Initiatives (overtly) involving the three levels of government are thus relatively rare. The federal government would normally use its residual and spending power (via grants, transfers and contributions) to move its agenda forward. Whenever the municipal level is concerned, however, the federal government has an obligation to engage provinces first for any policy initiative that may support or affect municipalities.

The Federal Infrastructure Programme is a good example of intergovernmental cooperation. It has existed since the mid-1990s and has become a milestone in the history of cross-tier policy relations among federal, provincial and municipal entities. For projects mobilized and funded through this programme, the federal government typically covers one third of the cost, while the provincial and municipal levels cover the remaining funding. Even though provinces are, in principle, responsible for the final selection and adjudication of projects, the federal government plays an influential (albeit indirect) role in setting criteria and guidelines for selection. The programme also includes a gas-tax fund quota, allowing municipalities to receive a (predictable) per capita grant to support infrastructural investments at their governance level. 

3. The contribution of local and regional governments to the localization of the SDGs

This report's premise is that while global in nature, the SDGs are the responsibility of all levels of government: more importantly, the achievement of the Goals is unthinkable unless all levels, and the local level in particular, are involved at all stages, and duly empowered to participate fully in the implementation process.

The above scenario is particularly true in Canada and the United States due to the relative independence and autonomy of states, provinces, counties and municipalities in both countries. Furthermore, the United States and Canada boast a well-developed and well-funded network of NGOs and private philanthropic foundations. Many of these are dedicated to advancing charitable causes and frequently provide grant support that local governments use to expand local services and improve conditions for citizens. A number of the services and projects funded and sustained through this network affect or contribute to the achievement of specific SDGs. These grassroots 'catalysts' of improvement and localization must be engaged and included, if SDG implementation is to be fully co-owned and participatory.

As has been discussed, given the lack of an institutionalized national framework for implementation, there is very little exposure to and awareness of the SDGs among LRGs and the elected officials who lead them. This has been true since the 2030 Agenda was first established in all regions of the world. Nonetheless, even if local governments are not explicitly using the SDGs as their development policy framework or are not 'branding' their policy decisions and initiatives within the SDG framework, their actions and those of NGOs, civil and community leaders, public and private sectors, grassroots organizations and mobilizers often address fundamental issues of sustainable development. Planning, housing, basic service provision, mobility, environment, resilience, culture and prosperity are critical dimensions of territorial development that can be substantially impacted by proactive, engaged local governments willing to contribute to the realization of the Goals.

As well as the inherent potential of the local level in the achievement of the SDGs, several pioneering and high-profile cities and local governments in North America have initiated efforts that explicitly pursue the SDGs and firmly embed them in local strategies and medium-

term planning. New York City has submitted its own Voluntary *Local* Review (VLR) at the 2018 HLPF, one of the first local authorities to formally do so within the official process of reporting; the city of San Jose, California, has a formal partnership with the SDSN, and the San Jose State University has already created a local SDG implementation dashboard; and Los Angeles presented its VLR to the HLPF in 2019. These efforts remain somewhat anecdotal, albeit powerful examples, but focusing on the largest and most economically thriving cities only can present a skewed picture.

There are more than 18,000 cities, towns, and villages in the United States, and over 5,000 in Canada, most of which are small, isolated towns. Only 74 million people live in the 100 most populous North American cities that are most commonly recognized and studied for their sustainability agendas. Meanwhile, more than 250 million residents inhabit fragmented suburban municipalities or rural areas with populations under 50,000 — a socio-economic and geographical context for which the toolkits currently available for SDG implementation are perhaps less suitable, tested or targeted. Awareness-raising, knowledge exchange and bottom-up engagement of local authorities as well as their communities is all the more important in this context. The actual on-the-ground commitment and efforts of LGAs and civil society are detailed in the next sub-section. ◉

Significant efforts have been made by LRGs to explicitly pursue the SDGs and align them with their local strategies, but these initiatives are mainly from the largest and most economically thriving cities.

3.1 The role of local government associations and non-governmental organizations

Local government associations (LGAs) and many stakeholders active within civil society, such as non-governmental organizations (NGOs) and other grassroots organizations, are perhaps the most effective players in the North American policy arena to advance on topics and subjects related to the SDGs. The United States, for instance, can count on an unparalleled network of national non-profit organizations, NGOs, local community foundations, and other organizations, whose mission to some degree aligns with one or more of the SDGs.²⁰ The non-profit or charitable sector accounts for 9%-10% of all wages and salaries paid. In 2013, public charities reported USD 1.74 trillion in total revenues.²¹ These organizations help

U.S. governments and businesses, but are also globally active, pursuing activities — charitable, religious, educational, scientific, or otherwise — that serve the public good in a way that is highly compatible with the mission of the 2030 Agenda.

The diversity of the SDGs and the other global goals has allowed for the emergence of many similar initiatives and actors in the 'ecosystem' of North America's LGAs, civil society and grassroots organizations and non-profit institutions. The United Way, for instance, is the largest privately funded non-profit organization in the world, and focuses on improving education, equitable income, and health.²² The National League of Cities (NLC), mentioned above, is the oldest and

Box 1

New York City's Voluntary Local Review (VLR)

In July 2018, New York City became the first city to present — in the wider framework of the HLPF — its VLR on SDG implementation in the local context. Since 2015, the city has pursued an ambitious and comprehensive sustainability agenda that is laid out in the 'OneNYC' master plan. The VLR was a pioneering document: alongside the effort of three Japanese cities, it was one of the first examples of a document that was locally engineered and sourced, and designed to complement the intergovernmental discussion of the HLPF with the perspective of LRGs. The presentation of the review was a milestone in the evolution of 'OneNYC' and perhaps its most visible moment globally.

Although the 'OneNYC' plan was developed before the SDGs were established, the Mayor's Office for International Affairs quickly saw the connection between the two frameworks, and created the Global Vision-Urban Action programme to use the SDGs to translate local progress into a more common language, which other cities and communities could use and emulate globally. The reporting effort within the HLPF scenario was essential, but the city made it clear that the larger mission of its strategy was 'to encourage cities and other stakeholders to join us in a conversation, not only about measuring progress towards the 2030 Agenda, but most importantly, about the policies and other strategies to get there', as stated by Commissioner Penny Abeywardena from New York's Mayor's Office for International Affairs.

Such leadership by example appears to be bearing fruit: other cities including Baltimore, Los Angeles, Orlando and San Jose have each indicated that they will either track progress towards the SDGs or explicitly use them as a basis for their own local sustainability plans.

Source: <https://www.cepal.org/es/publicaciones/44158-propuesta-plataforma-urbana-ciudades-america-latina-caribe>.

largest organization representing cities, towns and villages in the United States: as of 2019, its membership includes slightly more than 2,000 dues-paying municipalities. Multiple member-driven policy positions within the NLC have called for more urgent action to reduce GHG emissions, promote clean energy and improved energy efficiency, conserve natural resources, and reduce inequalities related to race, gender, and income.²⁴ Similarly, cities with a population of 30,000 or more are represented in the United States Conference of Mayors, their official non-partisan organization. Each city is represented by its chief elected official, the mayor. The conference has led the creation of the Mayors Climate Protection Agreement, which vows to reduce greenhouse gas (GHG) emissions consistent with the Kyoto Protocol requirements. Since 2005, the agreement has been signed by 1,060 U.S. mayors.²⁵

The United States branch of ICLEI — Local Governments for Sustainability, hosts about 200 member cities. ICLEI has been a leader in the movement of local governments advocating for deep reductions in carbon pollution and tangible improvements in sustainability and resilience. In total, 251 cities have submitted their GHG inventory to ICLEI's 'ClearPath' tool.²⁶ The Urban Sustainability Directors Network has established a peer-to-peer network of local government staff professionals from communities across the United States and Canada, competent in the creation of a healthier environment, economic prosperity, and increased social equity.²⁷ As mentioned in the introduction, political volatility can be a serious hindrance to consensus around and fulfilment of ambitious global goals and agendas: the case of the U.S. government threatening to drop out of the Paris Climate Agreement has cast doubt on the commitment of one of the world's largest polluters to contribute to a global effort to curb the effect of carbon emissions and fight climate change. In response to this development, from the bottom-up, the 'We Are Still In' coalition united 280 U.S. cities and counties, alongside a number of businesses, universities, religious institutions, healthcare organizations, willing to uphold the Paris Climate Agreement and its application in territories and communities of the United States.²⁸ Similarly, Climate Mayors unites 250 mayors that have engaged in peer-to-peer networking to 'demonstrate leadership on climate change through meaningful actions in their communities'. The coalition is led by mayors Eric Garcetti (Los Angeles) and Sylvester Turner (Houston), from two cities that have been hit by rampaging gentrification, urban segregation and car-ridden sprawling and de-densification; as well as Martin Walsh (Boston) and Madeline Rogero (Knoxville).²⁹ Finally, the United States hosts Nature Conservancy, the largest environmentally-focused non-profit organization, committed to the

Box 2

STAR Communities (now LEED for Cities)

STAR Communities is a non-profit organization and the leading certification programme for measuring sustainability. The STAR Communities Rating System was founded in 2007 with the explicit goal of providing U.S. cities, towns and counties with a common framework for sustainability. Much like the LEED standard for buildings, STAR is composed of objectives and measures of urban sustainability that have been vetted by technical experts. The system contains seven goal areas, 45 objectives and more than 500 outcome measures to capture a holistic picture of local sustainability. To date, more than 70 cities and counties have been certified through this third-party verification system.

STAR Communities recently conducted a review of all 116 quantitative outcome measures (in addition to 17 innovation and process measures) in its rating system and mapped them to the 17 SDG goal areas, noting dozens of similarities between the priorities and the metrics used to evaluate progress.²³

A handful of cities have gone beyond self-evaluation and incorporated portions of the STAR communities system into their municipal processes. For example, after achieving a four-STAR rating, the city of West Palm Beach, Florida, revised its comprehensive plan to include several key metrics the city wished to track and improve. Mayor Jeri Muoio formally announced a goal to reduce GHG emissions by 32% by 2025, and 'all but eliminate' emissions by 2050.

In 2018, STAR merged with the U.S. Green Building Council, becoming LEED for Cities.

Sources: STAR Communities, 'Alignment Between STAR and the SDGs', 8 March 2018, <http://www.starcommunities.org/press-releases/alignment-between-star-and-the-sdgs/>; STAR Communities, 'Case Study: Communicating Results Through Open Data Dashboards', 23 May 2018, <http://www.starcommunities.org/starupdates/case-study-communicating-results-through-open-data-dashboards/>; and STAR Communities, 'STAR's Merger with the U.S. Green Building Council', 15 October 2018, <http://www.starcommunities.org/starupdates/faqs-star-leed-for-cities/>.

preservation and protection of the natural world and working 'to balance the needs of a growing population with those of nature'.³⁰

Besides sustainability and climate change, issues of urban coexistence and resilience are being addressed by a large movement of non-profit organizations in North America. The Urban Institute, for example, in an independent non-profit research organization, funded by both government contracts and outside funders. Founded by President Lyndon Johnson, it aims to help solve 'the problem of the American city and its people'.³¹ The Rockefeller Foundation developed the 100 Resilient Cities project (100RC), an initiative which has so far involved 97 cities around the world, and 30 cities in the United States and Canada. The key resilience challenges identified by 100RC relate closely to the SDGs: hurricane recovery and mitigation in New Orleans, following in particular the wave of destruction of hurricane Katrina in 2009; the lack of economic opportunity in a city like St. Louis; aging infrastructure and

population in Montreal; or the well-known case study of housing affordability in a community such as Vancouver.³²

These are just a few examples of the strength and engagement of the non-profit sector and civil society in the United States. The Environmental Defense Fund, the Institute for Sustainable Communities, the Natural Resources Defense Council, the Regional Greenhouse Gas Initiative, Resources for the Future, the U.S. Climate Action Network, the Western Climate Initiative, the World Resources Institute, and the World Wildlife Fund are further examples of this flourishing 'ecosystem' of the United States, which has strong ties and roots in local governance.

Canada's landscape is not unlike that of the United States: several municipalities and NGOs have been directly or indirectly involved in monitoring and implementation of the SDGs. As mentioned above, a number of universities and non-profit organizations have been involved in the process: the University of Waterloo has been officially identified by the UN as the host of the Canadian branch of the SDSN. The International Institute for Sustainable Development (IISD) SDG Knowledge Hub includes a series of reports on

'Tracking the SDGs in Canadian Cities', which provide implementation-related data on the 14 largest Canadian cities (see Section 3.3).³³

The Federation of Canadian Municipalities (FCM) is the most influential municipal network nationally in Canada. It has actively contributed to both domestic and international development efforts. The FCM supports the SDGs as a development assistance monitoring tool in all its international initiatives (see Box 3). These are funded by Global Affairs Canada, the government of Canada's department that manages the country's diplomatic and consular relations along with international development. The FCM addresses many issues relevant to the SDG targets in its national and international programmes — e.g. Municipalities for Climate Innovation, Municipal Asset Management, First Nations-Municipal Collaboration, Partners for Climate Protection, and Towards Parity in Municipal Politics. The FCM's advocacy work focuses on affordable housing, public transit, infrastructure deficit, emergency preparedness and response, clean water, climate change and resilience, immigration and refugee settlement, telecommunications, and Northern and remote communities.³⁴ Moreover, the FCM hosts the Big City Mayors' Caucus, which has long been the national voice and forum for the 22 largest municipalities in Canada. Many of the issues addressed by the Big City Mayors' Caucus are closely linked to the localization of SDGs and municipal commitment across the country.³⁵

Additionally, provincial and territorial municipal associations are established in each province and territory: they address similar issues but their advocacy aims and actions target primarily the provincial and territorial context. While most of them do not yet explicitly promote the SDGs as a policy framework, their advocacy priorities and actions have had a positive influence on the localization of the Goals at the provincial and territorial level.

The Canadian Urban Institute (CUI) is a non-profit research organization dedicated to building capacity for healthy communities since 1990. It has provided a wealth of innovative approaches and tools to influence policy and increase municipal sustainability. The CUI addresses several sustainability issues: good density through complete community models; smart planning by applying digital technology to empower and connect communities; community resilience and sustainability by supporting the transition to resilient, low-carbon communities; housing affordability through new forms of equity, policy, and land use; and population aging by developing community inclusiveness for all ages, abilities and incomes. The CUI is also managing a collaborative carbon reduction platform for downtown Toronto, named Toronto 2030 Districts Project.³⁶

Box 3

The Federation of Canadian Municipalities (FCM) and the SDGs

Since 1987, the FCM has maintained a strong international programme that has given Canadian municipal experts the opportunity to share knowledge and build relationships with counterparts in Asia, Africa, the Middle East, Latin America, the Caribbean, and Eastern Europe. Funded by Global Affairs Canada, the FCM is active in 13 countries and delivers more than USD 15 million in international project funds annually. The FCM's international priorities include:

- Strengthening local leadership by training elected officials and administrative staff, encouraging greater citizen engagement in the local decision-making process, and improving intergovernmental relations.
- Enhancing the ability of local governments to stimulate private-sector activity to help promote economic development and reduce poverty by creating jobs, trade, and foreign investment.
- Helping local governments respond to disasters or conflicts and ensure their capacity to build safer communities.
- Fostering environmental leadership and innovation at the municipal level to help build more resilient and sustainable communities, improving the quality of life of all citizens.

The FCM's involvement in these sectors supports both the implementation of the SDGs abroad and Canada's international development commitments towards the SDGs.

Source: The Federation of Canadian Municipalities, <https://fcm.ca/en/programs/international-programs>.



Toronto from the CN Tower
(photo: © Andrea Ciambra).

The Urban Land Institute Toronto (ULI), finally, is an important Canadian think-tank with a membership of more than 1,600 public and private sector members in the field of land development and conservation. It is a sister organization of ULI America. ULI is an international organization whose aim is to promote responsible land use and create sustainable communities in North America, Europe and Asia. Despite its remit not being the SDGs explicitly, it has an impact on the localization of the SDGs as a thought leader on human settlements and has historically promoted advancement in resilient, inclusive and sustainable communities.³⁷

Countless additional charities and non-profit organizations at the local or regional level help clean waterways, conserve land and protect wildlife with a positive impact on territories and communities. This notwithstanding, very few LGAs and NGOs in North America are explicitly using the SDG platform as a catalyst or a roadmap for their action at the local level. As is the case with all other regions, however, these initiatives

and agendas are contributing significantly to the actual achievement of the Goals, and have been responsible for an otherwise unachievable degree of mobilization, participation and inclusion. Even though these actions do not directly have a connection with the global framework of the UN, they are further evidence that the daily work of local administrations will be essential for the achievement of the SDGs. The next sections will further explore specific initiatives that local governments have implemented and to what extent these have been supporting and improving localization. 📍

LGA and NGO initiatives have encouraged the strong mobilization of LRGs around the Global Goals.

3.2 Local and regional government policies in line with the 2030 Agenda

Box 4

Municipality of Repentigny: 'A City for All'

'A City for All' is a multi-pronged initiative by the municipality of Repentigny, Quebec. It uses digital technologies to elicit more inclusive service provision and full community participation. Launched in 2017, 'A City for All' includes the following key frameworks:

- *Carrefour informationnel et social* (Informational and social crossroads) is a partnership initiative between the municipal government, the *MRC de L'Assomption*, the *Centre à Nous*, and other community partners, with support from the *Caisse Desjardins Pierre-Le Gardeur (Ville de Repentigny, 2017)*. Focused on vulnerable populations — 67% of whom are women, including with language difficulties, functional limitations and limited access to basic support — it provides a wide range of social and community services through an integrated system accessible by telephone or the Internet.
- *Créalab* is a multimedia laboratory housed in the municipal library directed at youth. A variety of creative digital technologies allow young people to express themselves through photos, video, music and 3D design. With a particular focus on providing access to young immigrants and youth with behavioural issues, the facility has been used by approximately 13,500 teenagers, facilitated 1,200 school workshops and has attracted 175 young entrepreneurs as of November 2018.
- *Mes services municipaux* (My municipal services) is aimed at citizens and families within the municipality generally and is designed to improve access to information on municipal services and activities. By using an interactive map application, citizens can quickly find relevant information at a neighbourhood level, as well as connect with municipal staff.

Importantly, these initiatives are generating insights and data that can be used for future urban planning and policy development.

Sources: Chartier, Pierre, 'Repentigny, finaliste Prix international de Guangzhou pour l'innovation urbaine', *Hebdo Rive Nord*, 7 November 2018, <https://www.hebdorivenord.com/article/2018/11/7/repentigny-finaliste-prix-international-de-guangzhou-pour-l-innovation-urbaine>; Ville de Repentigny, 'Repentigny, finaliste du Prix international de Guangzhou pour l'innovation urbaine', 30 October 2018, <https://www.ville.repentigny.qc.ca/communiqués/repentigny-finaliste-du-prix-international-de-guangzhou-pour-l-e2%80%99innovation-urbaine.html>; and Ville de Repentigny, 'Le Carrefour informationnel et social ouvre ses portes au Centre à Nous', 5 June 2017, <https://www.ville.repentigny.qc.ca/communiqués/le-carrefour-informationnel-et-social-ouvre-ses-po.html>

In this section we assess the types of policies and initiatives that have been developed by LRGs to localize the SDGs; their impact on the national level; how engaged LRGs have been in real multilevel coordination; and to what extent localization has affected (or improved) institutional mechanisms and dialogue across different tiers of governance.

The SDGs are, in and of themselves, a positive framework for municipal and local action and mobilization and many of the features of local governments can contribute positively and directly to the achievement of the Goals. In the case of SDG 11, this was explicitly designed for urban and local action to meet fundamental priorities at the sub-national level, and to provide a collaborative, and genuinely co-owned roadmap towards more sustainable urban and territorial communities.

Here we focus specifically on the policies, initiatives and innovative solutions most frequently found in the comprehensive plans and sustainability agendas of local municipal governments: carbon reduction and climate change measures; access to sustainable energy; sustainable mobility; basic services, such as sustainable management of water and sanitation; and issues of precarious, unaffordable housing and homelessness.

Climate change adaptation and mitigation

The United States is the world's second largest emitter of GHGs, after China, and is responsible for 15% of global emissions causing climate change. Emissions peaked in 2007 and have been falling for the past decade. In 2016, the last year for which data is available, emissions were 12% below their 2005 levels.³⁸ Meanwhile, although Canada also ranks among the highest GHG emitters per capita in the world, considering the size of its economy and population, its environmental footprint in absolute terms is not as high as that of the U.S. This data is essential in a region that is constantly and increasingly threatened and hit by the effects of climate change: severe and unpredictable climate events sweep the continent regularly; wildfire and drought have considerably damaged the economy, productivity and social

fabric of large portions of the United States; and several coastal megalopolises are endangered by alarming rates of sea level growth, threatening to displace, hurt or kill millions of people. Ultimately, North America is one of the territories most exposed to the consequences of climate change and global warming and yet, its economy is based on a production and consumption mechanism which is causing even more environmental depletion and vulnerability. Disaster risk prevention and management is particularly important for territories, communities and local governments: the local level has invested in infrastructure and services, and has competences in risk response and mitigation. Climate change as a challenge shows that effective policy and the actual implementation of all the SDGs depends significantly on the constant involvement of all tiers of governance.

As of 2015, analysis by ICLEI USA and the World Wildlife Fund found that 116 U.S. cities, representing 14% of the U.S. population, were reporting GHG inventories and reduction targets through platforms such as ClearPath,³⁹ the carbonn Climate Registry (cCR),⁴⁰ and the Carbon Disclosure Project.⁴¹ There are however many more communities that, even though they may not be able to actually run an emissions inventory or provide existing databases with local data, are still engaged in reduction efforts, particularly via the promotion of energy efficiency and green buildings. The California Air Resources Board, for example, sets regional targets for state-wide GHG reductions, and local governments within each region are responsible for adopting collective transportation, housing, and land-use plans consistent with the state target of emitting 40% below the 1990 levels by 2030.⁴² Additionally, another 19 states plus the District of Columbia have already adopted state-wide GHG reduction targets.⁴³

As a result of the variety and frequency of natural disasters in the United States, moreover, the country has been improving its emergency management and disaster response systems. Federal policy requires the creation of emergency response plans as well as separate hazard mitigation plans to reduce local risk. However, most cities in the United States are still in severe need of structural adaptation to risk mitigation, due to their vulnerability to those events that climate change is rapidly exacerbating: in 2017 alone, when multiple historically large hurricanes, inland floods and wildfire occurred throughout the country, natural disaster response was estimated to cost a record USD 306 billion. Ultimately, cities in the United States have most of the tools and information necessary to adapt: however, 'many of the promising practices are piecemeal and fail to comprehensively address climate change and its associated uncertainties',⁴⁴ especially since the

magnitude, frequency and impact of catastrophic or extreme events increases at an unprecedented rate.

In Canada, on the other hand, municipalities and local stakeholders have raised a certain degree of awareness and mobilized on disaster resilience in the face of climate change threats and impact.⁴⁵ Nonetheless, there has been little local action to update local policies, infrastructure or resources to manage this threat.⁴⁶ A case such as

Box 5

British Columbia Greenhouse Gas Reduction Targets Act

The British Columbia (BC) Greenhouse Gas Reduction Targets Act of 2007 legislated aggressive GHG consumption reduction targets for the province: 33% reduction of 2007 levels by 2020, and 90% of 2007 levels by 2050. The Act also stipulates that BC public sector organizations must become carbon-neutral by 2010, meaning that they must produce zero GHG emissions.

To achieve these ambitious reductions, one of the measures put into place was the Green Communities Act. This requires that each local government includes targets, policies and actions for the reduction of GHG emissions in its Official Community Plans. Although the Green Communities Act does not include any centralized emissions targets, timelines or steps for municipalities to take towards GHG reduction, it does ensure that municipalities consider the environmental implications of city decisions in their planning. The legislation is progressive in signalling GHG reduction as a provincial priority and also signposts for municipalities and residents that emissions reductions are at least partially a municipal responsibility. This means that municipalities have some — albeit loose — accountability to their residents in delivering on emissions reductions. At a bare minimum, the legislation ensures that GHG reduction is part of the conversation in all municipalities, and part of the planning process.

The cases of the BC Greenhouse Gas Reduction Targets Act and the Green Communities Act demonstrate that a provincial mandate to include climate considerations in municipal planning is somewhat effective. Ninety percent of BC municipalities partially complied with the Green Communities Act by setting targets, and 75% fully complied by setting and adopting targets.⁴⁹ Thus, the Act precipitated the widespread adoption of GHG reduction targets, leading to substantive progress in emissions reductions.⁵⁰ Recent analysis shown that despite the lack of compliance mechanisms, only a few municipalities set token targets aimed at marginal change.⁵¹ BC model therefore is a promising approach for other provinces seeking to reduce GHG emissions at the local level, and could inspire other municipalities to take the initiative on climate change mitigation.

Sources: Government of British Columbia, 'Climate Change Accountability Act', http://www.bclaws.ca/Recon/document/ID/freeside/00_07042_01; and Government of British Columbia, 'Local Government (Green Communities) Statutes Amendment Act - Bill 27 - Resources | BC Climate Action Toolkit', <https://www.toolkit.bc.ca/resource/bill-27-resources>.

British Columbia (BC) — where all municipalities are now required to have local climate change action plans and 84% of them have undertaken public mobilization and education initiatives as part of their climate change-related policies (see also Box 5) — remains more an isolated example of good practice than the symptom of a structural trend.⁴⁷

Moreover, it is essential to bear in mind that cities are not the only communities that have a role to play in a territory's sustainable development or in the transition to a low-carbon future. Rural and indigenous communities in the United States and Canada, for instance, are even more reliant on fossil fuels than urban communities are.⁴⁸ With lower

population density and relatively fewer resources available at the governance level, residents in rural communities and smaller towns are generally more reliant on personal rather than public transportation; and amenities or public space are often more spread out and less accessible without vehicle travel. Many of these areas, moreover, have experienced long demographic decline and a significant loss in economic momentum, as job creation and innovation increasingly concentrates in urban centres. Lack of economic development and activity and loss of social and financial capital in rural and indigenous community, consequently, have made them generally more reliant on older infrastructure, left them off-grid, or impeded them from upgrading to less polluting or greener energy and activities. This is especially true for remoter and more isolated communities (see also Box 6).

Box 6

The T'Sou-ke Nation Solar Community

Rural and indigenous communities can also be low-carbon communities and as such can be an example to both small and large communities across North America. In 2007, the T'Sou-ke First Nation (band government) in BC began developing a solar micro-grid. This provides electricity to members of the First Nation and solar-powered hot water to approximately half the community's homes. The project includes three separate solar systems, including a six-kilowatt system, a seven-kilowatt system, and a 62-kilowatt system. These generate enough energy to power the community and sell excess power back to the BC hydro-grid. The First Nation also has a solar-powered electric vehicle charging station, and grows wasabi year-round in a greenhouse, which it sells commercially.

Although significantly smaller than most Canadian communities, T-Sou-ke First Nation has a population density lower than BC's major cities but higher than many of the province's smaller cities and towns. This shows that communities do not need large amounts of excess land — in short supply in cities — to manage a solar project: T'Sou-ke's solar units are all situated on top of buildings in the community. T'Sou-ke moreover has significantly less capital than many larger and more economically developed communities. It raised funds from 15 private and public organizations for the construction of the solar project, covering 80% of its costs. This was a challenging and time-consuming process for the First Nation, creating many obstacles in completing the project. Admittedly, communities with greater access to capital would find an investment like this more feasible than the T'Sou-ke Nation.

The T'Sou-ke Nation solar project however demonstrates that even small, rural and indigenous communities that have long relied on dirty energy sources can transition to clean, low-carbon solutions. If a small community with relatively few resources such as T'Sou-ke, can become a low-carbon community, it can be an example and provide lessons for Canadian communities of all sizes.

Sources: T'Sou-ke First Nation, 'First Nation Takes Lead on Solar Power', <http://www.tsoukenation.com/first-nation-takes-lead-on-solar-power/>; and 'Sun keeps shining on T'Sou-ke', <http://www.tsoukenation.com/sun-keeps-shining-on-tsou-ke/>.

Facilitate access to sustainable and modern energy

Adopting sustainable and modern energy sources is an important part of achieving GHG emissions reductions. LRGs that are serious about GHG emissions reductions must be actively involved in implementing SDG 7, focused on affordable, reliable, sustainable and modern energy, in their communities. Local renewable energy production projects, projects to improve energy efficiency in local buildings and infrastructure, and policies to reduce local energy use are all examples of potential SDG 7-related actions, as a part of local governments' efforts to reduce GHG emissions. Local governments' own infrastructure can be built or retrofitted to be more energy-efficient and even to produce energy.

Sustainable energy and efficient buildings policies are increasingly common in U.S. cities. Nearly every major city has adopted requirements that public buildings meet LEED standards and many policies require or incentivize certification of private development. A recent market survey conducted by commercial real-estate and investment firm CBRE and Maastricht University found that green-certified office space across the 30 largest metros of the United States has reached 41% of market totals. Chicago leads the nation and 69.8% of its office space is green-certified.⁵² Washington, D.C. adopted legislation in November 2018 pledging that 100% of energy for municipal operations would be renewable by 2032. The city had previously adopted a green construction code for private development in 2014. The state of California will require solar on nearly all new residential construction beginning on 1 January 2020.

In Banff, Alberta, all new buildings above 500 square feet must meet the LEED silver level energy-saving standard, a policy that has reduced emissions by about 18 tonnes annually for the

municipality's transit storage facility. Likewise, in Markham, Ontario, all new municipal buildings must have the potential to produce solar power, and the city has retrofitted many of its existing warehouses and other large buildings accordingly. Not only do small-scale energy production projects like these reduce cities' emissions; they also provide a source of income for local governments as energy producers. While these projects are relatively small in scale, they reduce dependency on non-renewable energy sources.

Energy production is most often independent from municipalities, but local governments' financial and planning powers contribute to facilitating the development of local renewable energy projects and incentivize energy consumption reductions within their communities. For example, Hydro Toronto provides incentives targeted at local businesses to offset the costs of making new builds energy-efficient through its High Performance New Construction Program. The City of North Vancouver has a set of bylaws that stipulate energy efficiency requirements for new builds above and beyond the British Columbia Building Code, which must be met for a building permit application to be approved.

In the United States, 90 cities, more than ten counties and two states have joined the Ready for 100 campaign. Led by the Sierra Club, these sub-national governments have set specific target dates to transition to 100% renewable energy. Six cities in the U.S. — Aspen, Burlington, Georgetown, Greensburg, Rock Port and Kodiak Island — have already hit their targets.⁵³

Safe, affordable, accessible and sustainable mobility

The whole North American territorial and urban pattern is characterized by a high dependence on the automobile and private, wheeled and motor-based transportation. The systems of infrastructure and cities, as well as the actual design of urban planning, are conceived around the idea of single-vehicle mobility and have historically neglected alternative means of transportation — including more efficient, sustainable or cleaner means such as railway or bus, which have grown into too expensive, inconvenient or even unsafe alternatives in many contexts. The United States, especially, has a capillary network of highways that connect (and almost always cut through) metropolitan areas, intermediary cities and even smaller towns and villages, with an intrinsic effect on the design of public space and the actual development of communities and locality 'identity', especially within cities and neighbourhoods. New and transformative public transit projects and sustainable mobility initiatives are happening, but these have to compete with a formidable automobile culture, and it will take some time to counter the decades

Box 7

The 2030 District Network initiative

The 2030 Districts Network is a U.S.-based non-profit organization composed of public-private partnerships (PPPs) in designated urban areas in Canada and the United States committed to reducing energy use, water use, and transport emissions.⁵⁴ The districts are regrouping public and private entities committed to significantly lowering GHG emissions produced by buildings, transportation and water use within large cities' downtown areas. The vision is to establish a global network of thriving high-performance building districts and cities, uniting communities to catalyse transformation in the built environment, and mitigating and adapting to climate change.

In 2019, the network included more than 394 million square feet of commercial real-estate, whose owners have committed to achieving the Architecture 2030 Challenge for Planning goals to reduce resource use. More than 990 organizations in mid-sized and large cities have agreed to join the network and more than 1,600 buildings are committed to the goals. The 20 current city members are: Albuquerque, Ann Arbor, Austin, Burlington, Cleveland, Dallas, Denver, Detroit, Grand Rapids, Ithaca, Los Angeles, Philadelphia, Pittsburgh, Portland (ME), San Antonio, San Diego, San Francisco, Seattle, and Stamford (CT) in the United States, and Toronto in Canada.

Source: 2030 Districts Network, <http://www.2030districts.org/districts>.

of infrastructure and other development that has supported automobiles.

Local governments hold the key to incentivizing more sustainable transportation through investments in public transit, bike lanes, car pool lanes, and other mobility policies. Vancouver shows how a city can act relatively quickly. It has made significant investments into public transit in the past few decades, has set ambitious goals related to sustainable transportation, and has seen a near doubling of public transit ridership in the past 15 years.⁵⁵

In the United States, roughly one third of all transit trips are made on buses or railways within the New York metropolitan area for instance. Both the United States and Canada are sprawling countries, but the United States has far fewer wide-reaching and consistent services than in major Canadian cities.⁵⁶

Nonetheless, heavy rail systems and other mass transit are not the only option for sustainable mobility, and recent efforts have been made in many cities to support Transit-Oriented Development (TOD) through complementary land use. This consists of 'developing compact, mixed-use neighbourhoods around existing or new public transit stops offering frequent and high-quality public transportation',⁵⁷ which can go

Box 8

Water energy mapping for Ontario communities

Ontario's successful transition away from coal and towards more renewable sources of energy has significantly reduced its carbon emissions, a positive step towards its climate change mitigation goals. This has not come without a cost, however. Renewable forms of energy production, such as hydroelectric production, biomass and nuclear production, all use significant amounts of water, which has the potential to place significant strain on Ontario's water resources.

In Ontario, power generation accounts for 84% of water withdrawals. Water scarcity is already a reality for Ontario; more than 40% of water in rivers in Southern Ontario was withdrawn for human use in 2009, meaning Ontario must make significant efforts to conserve its water resources to prevent water shortages in the future. On the other hand, energy is essential to treat and provide water. In Ontario, the total energy for water services could provide heat to every home in the country, and water services supplied by municipalities make up between one and two-thirds of municipal electricity costs in Ontario. This relationship is known as the water-energy nexus and can contribute significantly to exacerbating climate change. Thus, improving the energy efficiency of water services is also important for ensuring the reliability and sustainability of resources.

Water energy mapping is one step towards sustainably managing Ontario's water and energy resources. The province visually maps water use and supply to better track and manage water resources and identify potential water inefficiencies. It developed metrics to analyse the conditions of its different watersheds, including the available supply and the human requirements for water within the area. In addition, the province also maps the energy use of public sector operations, including water treatment and services facilities. The government of Ontario describes this as helping organizations in the broader public sector, including its municipalities, better understand how and where they use energy and how they can save it. An integrated energy mapping programme was implemented in four Ontario municipalities to visually demonstrate the amount of energy used, including in buildings and transportation. The maps, which use hydro billing and other city data about building characteristics, help these municipalities to understand how to improve energy efficiency across the city, and to target specific areas or categories of energy user. Ontario's water and energy mapping is a powerful tool to analyse the province's use of both water and energy resources — and how those resources are linked to one another — at both a macro and a micro level. Further, they demonstrate the importance of detailed data in reducing both water and energy consumption, and in informing decisions about sustainable resource use.

Source: Canadian Urban Institute, 'Integrated Energy Mapping for Ontario Communities Lessons Learned Report', November 2011, <https://static1.squarespace.com/static/546bbd2ae4b077803c592197/t/54b807a6e4b060f2e9745d1e/1421346726645/CUIPublication.IntegratedEnergyMappingOntario.pdf>.

Box 9

Montreal's transportation electrification strategy

The City of Montreal is showing significant leadership on SDG Target 11.2, (safe, affordable transit). It has developed a transportation electrification strategy, which includes electrifying public transportation and its own fleet of vehicles, providing electric-friendly parking with charging stations, and adopting strategies to encourage residents and the private sector to use electric vehicles.⁵⁸ The Montreal transit electrification strategy also takes a lead on SDG Target 11.3 (sustainable urban planning).

The city's planned sustainable transit is supposed to be integrated with housing solutions and an urban centre that can support long-term growth without creating pollution or placing strains on natural resources. It plans to incorporate electrification into city planning processes, ensuring that new housing builds are fitted with electric charging stations, and develop incentives for retrofits that offer more charging stations.⁵⁹ Its focus on public transit also puts it in a position to grow sustainably.

Source: City of Montreal, 'Electrifying Montreal-Transportation Electrification Strategy 2016-2020', http://ville.montreal.Qc.ca/Pls/Portal/Docs/Page/Proj_urbains_fr/Media/Documents/Transportation_electrification_strategy_2016_2020_Pdf.

as far as having residential complexes attached to public transit stations. Transit, complete streets, and similar transportation initiatives are underdeveloped in the United States and Canada yet have great potential, but TOD represents a multifaceted approach that is necessary to ensure that local economies and housing markets are able to adequately adapt, leading to more equitable access to mobility and a reduction in transportation-related emissions as envisioned by SDG 7. Another approach to sustainable mobility that does not require public transit investments are complete street initiatives, also referred to as active transportation (e.g. Bonita Springs City, Florida). Complete streets are deliberately designed to be inclusive of all transportation methods and individuals' accessibility needs, often designing roads where cars, bicycles and pedestrians can safely and efficiently coexist. In North America, this is a significant change from street design that has historically prioritized automobile traffic at the expense of bike and pedestrian safety.

Sustainable management of water and sanitation and waste

When it comes to the achievement of the SDGs in North America, SDG 6 on the management of water, sanitation and solid waste services and provision is perhaps the Goal most likely to be attained. With very few exceptions, the populations of the United States and Canada have access to adequate water and sanitation.⁶⁰ In fact, the real challenge for most LRGs has been preserving water resources to maintain a sustainable and reliable supply in the longer term. The targets of SDG 6 are, in this regard, particularly strict: local governments have had to address water pollution (SDG 6.3), water resource efficiency (SDG 6.4), and the implementation of a truly integrated water management system (SDG 6.5).

LRGs have a significant role to play when it comes to water pollution. At the municipal level, wastewater produced by households, businesses, and industries is a large overall polluter of water resources at regional level across the whole of North America. For the past two decades, at least, many local governments have responded to this trend by investing more in the construction and management of water treatment facilities. The percentage of residents in Canada having no access to wastewater treatment fell dramatically from 20% to 3%, while the number of Canadian households served by municipal sewage systems with secondary treatment mechanisms (or better) has grown from 40% to 69%.⁶¹

Meanwhile, the history of sanitation management in the United States is less positive. Sanitary or combined sewer overflows have been an issue across the United States, mostly because of inadequate infrastructure or maintenance: blockages, power failures at pump or lift stations and, in many instances, heavy rains and other extreme weather conditions have all affected the country's sanitation network, often resulting in the contamination of rivers and other sources of potable water or waterways. Nonetheless, cities, states, and the federal government cooperate extensively to reduce these problems with a wide range of strategies, including monitoring, expansion of system capacity, and green infrastructure to slow stormwater run-off. Nationwide data on the scale of the problem is generally either unavailable or incomplete. For example, the U.S. Environmental Protection Agency (EPA) estimates there are between 23,000 and 75,000 sanitary sewer overflows per year. Still, the American Society of Civil Engineers reports that 'years of treatment plant upgrades and more stringent federal and state regulations have significantly reduced untreated releases and improved water quality nationwide'.⁶²

At the same time, LRGs play a significant role in improving water-use efficiency and water resource conservation. Water use in the United

Box 10

Electric buses gaining momentum in the United States

Electric bus technology has recently reached a tipping point of cost efficiency and range, and cities that have made commitments to reduce transportation emissions are beginning to take notice.

In 2012, Chicago's Mayor Emanuel started a plan to modernize Chicago's transportation system as part of a broader set of green initiatives. In 2014, with the help of two federal grants, Chicago deployed the first two fully electric buses for regular service in the country. The trial has evidently gone well, as the Chicago Transit Authority recently contracted for an additional 20 electric buses in 2018, along with improved charging stations. Where the original buses took four to five hours to charge, the infrastructure and technology improvements will allow the new buses to charge in less than 30 minutes.

San Francisco already operates a large number of trolley buses that run along overhead wires and are powered by green energy, but the city has also stepped up by setting an ambitious goal of an all-electric bus fleet by 2035. Today, the San Francisco bus fleet of 800 includes 265 electric hybrid buses. These electric hybrid buses have the capability to only run on battery with a gas backup, but fully electric buses have proven difficult because of the city's extremely hilly topography, as well as its requirement that buses have an expected 15-year service life. The city will soon pilot its first nine fully electric buses using crowded and hilly routes to evaluate performance and determine what other upgrades are required for a fully electric fleet.

Many more cities are poised to roll out their first electric buses through a recent grant from the U.S. Department of Transportation. The Low or No Emission Vehicle Program recently announced USD 84 million would be granted to 41 states for 52 different projects.

Sources: Blanco, Sebastian, 'The U.S. Just Spent \$84M On Electric Buses', Forbes, 4 September 2018, <https://www.forbes.com/sites/sebastianblanco/2018/08/31/84-million-electric-buses/>; Banchemo, Rick, 'San Francisco Commits To All-Electric Bus Fleet By 2035', SF Metro Transit Authority webpage, 15 May 2018, <https://www.sfmta.com/press-releases/san-francisco-commits-all-electric-bus-fleet-2035>; Gribbon, Sadie, 'SF aims for fully electric bus fleet by 2035', San Francisco Examiner, 16 May 2018, <http://www.sfoxaminer.com/sf-aims-fully-electric-bus-fleet-2035/>; and Chicago Transit Authority, 'Electric Buses', <https://www.transitchicago.com/electricbus/>

States peaked in 1980 and has been fairly stable, despite a growing population and economy.⁶³ More recently, conservation has accelerated: the United States, for example, withdrew 9% less water in 2015 than it did in 2010.⁶⁴ Many local governments have implemented water conservation programmes, retrofit programmes and regulations to reduce water use. Several have also introduced public awareness campaigns along with infrastructure initiatives to improve water efficiency at the systemic level.

Given the link between water resources and energy use, integrated water resource management is vital to overall sustainability.

Concerted efforts were made to improve collection and recycling from the 1970s to the 1990s as a way to make the whole system more sustainable, however only 31%-35% of waste has been effectively recycled since 2005.

Box 11

Watershed management and wildfire mitigation in Flagstaff, Arizona

Water management is an essential part of Flagstaff, Arizona's history. The city of Flagstaff was established in 1882 as a railroad stop for train water and passengers. Since the 1800s, the city has built dams, changed policies, and created several water augmentation projects. In 2018, Flagstaff focused on sustainability and securing water supply for its growing population. It created a Water Services Integrated Master Plan as a guide for long-term management of its water supply. The plan's key points include water policy, wastewater, quantifying water resources, and information on working with aging water infrastructure systems. It is an update of the original 1996 Water Master Plan and now includes a land-use regional plan, updated state policies, and a population projection.

Furthermore, in 2012, Flagstaff created a digital model of the city's groundwater from a large water sustainability study. The study compiled information from the area's hydrological and geological data. This digital model helps predict water availability and impact of different water usage scenarios by measuring aquifer thickness, hydraulic properties, recharge, discharge and water levels. It is a highly effective tool for future water management but was also an intricate part of Flagstaff's 2013 Adequate Water Supply Designation.

Flagstaff continues to abide by and update its 2013 Adequate Water Supply Designation. Although it is not in an area that the state does not require creates a designation, the city still takes steps to secure water supply, legal rights to water, infrastructure and water treatment capabilities for the next 100 years.

Flagstaff supports many watershed monitoring projects in the area. Monitoring helps to establish a baseline for conditions, keep track of water impact, and compare real-life conditions to the digital model predictions. The city partners with the United States Geological Survey (USGS) to monitor the C-aquifer that supplies most of the town's water. In 2014, Flagstaff joined the Upper Lake Mary Monitoring Project that creates a 'flowtopography' by monitoring surface water flows through Newman Canyon. Flagstaff is just one of many partners of this project, including USGS, the National Park Service and Northern Arizona University. The city also plans to drill and monitor five wells in the next ten years.

Sources: Flagstaff Watershed Protection Project, <http://flagstaffwatershedprotection.org/>; and 'Our View: Thinning forests for Flagstaff watershed protection reason to celebrate', Arizona Daily Sun, 12 October 2017, https://azdailysun.com/opinion/editorial/our-view-thinning-forests-for-flagstaffwatershed-protection-reason-to/article_5c7e455c-9ea0-569d-b1a5-d11fb0c77b78.html.

Implementing strategies such as water energy mapping can help identify trends and inform policies for effectively managing resources and reducing waste. Ontario's water energy mapping is just one example of a successful water resource management initiative (see Box 8).

On the other hand, experiences and initiatives in solid waste management have had mixed results. Certainly most residents and households across Canada and the United States have full access to effective waste collection and recycling service provision, but this can only partially compensate for the sheer volume of solid waste produced in both countries, with the United States being, in fact, one of the world's largest producers of waste. In the region, concerted efforts were made to improve collection and recycling from the 1970s to the 1990s as a way to make the whole system more sustainable. Efficiency rates of such initiatives and mechanisms have, however, stagnated at between 31% and 35% of effectively recycled waste since 2005. Policies and actions in this field also encounter complicated geopolitical and international obstacles. In North America, for example, new initiatives to improve recycling and waste management became necessary after the National Sword Regulation in China prohibited the import of scrap materials and specific recyclable products from abroad. This policy, which affected the recycled material market worldwide, is still having a long-term impact on the capacity of many countries, including the United States. At the local level, many municipalities have responded by maintaining policies of waste separation and zero-waste goals, adopting specific fees or implementing strategic programmes. On the other hand, several local governments, which relied on fees from exporting scrap materials, have had to change their local policies altogether, often suspending residential recycling programmes entirely.⁶⁵

Housing and homelessness

Policies around (social and affordable) housing, precarious settlement and homelessness are still fundamental instruments in the toolkit of municipalities and local governments. Intervention in these fields is essential to improve performance on poverty (SDG 1), inequality (SDG 10), and the inclusiveness and sustainability of human and urban settlements (SDG 11).

When it comes to affordability and accessibility of adequate housing, North America is still struggling. From 2006 to 2010, in the United States alone over 13.3 million home foreclosures were executed.⁶⁶ As signalled by reports of the United Nations' Special Rapporteur on Adequate Housing, since the 2008 economic crises, giant private equity firms like Blackstone have scavenged for housing debt for pennies on the dollar, becoming the United States' largest rental landlords and de facto controlling

housing availability in various urban markets. Many of these conglomerates have adopted the same pattern in other continents and markets. These trends inflated housing value in most of Canada's largest metro areas and municipalities,⁶⁷ making phenomena such as evictions, vacancy, gentrification and income-based discrimination and segregation more acute and persistent. A lack of concrete national housing plans and a cut in federal investments, combined with a shortage of land for housing, resulted in an additional surge of housing market prices in many metropolitan areas in the United States and Canada. This prompted both governments to seek a policy solution in collaboration with the local governments involved. New taxation on vacancies (Vancouver) or the reallocation of vacant property (Los Angeles), help towards homeowners' down payments via tourism tax revenue or similar influx (Seattle), or extended support to build-to-rent real-estate development have been just a few of the many policy solutions considered by local and national regulators in North America.

Canada's new National Housing Strategy (NHS), implemented in 2017, is a positive step forward in terms of precarious and low-income housing legislation. With the National Housing Co-Investment Fund, the government of Canada, along with partners, aims to build up to 60,000 new affordable housing units within ten years, repair up to 240,000 units of existing housing, create and repair up to 4,000 shelters for victims of family violence, build 2,400 affordable units for individuals with developmental disabilities, and create 7,000 affordable units for seniors.⁶⁸ The NHS focuses on a high-level partnership with all levels of government to maximize investments and improve project coordination to fit each city's different needs.⁶⁹

On the other hand, nearly all communities in the United States have grappled with serious issues of housing affordability and accessibility, no matter their size, level of prosperity or growth pressures. The responses have been varied. Some cities have sought to provide enough housing for all incomes by preserving existing affordable housing units and creating new ones. Others have focused on preventing poor housing conditions and housing displacement. A number have concentrated on helping households access and afford private-market housing or connecting housing strategies to employment, mobility and health initiatives.⁷⁰ Given the diverse landscape of housing affordability, cities must build and maintain the proper tools and flexibility to meet the needs of their residents. To that end, cities have implemented solutions such as inclusionary housing, rent control, fair housing and housing trust funds. They have also leveraged programmes such as their states' tax incentive programmes to expand housing affordability and access.⁷¹

Box 12

Circular economy – Sustainable waste management in Boulder, Colorado

Boulder, Colorado adopted its first zero waste plan in 2006, expressing the belief that: 'A true zero waste system is cyclical, like nature: everything we produce, consume, and dispose of eventually goes back to feed the larger system at the end of its useful life'.

Today, less than half of Boulder's waste ends up in landfills, making its waste diversion programme one of the most successful in the United States. This success has been made possible by Boulder's Zero Waste Strategic Plan, which outlines three priorities:

- Develop the infrastructure to provide recycling services across all sectors;
- Improve streams through targeting; and
- Reduce per capita waste generation.

Boulder depends heavily on its relationships with outside stakeholders to foster the local circular economy. For instance, the city government works closely with the Boulder Chamber of Commerce to improve outreach to the local business community and emphasize co-creation.

Additionally, in 2017, the city convened the Task Force on the Circular Economy in partnership with the University of Colorado, Boulder. Boulder has an agreement with the university to research sustainability initiatives and the development of a fully circular economy. While these partnerships have been invaluable, the city still struggles with per-capita waste reduction.

To address this, Boulder adopted its Universal Zero Waste Ordinance. This stipulates that all properties, commercial and residential, must recycle and compost. Furthermore, recycling and composting receptacles must be made available at any special events.

The city also uses negative reinforcement, such as assessing fees on all disposable paper and plastic bags distributed at grocery stores and levying a trash tax on haulers throughout the city. This revenue is used to fund Boulder's waste reduction efforts.

Sources: City of Boulder, 'We Are Zero Waste Boulder', <https://bouldercolorado.gov/zero-waste>; and City of Boulder, 'Zero Waste Strategic Plan', November 2015, https://www-static.bouldercolorado.gov/docs/Zero-Waste-Strategic-Plan-Action-Plan-Web-1-201604131208.pdf?_ga=2.150315058.566415638.1552527992-1117643889.1552527992.

Policies around (social and affordable) housing, precarious settlement and homelessness are fundamental instruments in the toolkit of local governments.

Box 13

Housing First – Pathway Vermont

The Pathways Vermont non-profit organization launched its Housing First (HF) model in 2010 across the state of Vermont in the United States. While the programme is managed as an NGO initiative, it receives more than 95% of its funding from federal contracts, state contracts or reimbursements from the Medicaid federal healthcare programme.

Pathways prioritizes a virtual Assertive Community Treatment approach, meaning clients and team members meet in person or virtually via video conference technologies. The organization's use of virtual resources such as the iCloud network creates efficiencies in its programme's activities as it enables real-time exchange of client file information.⁷⁴ Moreover, its HF model has shown great success due to the scope of the long-term services offered. These include support for employment, computer literacy, substance abuse, and psychiatry, as well as peer specialists and nurses. The programme's housing retention rate is 85%, demonstrating its success in the fight against chronic homelessness.

Pathways also tailored its HF model to help those with long correctional records transition back into the community. In fact, numbers show that 81% of participants have not returned to long-term incarceration.⁷⁵ By providing housing and support services, re-incarceration rates decrease, as do state expenditures.

Sources: Pathways Vermont, 'Housing First', <http://www.pathwaysvermont.org/what-we-do/our-programs/housing-first/>; Pathways Vermont, 'Annual Highlights, Fiscal Year 2018', <https://www.pathwaysvermont.org/wp-content/uploads/2018/09/FY-18-Annual-Highlights-Report-Online-version.pdf>.

The shortage in low-cost housing has put a strain on the low-income populations that increasingly live in precarious situations. In 2014, 18% of Canadian households were using more than 50% of their income on rent, thus facing extreme affordability problems.⁷² In the United States, the figure was 17% in 2015, a 42% increase from 2001.⁷³ This gradual exclusion from the housing market puts many more households at risk of homelessness. Moreover, SDG 1 requires that all have equal rights to economic resources, access to basic services, and ownership and control over land and other forms of property. In this sense, low-income groups are highly marginalized from housing resources and capabilities.

SDG 10 further aims to promote the social, economic and political inclusion of all, without discrimination. In North America, visible minority groups, single parents (especially mothers), immigrants, indigenous peoples and people with disabilities are more likely to live in situations of precarious housing than the rest of the population. This is why the promotion of indigenous housing programmes, repair grants and new affordable housing construction are key elements to ensure quality housing for the poorest. In Canada, protecting these communities from unstable and unsafe homes has been an important component in reducing inequalities amongst the country's diverse population. Not only would solving housing problems be a step forward in alleviating day-to-day living strains and stress: it would also promote the social and economic inclusion of those groups considered most at risk of exclusion and homelessness.

Furthermore, Target 7 of SDG 10 specifically seeks to facilitate orderly and safe migration and mobility of people. As cities and urban migration expand, organizing the flow of people into cities from rural areas and abroad is necessary to ensure their proper and secure movement and settlement. Several North American cities have high immigration rates and cities need to be able to offer housing space for newcomers: in this regard, affordability has been a major issue, considering that migrant groups are generally more vulnerable to economic competition, lower wages and growing exclusion from access to services. The development of strategic urban plans enable cities to organize inclusive expansion, while reducing inequality gaps and fighting the socio-economic segregation that is increasingly tearing through their fabric. 

Box 14

Scaling up affordable ownership housing in the Greater Toronto Area (GTA)

In 2017, publication of the 'Scaling Up Affordable Ownership Housing in the GTA' research report offered a clearer pathway and insight into low-income housing solutions in the GTA. The report demonstrates how affordable rental units can be made available for moderate and low-income residents when eligible renters are able to enter the GTA housing ownership market. Thus, it states that if 5% of the middle-income renters who use less than 30% of their income on rent could access housing ownership, this would make available up to 10,000 affordable rental housing units in five years.⁷⁶ For this to be possible, the Canadian Urban Institute (CUI) recommends creating access to capital for all levels of government by making available specific loans and funds. It also suggests enabling access to land by encouraging the City of Toronto to create an Affordable Housing Land List and selling public land to non-profit housing organizations.⁷⁷ The third recommendation is to exempt non-profits from the municipality's inclusionary zoning by law. Finally, the report suggests amending the definition of 'affordable' in the provincial policy statement to better reflect the current economy.⁷⁸ Thus, the GTA Housing Lab and CUI initiative provide some interesting information and solutions, as applied to low-income housing.

Source: Canadian Urban Institute, <http://www.canurb.org/housing-affordability/>.

3.3 Monitoring local and regional governments' contribution to the SDGs

The assessment of progress and localization of the SDGs in North America requires the active, independent participation of all levels of governments, particularly to ensure monitoring, data collection and follow-up. Data is not reported in a systematic fashion and there is still much progress to be made to monitor the progress of the SDGs in Canada and the United States.

The United States federal government appears to be stepping back from environmental commitments, with its withdrawal from the Paris Agreement on climate change and the repeal of various environmental regulations. LRGs have reacted by declaring their own support for the Paris Climate Agreement. States have also created cap-and-trade systems, such as the Regional Greenhouse Gas Initiative put forward by ten U.S. states, and the Western Climate Initiative, which groups together American states and Canadian provinces. Canada has only recently adopted strategies explicitly seeking to meet the SDGs and indicated its plan to submit a VNR of its progress in relation to the 2030 Agenda for Sustainable Development. The current Canadian federal government is also in the process of implementing a carbon price policy coast to coast. The Association of Municipalities Ontario has taken action at a more local level by creating a Low-Carbon Economy Opportunities Task Force to advise member municipalities in their transition to a Low-Carbon economy, as well as offering municipal perspectives on provincial and federal policies.

SDSN has recently expanded its coverage by releasing a U.S. Cities Sustainable Development Goals Index entitled: 'Leaving No U.S. City Behind'. This gives a ranking of the 100 most populated metropolitan areas in the United States on the SDGs. Canada has also made some progress on the creation and funding of monitoring tools. Statistics Canada is now mandated by the government of Canada as the SDGs' data hub for the entire country and for all levels of government. This initiative was approved in September 2018. Since 2018, as

already mentioned, the University of Waterloo has been identified as the Canadian host of SDSN in the country. The University of Waterloo has one of the largest Schools of Environment Studies in Canada. It will work closely with the UN and Canadian stakeholders to identify the best solutions to meet SDG objectives, and share this knowledge with Canadians as well as the rest of the global community. Meanwhile, IISD, the aforementioned Canadian-based think-tank dedicated to promoting human development and environmental sustainability, has established an SDG Knowledge Hub. This data portal includes a series named 'Tracking the SDGs in Canadian Cities', which has so far provided data on the 14 largest Canadian municipalities. IISD has also produced briefing notes providing specific overviews on how these cities stand in regard to the most relevant SDGs.

Finally, Statistics Canada should be able to provide a broader picture of the situation in both large and small municipalities. To date the monitoring systems to study and report on the localization of the SDGs have focused on only the largest cities: this is a challenge which LRGs globally are struggling with, considering how difficult it is for smaller urban settlement to adequately access and take advantage of the SDG official indicators or, alternatively, deploy the kind of capacity and (financial, technical and human) resources needed to adapt global indicators to the local reality. 

'Tracking the SDGs in Canadian Cities' has so far provided data on the 14 largest Canadian municipalities. IISD has also produced briefing notes on how these cities stand in regard to the most relevant SDGs.

4. Conclusions

As mentioned throughout this chapter, LRGs play a fundamental role in the implementation of the SDGs in the North American region. Indeed, their involvement has meant progress towards the localization of the SDGs has been consistent across the United States and Canada.

There are many more commonalities between the two countries but also key differences. In both, progress is highly fragmented, which reflects the nature and structure of their federal systems of government. Not only do both countries lack a national framework for implementing and tracking the SDGs, but it is also difficult to imagine how such a comprehensive framework could exist without sparking serious legal challenges from state and provincial governments.

The most significant divergence between the two countries is current commitment of political leadership. While there are no clear initiatives to support the SDGs and other UN frameworks under the current administration in the United States, in Canada conversely there are. The United States federal government appears to be stepping back from environmental commitments, with its withdrawal from the Paris Agreement on climate change and the repeal of various environmental

regulations. Canada has only adopted strategies explicitly seeking to meet the SDGs and submitted its first VNR to the UN in 2018.

Besides the territorial hegemony of the region's two largest countries, it is worth remembering that Jamaica stands out for having adopted an SDG implementation framework and strategy in 2017. The 'Roadmap for SDG implementation in Jamaica' constitutes a national strategic planning framework, which explicitly acknowledges the crucial role of local government.

With a national framework for implementation under development in Canada, and in the absence of such a framework in the United States and, to date, no overt commitment by the U.S. to present its VNR to the HLPF, awareness of the SDGs among LRGs in North America remains low. Therefore, **international LRG networks and institutions must continue to support and raise awareness of the SDGs.**

Nevertheless, when compared with other regions, **LRGs in North America are potentially uniquely empowered to drive change, innovate and pursue new initiatives.** In fact, areas such as land use, public education, and basic services are almost entirely managed by states, provinces or local governments. LRGs have reacted to the United States' withdrawal from the Paris Climate Agreement by declaring their own support for climate change initiatives. States have taken different actions, created cap-and-trade systems, such as the Regional Greenhouse Gas Initiative put forward by ten U.S. states, and the Western Climate Initiative, which groups together American states and Canadian provinces. In Canada, the Association of Municipalities Ontario has taken action at a more local level by creating a Low-Carbon Economy Opportunities Task Force to advise member municipalities in

Jamaica stands out for having adopted an SDG implementation framework and strategy in 2017, which explicitly acknowledge the crucial role of local governments.

their transition to a low-carbon economy, as well as offering municipal perspectives on provincial and federal policies.

Indeed, **if either Canada or the United States are to achieve any of the SDG targets, it will require action at all levels of government.** National governments can act in two important ways: aligning funding from intergovernmental transfers with SDG targets and improving the quality of data availability. With regards to data, the U.S. government's official statistics site acknowledges serious gaps in available data to track the achievement of the SDGs. Although Canada submitted its first VNR in 2018, the United States, as has been stated, has yet to do so, and the online SDG implementation tracker indicates only 99 of 244 metrics have been reported while data sources are being explored for the remaining 145.

Second, **since national governments in North America cannot mandate a top-down plan for implementation, federal funding should be used to incentivize further action.** For this end, Canada launched two calls to support projects. Funds could be used, for example, to support LRGs to adopt frameworks for SDG implementation along with comparative countrywide data collection.

As documented throughout this chapter, much of the legal authority to set strict guidelines and establish dedicated programmes to implement the SDGs lies at the state and provincial level. California and Massachusetts in the United States and the provinces of British Columbia and Quebec in Canada are beginning to demonstrate how this can work in practice. Ultimately, when evaluating overall progress and looking ahead to the 2030 target date for achievement of the SDGs, there is both room for optimism, and for concern.

Positively, indicators show that the United States and Canada are already ahead of their peers in several areas. **Localization and continued progress on the SDGs can happen rapidly because LRGs have strong and independent authority to act.** In the goal areas that require significant improvement, states, provinces, and municipalities can raise their own revenue, set their own budgetary priorities, and swiftly take action. Within just three years of the SDGs being adopted, cities like New York and Los Angeles has completed a VLR, and a small number of cities elsewhere in the region have begun to follow suit. This bodes well for the future, and replication in other major cities.

A more pessimistic view however is that, despite all of their advantages, Canada and the United States are not currently on course to achieve any of the SDGs. The same laws and intergovernmental relationships that give LRGs the authority to act independently also inhibit any coordinated action. Although they are currently ahead of their peers in some metrics, the **United States' and Canada's**

When evaluating overall progress and looking ahead to the 2030 target date for the achievement of the SDGs, there is both room for optimism, and for concern.

lack of a national shared strategy means there is a need to develop this common framework and strengthen intergovernmental collaboration.

Fragmentation of government authority will mean much greater national awareness and urgency are needed to replicate solutions across thousands of local municipalities and special districts. While a handful of cities have begun to consider the SDGs as a framework that can guide local action, few cities have the staff time, expertise or data availability to follow.

Both positive and more negative views in fact hold true. The most economically, environmentally and socially sustainable metropolitan areas will perform well globally. State and local political priorities will align, and several of the SDGs will perhaps be addressed. At the same time, improvements are very likely to be geographically concentrated and inequalities that currently exist in U.S. and Canadian societies will grow. The United States and Canada are examples of countries where, with increasing geographical, economic, social and political disparities, there is a major risk of law-makers disagreeing on at least some of the SDGs, dysfunction occurring, and infrastructure and services being allowed to further deteriorate causing greater inequalities. **Far greater efforts need to be made to 'leave no one behind' if progress toward the SDGs is to be shared more widely. ☉**