A territorial approach to climate action and resilience

The proposed new OECD programme "A territorial approach to climate action and resilience" aims to support cities, regions and countries in their efforts to drive the zero-carbon transition and build systemic resilience across levels of government, including in light of the recovery from the COVID-19 crisis. It seeks to demonstrate the significant mitigation and adaptation potential of regional and local climate action by strengthening reporting and monitoring frameworks. It will assess national policy and governance arrangements to support the locally tailored implementation of the Paris Agreement as well as the Sendai Framework. It will also assess the contribution of subnational policies and initiatives to effectively achieve the zero-carbon transition and enhanced climate change adaptation action, including through subnational climate financing.

October 2020

The urgency and place-based impacts of climate change

Global warming is likely to reach 1.5°C between 2030 and 2052 at current rates (IPCC, 2018). Total greenhouse gas (GHG) emissions attained a record 55.3 gigatons of carbon dioxide equivalent in 2018 and have risen at a rate of 1.5% per year over the last decade (UNEP, 2019). Atmospheric CO_2 concentrations reached 412 parts per million in December 2019 (NASA, 2019), which is unprecedented over the last three million years (WMO et al., 2019). The risks associated with a temperature rise beyond 1.5°C include substantial species extinction, global and regional food insecurity, more frequent and more intense extreme weather events, consequential constraints on common human activities and limited potential for adaptation in some cases – all of which will be further compounded if longer-term tipping points in the earth system (e.g. sea-level rise and ocean acidification) are set in motion (IPCC, 2018). These tipping points can form a cascade, with each one triggering others, creating an irreversible shift to a hotter and more vulnerable world. To lessen these catastrophic risks and retain a 50% chance of limiting global temperature rise to 1.5°C, mitigation efforts would need to secure carbon neutrality (net-zero GHG emissions globally) by 2050 (IPCC, 2018). The longer ambitious climate action is delayed, the greater the damage to the economy and to society. The way in which countries recover from the current COVID-related economic crisis is therefore crucial for the achievement of the internationally agreed climate goals on which longer-term sustainable development depends.

The impacts of climate change will pose unique challenges for adaptation varying across places. Extreme precipitation and related storms, floods, torrents and landslides will continue to damage critical infrastructure as well as private economic assets. Prolonged extreme temperature events will increase energy demand for space cooling and exacerbate existing inequalities (IEA, 2016) and also have serious, sometimes catastrophic, implications for ecosystems (Harris et al., 2018). Rural economies in particular are largely resource-based and are reliant on well-functioning ecosystem services such as healthy soils, clean water, pollination and a stable climate. Both urban and rural areas are expected to experience major impacts on water availability and supply in the coming years, with potential changes in water quality and quantity resulting in fierce competition between water uses (OECD, 2016a). Local urban heat islands can exacerbate local temperature increases, alter small-scale processes (e.g. land-sea breeze effect) and modify meteorology, thereby increasing the risk of heat-related mortality (IPCC, 2014), for instance in areas with limited green space and inadequate access to health services. Moreover, local capacity to plan for and implement robust adaptation measures is highly diverse, and the impacts of climate change and extreme events can vary widely across regions and cities within the same country.

Climate change also poses significant risks to economic resilience, particularly in terms of threats to macroeconomic and fiscal sustainability resulting from climate-related shocks. Modelling projections for a high-end sea-level rise scenario (1.3 metres) indicate that coastal flooding may incur global annual damage costs up to USD 50 trillion – nearly 4% of global GDP – by the end of the century without adequate adaptation measures (OECD, 2019b). Global health crises such as COVID-19 underscore the dire consequences of limited preparedness when facing a world-wide emergency – a stark reminder for urgent climate action – and serve as a dramatic compounding risk to climate change, for which many cities', regions' and countries' overall risk management systems have yet to prepare.

The unprecedented economic crisis caused by the containment measures related to COVID-19 may set back progress on climate action several precious years, although governments have an opportunity to align stimulus measures with efforts to limit climate risks in the spirit of "building back better and greener". In fact, approaching the economic recovery using a well-being lens to climate mitigation (OECD, 2019c), can effectively increase the likelihood of reaching Paris Agreement goals, while also bringing the possibility to advance other well-being agendas (e.g. health, equity, jobs, housing, accessibility, biodiversity). Different pathways to economic recovery and their implications for climate change mitigation and wider well-being are examined in Buckle et al, (2020, forthcoming), with a focus on the transport and residential sectors as well as the implications of recovery pathways for Nationally

Determined Contributions (NDCs) to the Paris Agreement. Despite a temporary fall in CO_2 emissions due to reduced economic activity in response to COVID-19, the atmospheric concentration of CO_2 continues to grow rapidly, which needs to be urgently addressed.

A territorial approach to climate action can promote place-based policy responses to accelerate efforts to mitigate climate change and to more effectively adapt to its localised impacts. A territorial approach allows decision makers to better incorporate context-specific climate change drivers and impacts, and to tailor support and measures. The scale and complexity of the challenges posed by the growing climate emergency highlight why such an approach is needed to scale up ambitious climate action from across levels of government in a country.

Climate action: a shared role across countries, regions and cities

Addressing climate change is a global challenge dependent on local actions, reflective of local conditions and responsive to local impacts, requiring immediate, transformative and coordinated action by all levels of government and in cooperation with diverse stakeholders. Subnational governments play a key role in climate action, as it is estimated that, beyond the national level, 50 to 80% of adaptation and mitigation actions already are or will be implemented at the regional and local levels (Regions4SD, 2016).

- **Cities (local authorities)** are essential to implement national emission reduction policies, and especially adaptation measures, as they have close contact with citizens and businesses, as well as strong knowledge of local conditions and capabilities. They are instrumental to mainstream climate action into their spatial planning, infrastructure, local economic and fiscal policies through locally-tailored climate strategies in line with national objectives (OECD, 2010; OECD, 2019c), but they also rely on multi-level coordination for other areas such as decarbonising the energy grid or rural-urban transport. It is estimated that local governments have direct power over a third of urban GHG emissions reduction potential by 2050, and that the remaining two-thirds of urban emission reduction depend on either national and state governments or on co-ordination across levels of government (CUT, 2019).

- **Regions**, as the second tier of government, have gained much traction in facilitating vertical coordination among national and local levels, as well as horizontal cooperation across local authorities within their territories (e.g. subnational climate action plans or policies to promote urban-rural linkages). Regions have a clear role in climate mitigation and adaptation, given their responsibilities and policy authority in several areas having an impact on economic development.

In many countries, subnational governments have implemented bold climate action measures, which often exceed national targets (Box 1**).** Cities' high level of ambition and strong leadership role, for instance, were further reaffirmed by the COVID-19 crisis, during which cities around the world emerging from lockdowns committed to bold measures to "build back better", with particular emphasis on embedding sustainable urban mobility and energy efficiency in their long-term recovery strategies (OECD, 2020b).

Box 1. Subnational leadership in setting bold climate mitigation and adaptation measures

Several cities have announced a carbon neutrality target extending beyond the ambition of their respective national government demonstrating the strong leadership role adopted by local

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governments. The carbon-neutrality targets of Copenhagen (2025), Helsinki (2035), Stockholm (2040), and Sydney (2050) are all more ambitious than those of their national governments. Since 2017, the city of Oslo (Norway) has pioneered an innovative and cross-cutting approach to climate action by establishing a climate budget that sets sector-specific GHG emission ceilings, thereby paving the way towards the city's 95% GHG emissions reduction target by 2030 (relative to 1990). In 2010, the city of Tokyo (Japan) introduced the first urban cap-and-trade programme in the world, including mandatory targets for Tokyo's biggest emitters, namely commercial buildings and industrial facilities. In addition, as of 2019, more than 250 cities had adopted a target for 100% renewables (nearly half of the cities set the target year as 2030) (REN21, 2019).

Several regions have also declared ambitious targets to achieve carbon neutrality. Jämtland (Sweden) and the Regional Councils of Pirkanmaa (Finland) set carbon neutrality targets to be achieved by 2030, while Catalonia (Spain) and Queensland (Australia) have established a 2050 target for carbon neutrality. Other regions and states – California, Hawaii and New York (US), as well as South Australia and Victoria (Australia) – signed up to the "Climate Ambition Alliance", launched at the UN Climate Action Summit 2019 to bring together countries, businesses, investors, cities and regions aiming to achieve carbon neutrality by 2050. Moreover, 112 states and regions, representing over 800 million people and an estimated 23% of the global economy, have joined the Under2Coalition with a commitment to a GHG emissions reduction of 80-95% below 1990 levels by 2050. As of 2020, 32 subnational governments have implemented some form of carbon pricing (World Bank, 2020)

Cities and regions are at the forefront of implementing measures to adapt to climate change, and taking leadership. Tokyo (Japan) introduced adaptation measures in advance of national strategies, for instance through its construction of super levees designed to withstand extreme meteorological and seismic events as well as its joint development with Yokohama city of multi-purpose storage basins by the Tsurumi river to protect against 150-year floods (OECD, 2015c). To address increasing local fresh water shortages the Island of Gotland (Sweden) is working on innovative circular water solutions including climate neutral desalination powered by solar energy.

However, effective subnational action cannot be conceived in isolation from national policies, and the two-way interactions are not always adequately considered. Subnational action can be so effective that it can lead to replication among other regional and local governments, as was the case with Bogotá's Bus Rapid Transit system, or can even lay the groundwork for national regulations like Barcelona's ambitious requirement for solar thermal systems (OECD, 2015). Yet, national governments have a crucial role in setting and implementing a national policy framework that translates global commitments into ambitious national goals and targets: aligning sectoral policies to transition to a low-carbon economy and managing related trade-offs; regulating and removing harmful subsidies to encourage climate-resilient policies; removing barriers against, setting incentives for, coordinating with, and scaling up innovative climate action by cities and regions.

Recognising the role of subnational governments, national governments have also developed multi-level coordination mechanisms, which can scale up subnational ambition for climate action domestically. Recent OECD work has found good examples where countries such as Canada, France and Germany have established strong coordination mechanisms across levels of government in developing and implementing long-term low-emission development strategies and subnational climate plans (OECD, 2019e). Similarly, in Denmark, municipalities are actively encouraged to draft local adaptation plans as a complement to the national-level strategy and action plan. They have been supported in this process by a specially created "climate change adaptation squad" and mobile task force as well as through a legislative change allowing municipalities to cite adaptation as a basis for local plans (OECD, 2015c). However, subnational climate action frameworks have not always been fully recognised or enabled

by the national-level – although in federal countries lower levels of government have more autonomy – even if they may often be more ambitious than those of their national governments.

The adoption of the Paris Agreement, the 2030 Agenda on Sustainable Development (Agenda 2030) and the Sendai Framework for Disaster Risk Reduction 2015-2030 in 2015 generated strong momentum for all actors across countries, regions and cities to commit collectively to climate action to achieve global commitments. All three global climate-related agendas clearly recognise the role of subnational action in their formulation processes, and incorporated it into the adopted documents (Box 2).

Box 2. Recognition of local actions in global climate-related agendas

Paris Agreement

The Paris Agreement acknowledges that climate change is a common concern of humankind, and that local communities – among other groups such as indigenous peoples, migrants and children – must be properly engaged when taking action to address climate change (UNFCCC, 2015: preamble §11). The Paris Agreement specifically recognises the importance of engagement of all levels of government to effectively implement climate action (UNFCCC, 2015: preamble §15), specifically highlighting their role in regards to adaptation, loss and damage and capacity building (UNFCCC, 2015: Articles 7.2, 7.5, 8.4, 11.2).

Agenda 2030

In the means of implementation of Agenda 2030, a specific call is made for public institutions to "work closely on implementation with regional and local authorities, sub-regional institutions, international institutions, academia, philanthropic organizations, volunteer groups" (UN, 2015: §45). Agenda 2030 also underscores the key role of local authorities in scaling up action, effecting change and securing sustainable human settlements (UN, 2015: §34, §52).

While the SDGs were not explicitly designed by and for local and regional governments – with the exception of SDG 11, dedicated to Sustainable Cities and Communities – they provide a universal ambition and valuable framework for all levels of government to align global, national and sub-national priorities within policies striving to leave no-one behind. Moreover, implementing Agenda 2030 requires cities' and regions' action in most SDGs given their policy prerogative, role in public investment and closer connection to citizens.

Sendai Framework for Disaster Risk Reduction 2015-2030

The Sendai Framework underscores the importance of local action in great depth, beginning with its emphasis that "international, regional, sub-regional and transboundary cooperation remains pivotal in supporting the efforts of States, their national and local authorities, as well as communities and businesses, to reduce disaster risk" (UNDRR, 2015: preamble §9). The key target to "substantially increase the number of countries with national and local disaster risk reduction strategies by 2020" (§18e), is rendered more actionable at all levels of government with the recognition that "there is a need for focused action within and across sectors by States at local, national, regional and global levels" (§20) to achieve the Framework's priorities. The importance of local action is further embedded in three of the Framework's guiding principles:

- "Disaster risk reduction and management depends on coordination mechanisms within and across sectors and with relevant stakeholders at all levels, and it requires the full

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engagement of all State institutions of an executive and legislative nature at national and local levels and a clear articulation of responsibilities […]" (§19e);

- "While the enabling, guiding and coordinating role of national and federal State Governments remain essential, it is necessary to empower local authorities and local communities to reduce disaster risk, including through resources, incentives and decision-making responsibilities, as appropriate" (§19f);

- "While the drivers of disaster risk may be local, national, regional or global in scope, disaster risks have local and specific characteristics that must be understood for the determination of measures to reduce disaster risk" (§19i).

Source: UNFCCC (2015); UN (2015); UNDRR (2015).

Key challenges for the zero-carbon and resilient transition in cities and regions

National governments do not sufficiently consider geographical disparities across regions and cities, hindering systemic and impactful action. Global assessments of climate change impacts and GHG emissions need to pay more attention to how global targets make a difference at subnational levels. This is essential in order to avoid policy misalignment and distorted priority setting. For example, much GHG emissions data in regions and cities is still lacking or has not yet been reported in a comparable manner due to a range of financial, regulatory and capacity challenges. Identifying and reporting GHG emissions at the regional and city levels – as well as relevant indicators and benchmarks for the zero-carbon transition (e.g. energy efficiency retrofits in buildings, electric mobility infrastructure) – is crucial to accelerate action as well as for accountability to ensure national governments are on track to reach their climate targets.

Significant data and knowledge gaps exist at the local and regional levels to fully demonstrate the potential of subnational climate mitigation. The lack of comprehensive GHG emission monitoring and reporting frameworks at the local and regional level is an obstacle to demonstrate to national policymakers that subnational governments can significantly contribute to achieving national targets. In recent years, it has become easier to account for GHG emissions by sector and scope through standardised methods such as the Greenhouse Gas Protocol's internationally comparable GHG reporting methodologies for companies, organisations and local governments. An increasing number of cities are publicly reporting emissions data by sector and type of emission, with some even going so far as to report emissions based on the consumption of goods and services imported from different jurisdictions (GPC, 2014; C40, 2018). While common methodologies for urban areas such as GPC are gaining ground, not all cities utilise a standard methodology, even within a given country, which can render comparability and alignment between and across levels of government and sectors difficult.

While climate adaptation knowledge has substantially increased on key areas such as sea-level rise, flood risk exposure, and the adaptive capacity of the built environment, there are large data gaps at the sectoral and local levels that obscure public and private actors' awareness of their full risk exposure. Moreover, while key features of climate change (e.g. temperature increases, sea-level rise) are well captured in climate models, there is significant uncertainty in model projections for rainfall, extreme weather and climate feedbacks among others, which have large implications for physical risk assessment, adaptation and insurance, particularly at a regional or local level. Climate models have spatial resolutions on the order of 100 km, a scope which remains too large for most cities, and while methods have been elaborated to "downscale" climate modelling at lower resolutions, they often magnify uncertainties that may

have already been significant at original scales (Shepherd & Sobel, 2020). Similarly, there is still only a limited understanding of the full impacts of climate change on biodiversity and ecosystem services.

Comprehensive data on subnational climate finance is lacking. Between 2000 and 2016, subnational governments were on average responsible for 55% of total climate and environment-related public spending and 64% of such public investment in 30 OECD countries. However, the subnational share of such spending represented only 1.3% of GDP on average over the same period (OECD, 2019c). In practice, national governments can enact legislation to expand cities' fiscal authority and can redesign subnational taxes and grants. However, current framework conditions in many countries do not often allow regions and cities to rely on a balanced and sustainable variety of fiscal resources.

Despite the increasing number of local and regional climate action initiatives (e.g. Box 1**), current efforts to tackle climate at the subnational-level often remain poorly recognised and integrated into national policy frameworks.** Approximately one out of four countries accounted for in currently submitted NDCs do not detail subnational governments in their NDCs (Hsu et al. 2019). Technically, the degree to which climate action at the city and regional levels contributes to achieving NDC mitigation targets, is not well understood, as there is no common monitoring and reporting framework across levels of government. One hundred and thirty-seven parties to the UNFCCC have included an adaptation component in their NDCs (Morgan et al., 2019), 51 developing countries have submitted a national adaptation programme of action (UNFCCC, n.d.) and thirty-one OECD countries have also published independent national adaptation strategies (OECD, 2015; EC/EEA, n.d.). While national governments are increasingly embedding adaptation in planning documents, better monitoring frameworks are needed to assess the extent to which local needs and actions are reflected in practice. Disconnects between local action and national frameworks are a barrier for innovative and impactful climate action in cities and regions.

When acting alone, cities and regions may not leverage their full potential to make a significant difference in transitioning to the zero-carbon economy and strengthening their resilience. In addition to their high level of ambition and strong potential to contribute to national climate targets, subnational governments play an essential role in fostering knowledge-sharing as well as in designing and implementing effective adaptation measures in light of their wealth of "bottom-up" knowledge on local climactic factors, socio-economic and cultural contexts, and the experience of local actors in responding to chronic stresses and past extreme events. National governments have a crucial role in identifying and fostering national policies to support and accelerate the locally-tailored approaches of subnational governments. As systemic and disruptive changes will accompany both the zero-carbon transition and the impacts of a changing climate, cities and regions will need more information on what policy priorities are, what measures should be taken and how to monitor progress. This process will require sustained coordination between levels of government, regular public consultations and the integration of the latest scientific advice.

Not all cities and regions are equally equipped to implement climate action, partly due to gaps in knowledge, capacity funding and political will. Despite the increasing number of local and regional initiatives, some cities and regions are not assuming an active role in climate action. Limited political will due to the potential, or perceived, negative impacts of climate action can pose an obstacle, such as where local economies are heavily dependent on one sector and where retraining options may appear limited. Lack of localised data is an additional obstacle regarding raising awareness among policymakers and citizens about climate-related risks and the need for the zero-carbon, climate-resilient transition. While around 40% of cities in the EU with greater than 150,000 inhabitants are estimated to have adopted adaptation plans, such progress is slower than expected and differs widely between Member States (EC, 2018b). Significant efforts are still needed to bridge the knowledge, capacity and funding gaps with regard to climate adaptation, particularly in small- and mid-sized cities and towns that tend to have less support from higher levels of government and fewer direct opportunities for peer-learning (Lioubimtseva & da Cunha, 2020).

What is a territorial approach? What can it bring to cities, regions and national governments?

A territorial approach to climate action implies place-based action across several fronts. This approach entails: better understanding of GHG emissions and climate-related risks at the local and regional scale; assessing context-specific conditions and disparities across people and places; supporting locally-tailored policy making, including the allocation and targeting of resources to vulnerable population groups as well as lagging cities and regions; and promoting local and regional climate actions to boost climate resilience and effectively achieve the zero-carbon transition.

A territorial approach can deliver better understanding of domestic GHG emissions, local challenges and local exposure to climate risks by sector and geographic area, which will allow national and subnational governments to tailor relevant, placed-based policies. For example as regards adaptation measures, not only is a territorial approach essential given that hazards and adaptation needs are highly location-specific, but it can also better address structural inequalities that are entrenched in the exposure to climate change risks. Poor, elderly and economically vulnerable populations and regions are likely to be hit hardest by climate change impacts. National governments need to work with cities and regions to tailor their policies to local needs to enhance resilience, whether to climate risks or to changes in employment and economic structure due to the zero-carbon transition. Through a territorial approach, national governments can ensure ambitious climate action in cities and regions accompanies a "just transition of the workforce", as called for in the Paris Agreement (Gurría, 2019) while ensuring a fair distribution of transition costs and benefits across regions and cities.

A territorial approach will present new opportunities to demonstrate overall capacity of the collective action of national, regional and local governments at specific locations, which can promote systemic and transformative subnational climate action. Below are areas of opportunities for innovative subnational policy action, both on climate mitigation and adaptation:

- **Integrating land use, housing and transport policies, including within and across urban and rural areas.** The enforcement (or lack thereof) of local land use planning has critical impacts on mitigation – urban sprawl, renewable energy on rooftops or at the urban periphery, transport planning and service delivery in cities, between rural and urban areas and in low-density areas – as well as on the degree to which climate-related extreme weather events affect local communities and economies. However, climate-friendly and risk-sensitive land use (e.g. denser urban areas, mixed-use development, home-job proximity, land use restriction in hazard-prone areas) may not always be taken into full consideration in other sectoral policies. For example, housing policy may often prioritise providing a sufficient number of affordable housing units with less consideration of their location by placing large housing developments in poorly serviced areas at the urban periphery, neglecting core concepts such as transit-oriented and resilient development. Similarly, climate change mitigation policies that aim at reducing emissions across the board, without consideration of local contexts or the need for a just transition may promote place-blind and sectoral outcomes that negatively impact local economies, undermine local support and hinder climate action.

- **Strengthening the link between mitigation and adaptation measures to reinforce systemic resilience to gradual change, chronic stresses and sudden onset events**. There are synergies between mitigation and adaptation measures, which can be best identified and made use of at the local level, including between cities and neighbouring peri-urban and rural areas: for instance regarding habitat restoration (wetlands, coastal and marine areas), "sponge" infrastructure, sustainable and circular use of resources and land, energy efficiency retrofits, or local nature-based solutions that boost biodiversity, while enhancing human well-being and reducing exposure to climate-related extreme events, including sea-level rise and extreme heat and precipitation (Bush et al., 2019; OECD, forthcoming 2020b). Local governments play a key

role in strengthening the link between mitigation and adaptation, with a growing number of cities integrating complementary measures that are often focused on nature-based solutions (Pasimeni et al., 2019), in order to maximise short-term and long-term benefits from climate action while also laying the groundwork for greater systemic resilience.

- **Investing in nature-based, climate-resilient infrastructure to address location-specific climate challenges.** Cities and regions can transition from predominantly ubiquitous "grey", human-built infrastructure to "green", nature-based solutions, which can enhance systemic resilience to extreme weather events such as heatwaves and flooding, address water scarcity and water security, while producing a number of well-being and environmental co-benefits (OECD, 2020e). Cities, for instance, have a broad range of financial tools and incentives (e.g. property taxes, value capture tools, congestion charges and parking fees) at their disposal to enhance climate-resilient urban infrastructure.

- **Channelling green investment at the right location to not only contribute to environmental sustainability but also increase local economic growth potential, which is all the more important in light of the recovery from COVID-19**. Local green jobs can be created through implementing low-carbon policies such as retrofitting existing building stock for improved energy efficiency and deploying renewable energy installations, both of which would strengthen climate-resilience. The low-carbon transition will also place new demands on workers and firms, especially where local economies are heavily dependent on fossil fuels such as extractive industries, but which can create a new growth potential. National and local governments can foster innovation and entrepreneurship by creating green regional clusters that build on local knowledge as well as existing industries and workers.

- **Promoting energy efficiency retrofits in residential and office buildings.** Buildings are a major source of final energy consumption in urban areas. Globally, building construction and operations accounted for 36% of final energy use and 39% of energy-related CO_2 emissions in 2018 (IEA/UNEP/GABC, 2019). In most countries, national governments are in charge of setting a framework for energy efficiency investments, including standards for buildings. Such national efforts, of which many have seen an important increase as part of COVID-19 recovery efforts, can be complemented with effective subnational actions based on the ability to factor in local elements and leverage policy authority over buildings. These include tailored urban standards and energy efficiency retrofit projects, such as New York's emissions limit for existing large buildings, Berlin's retrofitting of government-owned buildings and Toronto's large-scale tower renewal programme.

- **Scaling up the use and deployment of clean energy in cities and regions.** As the costs of renewable energy generation have plummeted in recent years, more and more subnational governments around the world are deploying clean energy technologies at varying scales. Subnational governments, especially municipal authorities, cannot always directly decarbonise energy supply and consumption and may instead rely on measures taken by the national government (CUT, 2019). However, subnational governments can often engage in other means of procuring clean energy, for instance through power purchase agreements with third-party renewable producers, leveraging publicly-owned utilities, or through decentralised on-site generation of electricity (e.g. rooftop solar) and heat (e.g. biogas at local landfill sites and wastewater treatment plants).

Programme proposal: "A territorial approach to climate action and resilience"

Overview

For more than a decade, the OECD has analysed both the territorial, national and sectoral dimensions of climate change. In particular, it has provided guidance for place-based climate policies through the lenses of urban resilience (OECD, 2018b), urban green growth (OECD, 2013; OECD, 2016b), inclusive growth (OECD, 2018d), SDGs (OECD, 2020), urban water governance (OECD, 2016a), land-use governance (OECD, 2017b), circular economy (OECD, forthcoming 2020) or climate action across levels of government (OECD, 2010; OECD, 2012; OECD, 2019e; OECD, 2020f). At a national and sectoral level, the OECD has also provided extensive policy analysis and advice on the low-carbon transition (OECD, 2017; OECD, 2015d), accelerating climate action through adopting a well-being lens (OECD 2019f) including with tailored recommendations for specific countries and their cities (OECD, 2020d), climate finance (OECD, 2019h), carbon pricing (OECD, 2019i), development co-operation (OECD, 2019j), monitoring and evaluation (OECD, 2015b) and the nexus between climate and land-use (OECD, 2020c; OECD, 2014c; OECD, 2019g) as well as climate resilience, such as adapting to sea-level rise (OECD, 2019), using nature-based solutions to adapt to water-related risks (OECD, 2020). Most recently, work has focused on how to integrate climate change and well-being into the economic recovery from the COVID crisis (Buckle et al, 2020, forthcoming).

Building on the OECD's extensive experience and expertise, the objective of this programme is to propose a new framework to drive the zero-carbon transition and reinforce climate resilience in all participating countries, regions and cities by applying a territorial approach. The new proposed programme aims to inform national, regional and local policymakers in their efforts to develop and implement their climate plans, strategies and policy instruments. To achieve this goal, the programme seeks to:

- Demonstrate the significant potential for subnational action by strengthening localised understanding of climate change drivers and impacts, reporting and monitoring frameworks, including local climate investment and financing, for the zero-carbon transition, and the alignment of climate and wider well-being and resilience agendas;

- Assess national and subnational policy and governance frameworks and provide locally-tailored recommendations to support policy reforms towards a place-based implementation of climate mitigation and adaptation policies, which can also advance other well-being objectives on health, equity, incomes and jobs; and

- Share and disseminate innovative policies, strategies and programmes applying a territorial approach to the recovery from the COVID-19 crisis that also integrates climate change and wider well-being agendas.

Participating governments and institutions

The programme proposes to convene 4-6 OECD countries, ideally from different continents (e.g. Americas, Asia, Europe), with the possibility of also incorporating non-OECD countries to enable international peer learning. As the programme is concerned with policy alignment/coordination across sectors and levels of government, each participating country is encouraged to engage relevant ministries/agencies, including those in charge of climate policies (e.g. Ministry of Environment) and regional, urban and rural development (e.g. Ministry of Regional Development). Each participating country is also encouraged to identify and invite 2-3 regions and cities to actively participate in the programme.

In addition, the programme is open to the direct participation of cities and regions (i.e. without requiring the involvement of a national government). Such cities/regions are naturally encouraged to engage/cooperate with relevant national ministries/agencies throughout their participation.

Analytical framework and methodology

1. **The programme will strengthen the evidence base by developing comparable and localised "zero-carbon transition and climate resilience benchmarks".** Such localised benchmarking and indicator frameworks can provide national policymakers with evidence-based understanding of how subnational governments can contribute to reaching national mitigation targets and lower their vulnerability and exposure to climate risks, and help assess the impact of policy reform options. The analysis consists of:

   - Evaluating the availability and comparability of data on GHG emissions and other potential benchmarks and indicators related to the zero-carbon transition across the national, regional and local levels as well as between regions and cities of varying scales (from small municipalities to large metropolitan areas);

   - Evaluating the availability and comparability of data on most significant climate risks, exposures, adaptive capacity as well as systemic climate resilience across different geographical scales;

   - Assessing the feasibility (e.g. technical, capacity) of either disaggregating or aggregating relevant and scientifically robust benchmarks and indicators for the zero-carbon transition and climate resilience across sectors and levels of government; and

   - Developing a methodology to assess the impact of policy reform options applying a territorial approach based on localised benchmarks.

   The analysis will build on existing local and regional indicators, including the OECD Regional and Metropolitan Databases[1] as well as the OECD localised SDGs indicators[2]. Where appropriate, new indicators and proxies may need to be defined, for instance in order to factor in metrics such as where GHG emissions are "consumed" compared to where they are "produced". It is also envisaged to identify policy priority areas for subnational and national governments to drive the zero-carbon transition and strengthen systemic climate resilience.

2. **The programme will analyse national and subnational climate policy and governance frameworks and develop a "checklist for action" to support policy reform towards a territorial approach**. This analysis will cover national and subnational climate policies and approaches to implement national strategies and targets (e.g. roadmaps for implementing NDCs and LT-LEDS, climate act, or national/regional adaptation strategy) alongside other policies that have important climate dimensions (e.g., urban development strategies, rural development strategies). The programme will try to assess:

   - How national and regional governments can understand different regions' and cities' potential to mitigate GHG emissions, improve the design of policies tailored to local needs, and simultaneously achieve economic recovery, a transition to (beyond) net zero GHG emissions by 2050 and improvements in wider well-being;

   - How policies and strategies – including those aimed at economic recovery from the COVID-19 crisis – can build systemic resilience to climate impacts and deliver current and future well-being benefits across cities and regions by applying a territorial approach.

   The analysis will assess how national and regional climate policies address inequalities across people and places, and how policy design could be enhanced to better anticipate and manage potential distributional trade-offs and enlarge synergies (including between the equity and climate dimensions of the economic recovery from COVID-19). The analysis will also assess how multi-

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[1] http://www.oecd.org/regional/regional-statistics/

[2] https://www.oecd-local-sdgs.org/index.html

level coordination mechanisms (e.g. joint development of climate plans, legal requirement for policy alignment, establishment of multi-level and multi-stakeholder committee) can address policy gaps and misalignments with long-term climate goals and create synergies between economic recovery, climate and wider well-being goals. These assessments are important building blocks to evaluate the overall impact of policy reforms.

3. **The programme will collect, analyse and disseminate innovative climate policies and initiatives, including those for the recovery from the COVID-19 crisis**, that apply a territorial approach and drive systemic and transformative climate action and resilience. This analysis will assess success factors and lessons (e.g. what worked well, what did not) from the following perspectives:

   - Impacts on GHG emission reduction;
   - Preparedness against physical climate and transition risks and the capacity to reduce and manage the potential local impacts, including the socio-economic shocks;
   - Effects on broader well-being benefits generated across sectors, including long-term economic benefits (e.g. jobs, incomes), social benefits (e.g. health) and environmental benefits (e.g. avoided loss of biodiversity) while ensuring equal access to the opportunities of the zero-carbon transition;
   - Links between mitigation and adaptation measures to generate synergies and manage trade-offs to ensure that the zero-carbon transition is also climate-resilient (and vice versa);
   - Ability to identify and address potentially negative or regressive policy impacts on specific geographical locations and population groups, through a well-being approach;
   - Innovative climate investment and financing mechanisms at the subnational level; and
   - Improved governance, institutional structures (e.g. horizontal-vertical coordination).

4. **The programme will track climate finance at subnational level**, looking at both expenditure and revenue with macro (national accounts) and micro (budgetary approach) approaches. A standard methodology that is being co-developed by the OECD and Climate Policy Initiative to measure subnational climate spending and investment will be used to track urban climate finance and to identify adequate sources of revenues (budgetary funding and external financing). The approach will also be informed by parallel work to compare and assess different approaches to developing definitions and taxonomies of sustainable finance and the coherence of financial flows with climate change goals, taking into account the local context and circumstances. In addition, the following existing tools will be used to assess the level of coordination and coherence in climate investment across sectors and levels of government, to analyse framework conditions for public investment and to assess national and subnational investment capacity:

   - Databases on subnational government finance and investment at EU, OECD and global levels (SNG-WOFI, 2019); and
   - The OECD Council Recommendation on Effective Public Investment across Levels of Government (OECD, 2014b) and its Toolkit.

Proposed outputs

1. **Synthesis report** (100-120 pages). The report will provide an analysis of the state of play in OECD countries on a territorial approach to climate action and resilience, comparable and **localised benchmarks**, policy reform options and their impacts, and an action-oriented **checklist for action** to guide policymakers at all levels of government, including across economic sectors with the aim to maximise the synergies of increased coordinated across government action, and particularly identifying the role of different levels of governments in doing so.

2. **Country/region/city-specific case studies.** Interviews and peer-learning activities will be carried out over a period of 10-12 months with each participating country, city or region of the consortium and relevant stakeholders to build consensus on priority areas and sectors for policy reform over the short- medium- and long-term. Findings would be published in a series of policy papers (50-60 pages), synthesising key findings and possible **policy reforms** (including for different economic sectors) and proposing a consensus-based action plan identifying concrete milestones, champion institutions and a timeline for territorial implementation of climate mitigation and adaptation policies.

3. **International policy dialogues**: peer-review will be integral to the approach and a series of international workshops will be held to ensure that participating countries, regions and cities make the most of international good practices through **peer-to-peer knowledge and experience sharing** as well as through fostering place-based solutions and responses to common problems.

OECD Committees

The programme will be conducted jointly by the OECD Regional Development Policy Committee (RDPC), through its Working Party on Urban Policy and its Working Party on Rural Policy, and by the OECD Environment Policy Committee (EPOC), notably its Working Parties on Climate, Investment and Development and on Biodiversity, Water and Ecosystems and its Task Force on Climate Change Adaptation.

Since the programme focuses on the conjunction between regional, urban and rural development policies and national climate policies, the proposed partnership aims to bring together key international expertise and political leadership of the two OECD Committees and ensure strong policy impacts. Within the OECD Secretariat, the programme will be managed jointly by the OECD Centre for Entrepreneurship, SMEs, Regions and Cities (CFE) and by the OECD Environment Directorate (ENV). CFE's experience and expertise in promoting inclusive and sustainable regions and cities, combined with ENV's experience in climate change, water, biodiversity and sustainable finance, will facilitate a multidisciplinary and multi-level approach to the data collection and analysis underlying the programme.

Advisory group

An advisory group can be established, featuring representatives of participating countries, regions and cities, as well as experts and academics. The role of the advisory group is to provide guidance to the programme with high-level leadership and professional expertise. The advisory group can also support promoting and disseminating the activities and outcomes of the programme.

Budget

The programme will be financed exclusively through voluntary contributions of participating governments and/or institutions. A critical mass of four participating countries is needed to kick off the programme. A detailed budget proposal will be provided after discussion with the requesting authorities regarding the scope of the project.

Timeline

The programme will be carried out over a period of 18-20 months. The timeline may be subject to modifications depending on circumstances surrounding COVID-19. The timeline and some key milestones are the following:

Phase	Approx. Timeline	Milestones
Initiation of the programme	Nov 2020 - Mar 2021	• Bringing 4-6 countries together • Financial commitment
Data collection, fact-finding	Q2-Q3 2021	• OECD survey for the local team • First study mission* of the OECD research team (including peer reviewers) to case countries
Knowledge sharing	Q4 2021	• Exchange across participating countries, regions and cities at an international setting (e.g. workshops, webinars)
Data analysis, scoping the issues and drafting	Q4 2021 – Q1 2022	• Analyse the collected data • Draft scoping papers (per case country) as well as the draft synthesis report to identify key policy areas/issues
Policy dialogue	Q2 2022	• Second study mission* of the OECD research team (including peer reviewers) to case countries in order to discuss the scoping papers
Delivery of reports	Q3-Q4 2022	• Finalise and discuss the synthesis report and the case country policy papers at OECD committee meetings • Launch of the reports

Note: * The format of the missions (physical vs virtual) depend on the evolving circumstances surrounding COVID-19.

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