European Committee of the Regions

Commission for the Environment, Climate Change and Energy

ENVE

# Is the Green Deal fit for combating climate change in EU regions and cities?

More information on the European Union and the Committee of the Regions is available online at http://www.europa.eu and http://www.cor.europa.eu respectively.

QG-03-20-850-EN-N; ISBN: 978-92-895-1092-9 doi:10.2863/2456

**This report was written by Tugce Tugran, Alicia McNeill, Matthew Jones, Jennifer McGuinn (Milieu Consulting SPRL)**

# Table of contents

# List of tables

# List of figures

# List of boxes

# List of abbreviations

| | |
|---|---|
| CoR | European Committee of the Regions |
| EIB | European Investment Bank |
| ERDF | European Regional Development Fund |
| ESF | European Social Fund |
| ESI F | European Structural and Investment Funds |
| GHG | Greenhouse gas |
| JRC | Joint Research Centre |
| LRAs | Local and regional authorities |
| MFF | Multiannual Financial Framework |
| NECP | National Energy and Climate Plan |
| NGEU | Next Generation EU |
| RES | Renewable Energy Sources |
| RRPs | Recovery and Resilience Plans |
| SDGs | Sustainable Development Goals |
| SEAP | Sustainable Energy Action Plan |
| SECAP | Sustainable Energy and Climate Action Plan |
| NRRPs | National Recovery and Resilience Plans |

# Summary

Through major commitments such as the Paris Agreement and its own 2050 Long-term Strategy and the European Green Deal, the European Union (EU) has set out to become a carbon neutral and pollution-free continent by 2050. This strategic vision is inextricably linked to efforts to improve the competitiveness, modernisation and prosperity of the Member States while ensuring that European societies benefit from the change on equal terms. The monumental work needed to achieve these objectives requires nothing short of systemic transformation in all policy fields across all levels of government. As the main level of implementation, local and regional authorities (LRAs) are on the frontline of change and are thus a central element in this transformation.

The unfolding health crisis due to the COVID-19 pandemic and the resulting economic and social impacts have created unforeseen challenges for policymakers. In many ways, the impacts of COVID-19 and the subsequent responses are already transforming Europe and will continue to do so in the future. The economic recovery from the crisis, especially under the historical Next Generation EU (NGEU) support package for the Member States, creates a unique opportunity to ensure Europe's resilience, while boosting the green transition. As active agents in designing and implementing policies, LRAs hold the key to successfully recovering from the economic crisis while fulfilling the EU's long-term vision of Europe. It is therefore crucial to understand how instruments such as the Green Deal can be better implemented at local and regional level and how recent developments - both COVID-19 and recovery efforts - have impacted their work towards this vision.

This study provides an overview of the policy work that was already accomplished to promote climate neutrality before the COVID-19 pandemic and explores the impact of the pandemic on this work, looking at how early recovery initiatives at EU, national and local level incorporate the ambitions of the Green Deal and the perspectives of LRAs. Building on the findings, it draws key lessons and makes recommendations to maximise the contribution of the Green Deal in supporting local and regional policy action towards climate neutrality, especially in the context of economic recovery.

The report includes five case studies on progressive climate action prior to the COVID-19 pandemic: Munich (DE), San Sebastian (ES), Bucharest (RO), Frederikshavn (DK) and Litomerice (CZ). These demonstrate the diverse approaches of cities and regions to tackling the challenge of climate neutrality in different sectors. The findings suggest that successful climate action typically starts with an 'entry point', depending on the local context. This entry point also

serves to engage citizens and stakeholders and is usually a visible problem to which the LRAs can provide perceivable solutions. Examples include improving the cleanliness of public spaces, tackling air pollution, providing solutions for degraded buildings, preserving biodiversity etc. Other policies then follow, enlarging the scope of the climate action. These successful examples also highlight the importance of holistic approaches, engaging with the wider public, cooperation between different stakeholders to create synergies, and political will for change. Adapting institutional structures and other tools for policy implementation, such as financial instruments to accommodate the horizontal nature of climate neutrality is another important message underlined by the case studies.

In-depth interviews conducted with cities and regions show that the COVID-19 pandemic has not prompted significant divergence from climate policies, except for short-term reallocation of resources to more urgent matters such as health services or minor delays in policy action. The crisis has had unintended positive and negative impacts, such as impacts on public budgets, increased packaging waste and use of private cars in the aftermath of confinement periods, but also reduced air pollution and greater public awareness of the links between health and the environment. These positive impacts can be used to create lasting change. The overall outlook suggests that the economic impacts of the COVID-19 pandemic might delay some policy action yet help stakeholders to understand that a green transition is necessary to improve resilience and avoid future crises. There are indications that cities and regions will take steps to remedy the vulnerabilities in their ecosystems exposed by the crisis. This section is completed by two examples of progressive recovery, from Madrid and Amsterdam. A key message emerging from this section is that existing policy action towards climate neutrality and engagement of stakeholders improved the resilience of the cities and regions during the crisis. It provided them with tools to react quickly. This will also help to better shape their recovery initiatives, increasing the chances of success when combining economic recovery and green transition.

EU and Member States' reactions to recovery will define Europe for decades to come. Financial impetus to counter the impacts of the economic crisis is an unprecedented opportunity to significantly improve policy action towards the objectives of the Green Deal. It is crucial that national recovery plans are designed and implemented to maximise this opportunity. An assessment of the Resilience and Recovery Facility and its guidance document, together with three initial national recovery plans and outlines from France, Spain and Italy, shows that despite the potential for change, improvements are needed if the positive impacts of recovery and resilience plans are to be maximised at local and regional level.
The Next Generation EU requires that at least 37% of the funds are used for climate action, and that the remaining 63% do not undermine the objectives of the

climate policies. In this context, the importance of mainstreaming the objectives of the Green Deal into policy action at all government levels becomes paramount. Moreover, the impacts should be monitored rigorously to ensure that policies are delivering on their objectives. The findings suggest that mainstreaming and monitoring at sub-national level remain largely insufficient, with few exceptions. Guidance is lacking for the LRAs on different mainstreaming mechanisms, while those in existence do not seem fully fit for purpose. Monitoring of policy impacts is scattered and typically follows specific systems, making it difficult to align with international and European frameworks (e.g. Sustainable Development Indicators). Another important barrier is the lack of data at sub-national level, which is a necessary component for monitoring. This suggest that efforts to reconcile recovery and green transition should pay particular attention to creating such systems and should support the LRAs in this regard.

Section 5 concludes with recommendations for policy makers at EU, national, regional and local level. For the EU initiatives, it is important to take into account the diversity of the LRAs both in terms of structural differences and the progress they made in different areas related to Green Deal. The support for the LRAs, either financial or technical should continue in a flexible, innovative way that matches the transversal nature of the climate neutrality ambitions. Different types of support available to LRAs should be better communicated to them, in a simplified manner, through a centralised one-stop-shop portal. At national level, perspectives of the LRAs should be actively integrated into all policy action, including the resilience and recovery plans. National governments should provide support for the LRAs to better navigate the EU level policies and provide accessible information concerning the available support. At local and regional level, policy makers can identify starting points for policy action and build upon early success to expand to other policy areas. Incorporating the lessons learned from the pandemic and creating strong synergies with the civil society initiatives will provide a strong impetus for progressive action in the context of recovery. LRAs should harness the contribution of citizen engagement and empower them to be active agents of change. For all levels of government but especially for the LRAs, the importance of mainstreaming of climate objectives and monitoring across all relevant policy areas cannot be overstated. Different levels should work together to improve such mechanisms, to make sure that the Green Deal strategy and the recovery from the COVID-19 crisis can effectively work in the same direction.

# Introduction

Europe finds itself at a historical crossroads, defined by two major trends: on the one hand, the urgency of climate change requires the policy makers to take ambitious and decisive action. On the other hand, a highly disruptive global pandemic has created unexpected economic and social challenges, comparable to the Great Depression in its impacts[1].

Both trends will have transformative impacts on the European community for decades to come. Policies targeting climate neutrality, such as the 2050 Long-term Strategy and the European Green Deal, require systemic transformation at every level of policymaking and implementation, across all sectors from agriculture to construction. Equally, the impacts of the COVID-19 pandemic mean that policymakers across Europe will have to make important decisions that will profoundly impact society in the long term. It is very important that policy responses to both challenges come together and reinforce one another to achieve the overarching strategic goals of the European Union (EU).

This convergence will only be successful if it incorporates the climate and sustainability ambitions of the EU into every policy field, at all levels of government. The unique opportunity it presents necessitates a profound transformation of the way policies are designed, implemented and monitored, with a shift towards integrated policy approaches. Local and regional authorities (LRAs) have a crucial role to play in this transformation. Their position at the forefront of implementation gives them a unique knowledge of the local conditions, as well as direct communication channels with a wide range of stakeholders. EU and national policies, whether they focus on economic recovery, climate neutrality or both, must incorporate the perspectives of LRAs from the policy design stage. This requires systemic and ongoing policy-making mechanisms, which go beyond traditional consultation activities. This is the only way to ensure that LRAs can successfully implement these policies and contribute fully to their overarching strategic objectives.

This study explores the ways the potential contribution of the Green Deal can be maximised to support local and regional policy action towards climate neutrality in the context of economic recovery.

[1] European Commission, 2020, European Economic Forecast: Spring 2020, Institutional Paper 125.

# Background and context

As a signatory to the Paris Agreement, the EU has committed itself to combating climate change. Its overarching strategic vision is to become a 'prosperous, modern, competitive and climate neutral' continent by 2050, as put forward in its 2050 Long-term Strategy[2]. That Strategy is intertwined with other milestones, namely the 2020 Climate and Energy package[3] and the recently published 2030 Climate and Energy Framework[4]. Despite ongoing efforts, however, progress towards these ambitions remain unsatisfactory[5]. Improving the level of progress can only be achieved with comprehensive action from all government levels, policy sectors and stakeholders. The European Green Deal (COM(2019) 640)[6] was published in December 2019 and is an attempt to respond to this need. A forward-looking strategy, it seeks to 'transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy', targeting a wide range of sectors.

Shortly after the publication of the Green Deal, the world found itself in the grip of COVID-19, creating a pressing challenge for policymakers. The economic impact of the pandemic has been stark, with a 30% drop in economic activity across the EU[7]. The EU has responded with an economic recovery plan, NGEU[8], which will be coupled with the Multiannual Financial Framework (MFF) for 2021-2027 to provide an additional stimulus. The plan seeks to shield European economies from further disruption, save existing jobs and create others by turning this challenge into an opportunity to support sustainable economic growth across Europe. The 2030 Climate Target Plan, published in September 2020, emphasises this point, acknowledging the enormous potential of the economic recovery to boost climate action in the EU[9].

At the junction of these challenges, the Green Deal offers new and promising potential, providing a pathway to sustainable recovery from this unexpected

[2] European Commission, 2018, A Clean Planet for all: A European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy, COM (2018) 773 final.
[3]European Commission, 2020, Climate and Energy Package, available at: https://ec.europa.eu/clima/policies/strategies/2020_en, accessed 13.11.2020.
[4] European Commission, 2030 climate & energy framework, available at: https://ec.europa.eu/clima/policies/strategies/2030, accessed 13.11.2020.
[5] European Environment Agency, 2020, The European environment-state and outlook 2020: knowledge for transition to a sustainable Europe.
[6] European Commission, 2019, The European Green Deal, COM (2019) 640 final.
[7] European Commission, 2020, European Economic Forecast: Spring 2020.
[8] European Commission, Recovery plan for Europe, available at: https://ec.europa.eu/info/live-work-travel-eu/health/coronavirus-response/recovery-plan-europe_en, accessed 13.11.2020.
[9] European Commission, State of the Union: Questions & Answers on the 2030 Climate Target Plan, available at: https://ec.europa.eu/commission/presscorner/detail/en/QANDA_20_1598, accessed 13.11.2020.

economic crisis[10]. It provides strategic orientation for the economic recovery and has the potential to ensure that policies across different sectors and initiatives at different government levels work towards the same objective.

## Way forward and the role of this study

This study explores the ways in which the potential contribution of the Green Deal can be maximised in supporting local and regional policy action towards climate neutrality in the context of economic recovery. The study draws on case studies from cities and regions working towards climate neutrality before and after the COVID-19 pandemic, reviews relevant literature and undertakes a limited number of in-depth interviews with LRAs to support the conclusions to explore:

- Lessons learned from successful local and regional policy initiatives implemented before the Green Deal;
- Impacts of the COVID-19 pandemic on the priorities of LRAs in implementing climate neutrality in different sectors put forward in the Green Deal;
- An analysis of initial reactions to the economic crisis, focusing on the Resilience and Recovery Facility and the national plans of several Member States to examine whether perspectives of the LRAs are incorporated into their plans;
- Possible ways of mainstreaming climate neutrality objectives into all relevant policy fields and monitoring their impacts, without imposing additional burden on LRAs.

## Approach

This study is based on a review of various publications and existing information sources, including academic and grey literature (a complete list is available at the end of the report), scanning of best practices in the field of integrated climate action at local and regional level (as defined by information sources such as Energy Cities and the Covenant of Mayors), and consultations with local and regional authorities.

The review of relevant publications and literature provides background information and a critical understanding of climate neutrality plans, green

[10] The Institute for European Environmental Policy and The Foundation for European Progressive Studies, 2020, Green Deal for All: How to achieve sustainability and equity between the people, regions, countries and generations of Europe in a post-COVID-19 era.

recovery efforts following the COVID-19 pandemic, and the resulting policy challenges and opportunities. The best practices identified provide examples of how these issues are tackled in practice and underlines the strong points of policy choices so that lessons can be drawn and replicated by others. The examples of green recovery also provide a critical understanding of challenges and needs, and if and how the priorities of the LRAs have changed following the COVID-19 pandemic. The interviews complete this picture, exploring the perspectives, needs and priorities of LRAs in working towards climate neutrality and recovering from economic crisis.

Initially, a survey was designed and launched as the primary method of data collection for this study. However, the response rate was very low with only 7 replies, so the results were not used in this report, except for one question on European Regional Scoreboard in section 4.

The report is structured as follows:

- Section 1 provides an overview of the Green Deal in relation to implementation and relevance to LRAs, followed by case studies from different regions and cities that were working towards climate neutrality before the Green Deal, and gives a critical analysis of success factors and challenges.
- Section 2 explores the impacts of the COVID-19 pandemic on the priorities of LRAs when it comes to implementation of different components of the Green Deal and climate neutrality, using examples from LRAs taking action on green recovery and findings of the in-depth interviews with LRAs.
- Section 3 focuses on EU and national recovery initiatives and examines whether perspectives of the LRAs are incorporated into these early examples of recovery initiatives.
- Section 4 explores the existing and proposed mechanisms to mainstream the ambitions of the Green Deal into all relevant policy fields and to monitor the impacts of policies.
- Section 5 provides recommendations for policy action at EU, national and regional and local level.

# 1. Tackling climate change with the Green Deal at local and regional level: opportunities and needs for successful implementation

## 1.1 The Green Deal and implications for LRAs

The Green Deal is a comprehensive strategy that combines economic growth with climate neutrality ambitions. It has a sectoral focus on energy, transport, agriculture, industry and construction, a cross-cutting vision for zero-pollution in the environment and a circular economy, as well as protecting and restoring biodiversity. In order to achieve these ambitions, it relies on a number of measures and priorities, such as green financing mechanisms (e.g. green budgeting, tax reform), just transition, research and innovation, as well as strong governance structures and stakeholder engagement, such as through the proposed Climate Pact. These components are set out in Figure 1 below.

**Figure 1: The Green Deal and its components**


Source: European Committee of the Regions.

Following the launch of the Green Deal, the European Commission put forward proposals for its different components, such as the European Industrial Strategy[11], Circular Economy Action Plan[12], Farm to Fork Strategy[13] the EU Biodiversity Strategy[14] and, more recently, the Clean Energy Plan[15] concerning energy system integration and hydrogen, and the Renovation Wave Strategy[16,17].

In October 2020, the European Commission announced its work programme for 2021. An important part of the upcoming agenda is the Fit for 55 Package which consists of different policy initiatives which includes revisions to relevant legislation in order to achieve 55% reduction in GHG emissions by 2030. These include, among others, Energy Efficiency Directive, Energy Performance of Buildings Directive, Renewable Energy Directive, EU Emissions Trading Scheme Directive and Effort Sharing Regulation[18]. Furthermore, to support policy action in all areas of the Green Deal, the Commission has also announced cross-cutting instruments and strategies, such as the European Climate Law[19], Just Transition Mechanism[20], European Green Deal Investment Plan[21] and 2030 Climate Target Plan[22].

[11] European Commission, 2020, A New Industrial Strategy for Europe, COM (2020) 102 final.
[12] European Commission, 2020, Circular Economy Action Plan.
[13] European Commission, 2020, A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system, COM(2020) 381 final.
[14] European Commission, 2020, EU Biodiversity Strategy for 2030: Bringing nature back into our lives, COM(2020) 380 final.
[15] European Commission, 2020, Press Release: Powering a climate-neutral economy: Commission sets out plans for the energy system of the future and clean hydrogen, available at: https://ec.europa.eu/growth/content/powering-climate-neutral-economy-commission-sets-out-plans-energy-system-future-and-clean_en#:~:text=Publications-,Powering%20a%20climate%2Dneutral%20economy%3A%20Commission%20sets%20out%20plans%20for,the%20future%20and%20clean%20hydrogen&text=To%20become%20climate%2Dneutral%20by,the%20EU's%20greenhouse%20gas%20emissions, accessed: 13.11.2020.
[16] European Commission, 2020, A Renovation Wave for Europe - greening our buildings, creating jobs, improving lives, COM (2020) 662 final.
[17] European Commission, Renovation Wave, available at: https://ec.europa.eu/energy/topics/energy-efficiency/energy-efficient-buildings/renovation-wave_en, accessed 11.11.2020
[18] European Commission, 2020, Press Release: 2021 Work Programme: from strategy to delivery, available at: file:///C:/Users/ttu/Downloads/2021_Commission_work_programme___from_strategy_to_delivery_.pdf, accessed 20.11.2020.
[19] European Commission 2018, Proposal for a Regulation of The European Parliament and of The Council establishing the framework for achieving climate neutrality and amending Regulation (EU) 2018/1999 (European Climate Law) COM/2020/80 final.
[20] European Commission, The Just Transition Mechanism: making sure no one is left behind, available at: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/actions-being-taken-eu/just-transition-mechanism_en, accessed 05.10.2020
[21] European Commission, 2020, Press Release: Financing the green transition: The European Green Deal Investment Plan and Just Transition Mechanism.
[22] European Commission, 2030 Climate Target Plan, available at: https://ec.europa.eu/clima/policies/eu-climate-action/2030_ctp_en, accessed: 12.10.2020

These initiatives attest to the extensive scope of policy action needed for the implementation of the Green Deal. None of these components can be achieved without successful implementation of the policies at local and regional level[23].

Even before the publication of the Green Deal, LRAs across Europe were working towards climate neutrality. This progress will be the starting point for future efforts. However, further action is needed in all policy sectors and the LRAs must receive adequate support that matches the level of ambition they are required to demonstrate. Their needs, perspectives and accumulated experience should thus be incorporated into all components of the Green Deal. This must be one of the guiding principles for the revisions of relevant legislation announced in the 2021 working programme.

The Green Deal Communication makes little direct reference to the local and regional perspective. The role of LRAs is mentioned in the context of efforts to tackle pollution from urban areas, sustainable mobility, efforts to tackle air pollution and protect biodiversity, and in relation to green growth and job creation at local level[24]. A key element of the Green Deal, however, is to boost engagement with all relevant stakeholders via the European Climate Pact initiative, providing an important channel for LRAs to contribute and benefit from climate-related actions. However, efforts will be needed to make sure that the perspectives of the LRAs are systematically incorporated into all stages of the policy cycle for all components of the Green Deal. This must go beyond conventional consultation activities to integrate LRAs as one of the institutional pillars of policy action.

Recognising the crucial role of LRAs for the Green Deal, the CoR launched the 'Green Deal Going Local'. The initiative and its working group aim to contribute to policy coherence across the different components of the Green Deal and different government levels, strengthening the role of the LRAs in achieving sustainable and green growth. It will also provide opportunities for exchange and mutual learning among LRAs, when it comes to the challenges they face while working towards the objectives of the Green Deal[25]. Simultaneously, the CoR launched a portal to gather and share projects and policy initiatives from cities and regions[26].

[23] Committee of the Regions, 2020, Resolution on the 2020 Work programme of the European Commission, RESOL-VII/002.
[24] European Commission, 2019, The European Green Deal.
[25] Committee of the Regions, Green Deal Going Local, available at: https://cor.europa.eu/en/engage/Pages/green-deal.aspx, accessed: 12.10.2020.
[26] Committee of the Regions, Database of stories and good practices related to Green Deal, available at: https://cor.europa.eu/EN/regions/Pages/eir-map.aspx?view=stories&type=greendeal, accessed: 12.10.2020.

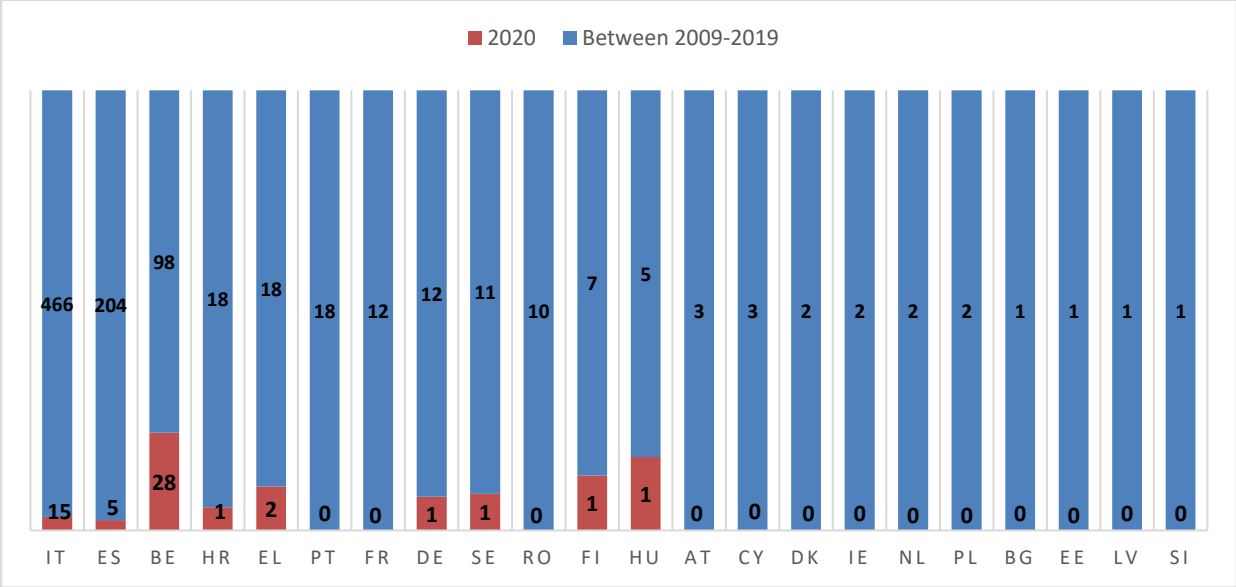
## 1.2 Building on past achievements: climate neutrality initiatives

### Overview

Following the climate and sustainability targets of the EU, LRAs were working towards climate neutrality and incorporating different sectors into their policy action long before the Green Deal was launched. A myriad of initiatives reflects this – some stem directly from EU regulations, while others represent more bottom-up approaches in the form of progressive policies designed at local and regional level. As such, the Green Deal is not a new beginning but a continuation of existing efforts. For instance, Sustainable Energy (and Climate) Action Plans (SECAPs) prepared by Covenant of Mayors signatories are important indications of action towards climate neutrality at local and regional level and typically introduce policies across different sectors, much like the transversal nature of the Green Deal[27]. Between 2009 and 2020, the signatories to the European Covenant of Mayors submitted 952 SECAPs, reflecting their commitment to both 2020 and 2030 targets[28]. An overwhelming majority (94%) of these plans were submitted before the publication of the Green Deal at the end of 2019, indicating that work is long underway at local and regional level in many Member States. This was also observed during the consultations with the LRAs, with most having adopted a climate action plan or in the process of doing so.

[27] Covenant of Mayors, Climate Action Plans. available at: https://www.covenantofmayors.eu/plans-and-actions/action-plans.html, accessed: 12.10.2020.
[28] Only those that include both 2020 and 2030 targets are included.

**Figure 2: Number of SECAPs including climate targets for 2020 and 2030 submitted by the signatories between 2009 and 2019, and 2020, in descending order of plans submitted**




Source: Covenant of Mayors and Milieu calculations, Plans and Actions Database (accessed 24 September 2020).

Looking beyond the numbers to get an understanding of the level of ambition and implementation successes, this section looks at five case studies where LRAs have taken a pioneering approach. In each case, a brief background is provided, followed by an overview of the main elements and a critical analysis of lessons learned.

The cases were identified using 'good practice' or 'best practice' repositories of several platforms (chiefly the Covenant of Mayors and Energy). Priority was given to overarching action plans that aim for climate neutrality or significant reductions in carbon emissions, rather than projects with a more limited scope, and those that were adopted and implemented before 2020. Once the cases were identified, the selection was refined to provide a diversity of contexts, such as cities, regions, coastal areas or inland territories. The selection does not claim to be representative of the diversity of the LRAs across Europe and is intended only as a starting point to explore the success factors in different contexts.

The final section discusses all five studies, supplemented by interview findings, to identify strong points and lessons learned from the experiences of other LRAs.

# Case Study 1: The Integrated Action Programme for Climate Protection in Munich[29]

[29] City of Munich, 2014, Climate Protection in Munich: The Integrated Action Program for Climate Protection in Munich (IHKM).

**Locality** City of Munich, State of Bavaria-Germany.

## Background and context

Munich is the capital city of the Bavaria region, with a population of approximately 1.5 million residents. Munich is an inland city and is the third largest city in Germany, with important activity in the services and manufacturing sectors[30].

## Overview of the action plan

In 2008, the City Council of Munich established a cross-departmental initiative to work towards climate ambitions. The Department for Health and Environment was tasked with designing successive climate action plans, known as the Integrated Action Programme for Climate Protection in Munich (IHKM-*Integriertes Handlungsprogramm Klimaschutz für München*) in close collaboration with all relevant departments and municipalities[31]. The first plan was approved in 2010 and foresaw a renewal of measures every three years. Successive plans have been adapted over the years to better respond to changing circumstances and increase their effectiveness and ambition. The most recent programme was approved in 2018 and covers the period from 2019-2021. Overall, the plans will see the city reduce its greenhouse gas (GHG) emissions by 10% every five years and a total of 50% reduction by capita by 2030 compared to 1990[32,33]. The table below provides an overview of each action plan.

[30] City of Munich, Economic Key Data. Available at: https://www.muenchen.de/rathaus/wirtschaft_en/munich-business-location/economic-data.html, accessed: 22.10.2020.
[31] City of Munich, Climate Action Plans, available at: https://www.muenchen.de/rathaus/Stadtverwaltung/Referat-fuer-Gesundheit-und-Umwelt/Klimaschutz_und_Energie/Klimaschutzstrategie/IHKM.html#Klimaschutzprogramm2019, accessed: 22.10.2020
[32] Urban Sustainability Exchange, Case Study on Integrated Action Program for Climate Protection in Munich, available at: https://use.metropolis.org/case-studies/integrated-action-program-for-climate-protection-in-munich#casestudydetail, accessed: 22.10.2020.
[33] City of Munich, 2011, Integrated Action Program for Climate Protection in Munich (IHKM).

**Table 1: Overview of climate protection plans adopted by the City of Munich**

| Years covered | Objectives | Focus and measures |
|---|---|---|
| 2010-2012 | Overall yearly reduction of 540,000 tonnes in GHG emissions[34] | Seven fields of action to achieve the annual reduction targets, with 55 measures:<br>• Increase the energy supply from renewables<br>• Increased used of deep geothermal energy for heat and power generation<br>• Transformation of district heating system from steam to hot water<br>• Further development of existing energy efficiency programmes for private building owners<br>• More ambitious climate measures for the construction and renovation of new municipal housing<br>• Increasing the modal share of cycling from 14% to 17%<br>• Increase in energy efficiency of city-owned buildings[35] |
| 2013-2014 | Overall yearly reduction of 591,000 tonnes of $CO^2$ [36] | Eight fields of action, comprising 60 measures, including updates to 40 measures in the previous plan:<br>• Reducing energy consumption from existing and new buildings<br>• Sustainable urban development<br>• Improving public transport and other forms of soft mobility<br>• Energy efficiency in industry<br>• Expand the share and use of renewable energies in the energy supply mix<br>• Energy efficient retrofitting of city owned buildings<br>• Sustainable practices and procurement for city administration and staff<br>• Awareness raising among citizens and city employees[37] |
| 2015-2017 | N/A | Eight fields of action, comprising 87 measures, including updates to 61 measures in the previous action plan: |
| 2019-2021 | N/A | 113 individual measures, including 52 new measures[38] |

[34] City of Munich, 2011.
[35] Ibid.
[36] This is presented in the plan as an achievement, rather than an objective.
[37] City of Munich, Climate Action Plans
[38] Ibid.

## Strong points: a critical analysis

***A dynamic, regularly updated mechanism.*** The climate plans are prepared for limited terms, usually two years. This provides the City Council and the working groups with the opportunity to adapt fairly quickly to changing circumstances and requirements at different government levels. For instance, it can be seen throughout the successive plans that the number of measures has increased, building on existing measures and becoming more ambitious. As such, the preparation of each climate plan is also an opportunity to evaluate the improvements made by previous plans, creating a dynamic feedback loop. Certain fields, such as awareness raising among citizens and involvement of industry, gain more importance, reflecting a quick evolution of the understanding of the complex dynamics of climate action.

***Clear, quantified targets and monitoring.*** Starting with the first version, the plans have included clear, usually quantified, targets to be achieved in each field of action. According to the first climate plan, each measure is accompanied by a detailed evaluation system, including the anticipated and achieved $CO_2$ emissions, cost per tonne of $CO_2$ not emitted and other qualitative criteria such as feasibility and effectiveness[39]. Monitoring of results is integrated within the larger carbon emissions reduction monitoring scheme (in place since 1990), making use of existing structures[40]. This provides a clear direction for all departments implementing the plan and a robust framework for monitoring the results. Since the lack of clear targets and monitoring have been identified as important barriers to effective climate action globally, this mechanism can be considered a very important step in the right direction.

***A cross-departmental unit with a clear mandate***. Before the development of the first climate plan, the city of Munich opted for a cross-departmental approach, aiming to increase the effectiveness of the measures and creating synergies between the city's 12 departments[41]. Cross-departmental working groups gather existing initiatives from different departments and integrate them into the climate plans, increasing their relevance for each department. To provide further support for implementation, 11 full-time Climate Protection Manager positions were created, with responsibility for the coordination and control of the work in relevant city departments, as well as linking federal and regional level. They provide support and management for a wide range of activities in each of the action areas. Climate Protection Managers also engage in networking and public relations activities with various stakeholders, such as companies, NGOs and the

[39] City of Munich, 2011.
[40] Ibid.
[41] Ibid.

public[42].

The importance of dedicated staff in city administrations, who combine a horizontal perspective with departments' needs and priorities, cannot be overstated. Typically, such duties are given to existing staff without training or clear mandate, who are expected to perform additional tasks without proper resources. Such initiatives can therefore make an important difference in the implementation of measures, both in terms of effectiveness and changing organisational reflexes.

# Case Study 2: Plan de Acción Klima 2050 de Donostia/San Sebastián[43]

**Locality** City of San Sebastian, Guipúzcoa Province, Spain.

## Background and context

San Sebastian is the administrative capital of the Guipúzcoa Province in the Basque country. It is a coastal city with a population of 186,000 habitants. San Sebastian is one of the early signatories of the Covenant of Mayors, having joined in 2008.

## Overview of the action plan

The climate plan (*Plan de Acción Klima 2050*) was adopted in 2018 and includes targets for 2030 and 2050. The general objectives are carbon neutrality (80% reduction in emissions by 2050 compared to 2007), zero waste and zero emissions in transport, widespread adoption of circular economy. Specific objectives are:

- Reduce land use by limiting artificial occupation;
- Decarbonise energy sector;
- Circular production and consumption;
- Sustainable maintenance, use and construction of buildings and infrastructure.

[42] City of Munich, 2014.

[43] Except where stated otherwise, all information comes from: https://energy-cities.eu/wp-content/uploads/2018/11/San-Sebastian_Energy-Climate-Roasmap-2050_2018_en.pdf.

The plan also includes addresses air pollution through clean vehicles for the public transport fleet and electrification of private transport, improving the share of public transport in the modal split, as well as eradicating energy poverty and targeting a high share (80%) of energy efficient buildings in the building stock.

Strong points: a critical analysis

***Integrated, holistic action.*** Policies working towards climate neutrality require holistic approaches because of the complex, interdependent relationships that exist between different actors within a system. The city therefore required all departments and units to incorporate the same targets and measures into their working plans. The Climate Coordination Board works with these departments to support them in this process. In the same vein, a special commission (the Technical Commission for the Action Plan) ensures that the councillors responsible for ecology, finance, mobility, sustainable urbanism, presidency, office of strategic planning and citizen participation are included in the works An advisory council works together with units from other parts of the Basque territory, incorporating their knowledge, including economic and social agents.

***Redesigning institutional culture.*** Traditional administrative structures are often compartmentalised, lacking the necessary level of integration to accommodate this holistic approach. This lack of integration (e.g. between the departments responsible for transport and environment) is a widely recognised barrier[44] to effective public policy. Here, the city not only designed a holistic plan but also ensured that existing organisational structures could accommodate this approach. The climate plan was used as an opportunity to redefine the organisational culture: by allocating policies and measures to different departments equally, new channels of communication and new ways of working together were created between administrative units, with a Climate Coordination Board to oversee and strengthen the process. With time and additional steps, it is hoped that administrative units will acquire more flexibility, leading to systemic change in the organisational culture.

***Mechanisms for mainstreaming.*** The San Sebastian climate plan establishes a solid mechanism to help to mainstream climate neutrality actions into different policy areas. More specifically, it requires every municipal department to integrate the same climate and energy objectives into their working agendas.

[44] Peters, B.G., 1998, Managing horizontal government: The politics of coordination, *Public Administration*, Vol. 76, pp. 295-311, doi:10.1111/1467-9299.00102.

***Integrating the social dimension.*** The climate plan has a strong social dimension, building not only on technical information but also an in-depth understanding of citizens' lifestyles, perceptions and experiences of the city. Policy initiatives take an approach that builds on five strategic areas of action: how citizens learn about and share information on climate issues; relationship between citizens' lifestyles and carbon emissions; how citizens experience the physical dimension of the city; how they incorporate technology to learn to reduce their emissions; and how they incorporate this knowledge into their behaviour and social interactions. This in-depth understanding feeds into the policy design and is intended to increase the chances that new practices will be adopted, ultimately contributing to successful implementation and real results.

***Strong emphasis on citizen participation.*** Apart from the strategic areas of action described below, the climate plan aims to ensure that citizen participation is not merely understood as a consultation process but, rather, incorporates citizens as active co-developers of the policies and measures. An important keyword is 'collective intelligence' of the city residents. This approach ensures greater commitment and participation, as citizens feel empowered to create change rather than simply following it. The plan also seeks to stimulate public-private partnerships leading to cooperation at different levels.

# Case Study 3: Long-term renewable energy vision of Frederikshavn (Denmark)[45]

**Locality:** City of Frederikshavn, Denmark.

## Background and context

Frederikshavn is a port city in the north of Denmark with a population of around 60,000 (currently Greater Frederikshavn). In 2006, covering a limited area of the Frederikshavn Municipality, the city initiated an ambitious plan to be the first in Denmark to convert to 100% renewable energies by 2015[46]. In 2014, the master plan was extended to Greater Frederikshavn, targeting 100% renewable energy supply by 2030[47]. From the start, the city has aimed to put in place a coherent energy policy inducing systemic change rather than addressing issues in silos[48]. The port and the proximity to agricultural areas (30% of its population live in rural

[45] Energy Cities, 2018, Frederikshavn: A territory anxious to create a new energy system.
[46] State of Green, Master Plan for Renewable Energy 2030, available at: https://stateofgreen.com/en/partners/energy-city-frederikshavn/solutions/master-plan-for-renewable-energy-2030-by-frederikshavn-municipality/, accessed: 04.11.2020
[47] Ibid.
[48] Go 100% Renewable Energy, Energy City Frederikshavn, available at: http://www.go100percent.org/cms/?id=109, accessed: 04.11.2020

areas), have important implications for the policy measures adopted. Green businesses and innovation are at the core of city's energy policy, simultaneously targeting sustainability and job creation[49]. The master plan thus contributes to the 2050 climate neutrality ambitions of Denmark and is an important milestone in the city's long history of climate action[50].

## Overview of the action plan:

The city is working with the University of Aalborg to create evidence-based policy. The University helped to develop a software tool to visualise scenarios and work with data modelling to provide a robust basis for policy decisions. The same tool is also used for communication purposes (such as with the wider public). Overall, the plan has the following objectives and targets[51]:

- 100% renewable energy use by 2030 (including electricity, heating and transport);
- Achieving 23% energy efficiency compared to 2010 by 2030 (via buildings, transport flows and green public procurement);
- Replacing energy supply systems based on natural gas and oil with renewable energies, with investment in large-scale projects (e.g. increasing wind power generation from 34 to 130 GWh, improving thermal and solar energy, as well as biogas) aiming for district heating systems;
- Supporting clean mobility (bike lanes, electric and biogas vehicles, charging stations, car sharing).

## Strong points: a critical analysis

***Inclusive design process relying on a wide variety of actors.*** The master plan involves a variety of actors, facilitating its robustness and acceptance by different stakeholders. Initially, the collaboration with the University to create a decision-making tool provided a solid background for the design of the plan. There are multiple mechanisms for the systemic engagement of citizens and businesses in the decision-making process through social media, workshops and training. Similarly, collaborative networks involving diverse actors from banks to craftsmen, and from business to vocational training institutions help to create systemic change and increase engagement. This is particularly important where cities depend on a multitude of actors to implement their policies, as is the case in Frederikshavn[52].

***Constant feedback loop.*** The master plan is re-evaluated every year, which

[49] Energy Cities, 2018, Frederikshavn: A territory anxious to create a new energy system.
[50] Ibid.
[51] Ibid.
[52] Go 100% Renewable Energy, Energy City Frederikshavn.

creates a dynamic feedback loop. This also allows the policy initiatives to respond quickly to changes, for instance to incorporate the latest technological developments. Renewable energies and advanced technological solutions are constantly evolving and the plan ensures that developments in wave energy, bio-refineries and hydrogen are taken into account in successive plans so as to avoid potential adverse impacts due to rigid policies. This is especially pertinent as the plan addresses different policy sectors, such as heating and transport.

***Strong rural dimension.*** The initiative has a strong rural dimension and fully recognises that the resources surrounding the urban areas are indispensable for a successful energy transition. Furthermore, as mentioned above, 30% of the population involved in the action plan live in the rural areas. These aspects create an important need to incorporate rural areas into the design and implementation of policies. For instance, the agricultural sector is considered an important resource for renewable energies such as biomass and the action plan aims to benefit from these resources as much as possible.

***Coherent policies combining climate ambition with job creation***. The master plan emphasises the importance of combining job creation with climate ambitions. By involving actors from the industry and business, the master plan creates a strong impetus for boosting employment and increasing the resilience of the city to become future proof. This is supported by educational and training activities, as well as an emphasis on innovation to strengthen the capacity and skills of the industry.

# Case Study 4: Energy Efficiency Plan of Bucharest Sector 1 Municipality: Marathon 2020 (Romania)[53]

**Locality:** District 1, Bucharest.

## Background and context:

District 1 is located in the north of Bucharest. Since 2009, the district has been working towards energy efficiency, focusing on renovation of both public and private buildings. In 2011, District 1 adopted a Sustainable Energy Action Plan (SEAP), which at the time was the most ambitious in Romania.

## Overview of the action plan:

The interventions were realised in a successive manner over the years, focusing

[53] Unless stated otherwise, all information come from the information sheet on the plan: http://publenef-project.eu/wp-content/uploads/2017/01/GP55-AEEPM-Bucharest1-SEAP-Eng.pdf

mainly on energy efficiency of buildings through large-scale renovations while also tackling energy poverty. It had the following initial objectives for 2020:

- 20% increase in the use of renewable energies;
- 24% decrease in $CO_2$ emissions;
- Reducing energy consumption of buildings by 50% and annual savings of 190 GWh once the plan is fully implemented.

To achieve these objectives, the plan relies on four pillars:

- Thermal rehabilitation of 140 public buildings: this includes an energy audit of public buildings involved, and different types of buildings such as schools, social services and hospitals;
- Renovation of 850 private buildings (apartment blocks), implemented in two phases and including energy auditing of the buildings involved, direct responsibility of the local authority for the implementation of the plan including contracting, financing and implementation;
- Creating innovative financing mechanisms;
- Encouraging stakeholder involvement and awareness raising.

The plan builds on the experiences and knowledge of the Energy Efficiency Agency (established in 2007), studies on energy consumption patterns and exploration of possible uses of renewable energies for heating and cooling. At the time of its design, the plan responded to the specific needs of LRAs in Romania, as there was no national programme for energy renovation of public buildings or energy audits in the public sector[54]. The interventions cost around EUR 480 million[55] and are financed by the European Investment Bank (EIB) (75%) and the municipality's own resources (25%). The plan is estimated to have a return on investment of 25 years. LRAs consider the plan to be replicable at local level[56].

Information obtained through desk research and interview with the relevant authority suggests that most of the initial objectives were achieved, and apartment block renovations led to $CO_2$ savings of 92,000 tonne/year and 30% reduction in energy costs for the occupants[57]. The renovation of a large number of buildings also helped the local economy to recover more quickly from the impact of the 2008 financial crisis[58]. Currently, the focus is on the renovation of private

[54] Publenef, 2017, Marathon 2020 – Community of Bucharest District 1 to be the first energy efficient community in Romania by 2020.
[55] As of 2016.
[56] Publenef, 2017.
[57] Munteanu, R. A., 2020, Public policies in the First District of Bucharest - Sustainable solutions for increasing energy efficiency. DOI: 10.2478/picbe-2020-0005, pp. 40-49, ISSN 2558-9652
[58] Information provided by Bucharest District 1 Municipality.

individual houses, which necessitates a more tailored approach. The pilot is ongoing and covers 50 houses selected to provide a sample of typology so that the project can be scaled up in the future[59].

## Strong points: a critical analysis

***Monitoring.*** After the renovations, the results were monitored, providing valuable insights for future design and implementation. This provides an important basis for policies, for instance in terms of effective of renovations on different types of buildings. The systemic approach to building typologies will provide valuable insights for upscaling projects in the future.

***Large-scale intervention in successive steps.*** The intervention was done on a large scale for the apartment buildings, allowing more standardised approaches to renovation. By exploiting this advantage, the projects created economies of scale and had a real impact on $C0_2$ emissions, as well as energy savings. Successive steps (e.g. renovating a number of apartment blocks in each step) may allow for budget flexibility and incorporating the newest technologies.

# Case Study 5: Energy Transition in Litoměřice (Czechia)

**Locality:** City of Litoměřice, Czechia

## Background and context:

Litoměřice is a city of around 26,000 inhabitants situated in the North-western part of the country. Located on the Elbe River, the city was historically a port town, but its economy currently relies on services and commerce[60]. The city and its surroundings are facing clean mobility and energy challenges[61]. Once heavily reliant on coal for its energy production and consumption, the city has been taking steps towards climate neutrality since 2000 and became one of the most ambitions regions in Czechia in energy transition[62]. The city is pursuing its objectives through different initiatives, including investment in small and large scale renewable energy sources (RES) projects, innovative financing schemes to cover the costs of investments, cooperation with other cities, reducing energy consumption with municipal planning and policy commitments such as becoming

[59] Information provided by Bucharest District 1 Municipality.
[60] Energy Cities, 2015, Litoměřice, the next Czech post-carbon city, available at: https://energy-cities.eu/litomerice-the-next-czech-post-carbon-city/, accessed: 04.11.2020.
[61] POCACITO Project, Case Studies: Litomerice, available at: https://pocacito.eu/case-studies/litomerice, accessed: 04.11.2020.
[62] Skopkova H, 2016, Litoměřice Strategy Paper for Pocacito Project.

a Covenant of Mayors signatory and Municipal Energy Plans[6364].

## Overview of policy action

The policy action towards climate neutrality consists of different initiatives, which includes a SECAP since 2018. The main objectives of the plan is to achieve at least 41% reduction in $CO_2$ emissions, reduce energy consumption by 23% in the sectors included in the SECAP, increase the production of RES by 15% (by 2030 compared to 2005 for all targets). There is also emphasis on air quality, climate adaptation (nature-based solutions and green areas, flood protection), spatial planning (zoning measures), new technologies and employment and citizen participation[65]. The main pillars of the plan focus on energy efficiency of buildings (municipal, tertiary, residential), street lighting and transport (e.g. support for soft mobility, electric buses)[66]. The most promising sector for energy transition was identified as the residential buildings[67]. First initiative to reduce emissions from residential buildings was put in place in 2000 in the form of a local subsidy to replace existing boilers with solar heated water boilers. This was the first of its kind in Czechia[68]. Since then, the city has accumulated experience on the thermal rehabilitation of public buildings, recently set up an innovative funding scheme (Energy Efficiency Revolving Fund) for public buildings. Initial work is ongoing in the area of private buildings[69]. SECAP plan was an important step in making an analysis of the current energy consumption of private houses through an audit. The work is ongoing in setting of funding schemes such as EPC (energy performance contracting), communication campaign for homeowners, and participation to EU level projects such as Innovate[70] and ProgRESsHEAT[71].

There is also a clear emphasis on solar energy. Solar panels covering an area of 3,7 $km^2$ have been installed throughout the city in collaboration with households who are the co-owners of the panels. The panels cover the electricity needs of the

[63] Energy Cities, City of Litomerice Profile, available at: http://energy-cities.eu/members/city-of-litomerice/, accessed 13.11.2020.
[64] Klusak J., 2020, Litomerice: two decades of working towards a just transition in the Czech republic, https://municipalpower.org/articles/litomerice-two-decades-of-working-towards-a-just-transition-in-the-czech-republic/, accessed 13.11.2020.
[65] City Council of Litomerice, 2018, Akční Plán Udržitelné Energetiky A Adaptace Města Litoměřice Na Klimatickou Změnu (SECAP) Do Roku 2030.
[66] Ibid.
[67] EU Covenant of Mayors, Litomerice Action Plan in a Nutshell, available at: https://www.eumayors.eu/about/covenant-community/signatories/action-plan.html?scity_id=19394, accessed 10.11.2020
[68] Innovate Project, Case Studies: Litomerice, available at: http://www.financingbuildingrenovation.eu/cases/litomerice-municipality-czech-republic/, accessed 10.11.2020
[69] Ibid.
[70] Ibid.
[71] Energy Cities, 2018, ProgressHeat Case Study, Geothermal energy for ensuring sustainable and affordable heating & cooling: Litomerice.

households involved in the project and the surplus is used by public buildings[72]. Furthermore, the city has introduced an innovative concept of 'solar bench' where solar panels are installed at the back of public benches, providing electricity which can also be used via USB connection for charging phones. The bench is also used to monitor air quality[73].

The city is currently exploring potential contribution of geothermal energy. The works have been going on for more than 10 years and if successful, geothermal energy might have the potential to single-handedly meet energy targets for Litomerice[74]. However, latest information suggest that important barriers remain to realisation of this project[75].

## Strong points: a critical analysis

***Innovative citizen engagement.*** As in the other cases included in the study, Litomerice puts a strong emphasis on citizen engagement. However, the way of involving the citizens seem to go beyond the mere conventional stakeholder participation. For instance, there are clear communication campaigns targeting specific issues: the citizens are explained that they do not have to undertake deep renovation works as a single project, but this can be done in multiple steps[76]. This clearly addresses two issues perceived as main barriers by private homeowners: financial costs and the disruption of the living space that is caused by extensive renovation.

Another important aspect is the active involvement of citizens in the implementation of projects such as in the case of solar panels. From the perspective of creating ownership, this has enormous potential to empower citizens to be agents of change while producing economic benefits for them. This is a very important aspect, especially in contexts where people rely on polluting energy sources such as coal and where means to invest on renewable energies might not be available on individual level. Furthermore, consultation services are being set up, helping homeowners with the entire process of housing renovation (e.g one stop shops) which also foresees an online kit to monitor the energy savings[77]. Media has a role as well, with the local TV broadcaster regularly

[72] Klusak J., 2020.
[73] EU Covenant of Mayors, 2016, Litoměřice: Sit and connect on the Czech Republic's first solar bench, available at: https://www.eumayors.eu/news-and-events/news-and-events/news/1379-litoměřice-sit-and-connect-on-the-czech-republic-s-first-solar-bench.html, accessed 13.11.2020.
[74] Energy Cities, 2018, ProgressHeat Case Study, Geothermal energy for ensuring sustainable and affordable heating & cooling: Litomerice.
[75] Ibid.
[76] Innovate Project, Case Studies: Litoměřice. Available at: http://www.financingbuildingrenovation.eu/cases/litomerice-municipality-czech-republic/, accessed 13.11.2020.
[77] Ibid.

covering conferences and energy projects in the city[78].

***Combining synergies from different EU initiatives.*** In order to support the policy action, the city has been engaged in multiple EU level initiatives such as the Innovate, ProgRESsHeat and POCACITO (Post-Carbon Cities of Tomorrow) Projects, all of which are funded either by H2020 or its previous equivalent 7th Framework Programme. Innovate Project is focusing on energy retrofits of houses, offering homeowners complete packages known as one stop shops to facilitate the uptake of deep renovations[79]. ProgRESsHeat[80], was completed in 2017 and its main aim was to support the uptake of renewable energies in heating and cooling networks, by developing strategies in six target countries, including Czechia. POCACITO project, which was completed in 2014 aimed at developing evidence-based 2050 carbon neutrality roadmap for cities. Litomerice has been one of the participating municipalities in these projects. These initiatives often provide important learning grounds and opportunities for exchange with other LRAs facing similar issues. Active participating to such initiatives can be an important enabler and accelerate the pace of progress.

# Discussion of findings

## Diversity of contexts and approaches

The study findings confirm the diversity of approaches across cities and regions in respect of policy action towards climate neutrality. The differences can be observed both in terms of priority fields and methods, for instance between integrated plans and project-based interventions. The table below provides an overview of different components of the Green Deal that are targeted by the climate action plans/measures examined.

**Table 2: Components of the Green Deal compared to the climate neutrality plans in the case studies**

| | **Munich** (DE) | **San Sebastian** (ES) | **Frederikshavn** (DK) | **District 1, Bucharest** (RO) | **Litomerice (CZ)** |
|---|---|---|---|---|---|
| Clean energy | X | X | X | X | X |
| Clean mobility | X | X | X | | X |
| Sustainable food | | | | | |

[78] ProgressHeat Project, 2017, Deliverable 5.4: Local heating and cooling strategy recommendations for Litoměřice.
[79] Innovate Project Website, available at: http://www.financingbuildingrenovation.eu/, accessed 10.11.2020.
[80] ProgRESsHEAT Project Website, available at: http://www.progressheat.eu/Project.html accessed 10.11.2020.

| | **Munich** (DE) | **San Sebastian** (ES) | **Frederikshavn** (DK) | **District 1, Bucharest** (RO) | **Litomerice (CZ)** |
|---|---|---|---|---|---|
| systems | | | | | |
| Resource efficient industry | X | X | | | |
| Energy efficient buildings/construction | X | X | X | X | X |
| Zero pollution | | X | | | |
| Circular economy | | X | | | |
| Protecting and restoring biodiversity | | | | | X |

There is a strong emphasis on energy efficiency and renovation of buildings, renewable energies and clean mobility. This was also reported by a previous study for the CoR[81]. The survey conducted in the context of the study found that clean and affordable energy, energy efficiency, climate adaptation and mobility were among the most advanced policy fields[82]. By contrast, sectors like agriculture, the circular economy, biodiversity and zero pollution were less visible. This is in line with the findings from the interviews with the cities and regions consulted for this study.

The case studies from western, northern and southern Europe indicate a preference for integrated approaches, where many policy fields and elements are targeted at once. The examples identified from central and eastern European countries seem to be more project-based and targeted specific needs at local level which can then be scaled up.

The findings suggest that links with the Green Deal will build on these existing initiatives, which may then be extended to other policy fields. The cities and regions should start where they are most powerful. This is particularly important in the context of recovery from the COVID-19 pandemic, where quick responses will have to reconcile social, economic and environmental ambitions (see next section). It is important to note, however, that fields that are lagging behind - such

[81] McNeill, A, et al., 2020, Boosting the capacity of LRAs to implement the Green Deal: a toolbox for the climate pact, Milieu Study for the European Committee of the Regions.
[82] Ibid.

as sustainable food systems and biodiversity - should not be neglected.

Citizen engagement and acceptability of policies
Citizen engagement with the policies creates a powerful enabler and is considered integral to achieving the objectives of the Green Deal. It is also important for designing better policies which increases public acceptability.
Citizen engagement can take many forms, including long-lasting behavioural change, active participation in governance structures made possible by new technologies (for instance online citizen assemblies) and bottom-up initiatives. The process can be dynamic and incremental; starting at a smaller scale and developing with time. It is important for the LRAs to find ways to engage with the wider public, especially with social groups that are often less involved in government decision making.

Case studies and interviews show that there are many ways to create this engagement. Depending on the local context, LRAs can use 'entry points' of communication and transformation. For instance, in some places, a strong connection to nature in rural areas meant that policy action regarding biodiversity could be used as an entry point. In other cases, it was the cleanliness of public space and renovation of buildings that led to clear, visible changes in the lives of the citizens. In the case of Litomerice, citizens actively implement policies while directly benefiting from the outcomes in a tangible way (such as reducing energy coasts with solar panels). In the case of San Sebastian, the administration has actively studied citizens' perspectives, lifestyles and experiences of the city to better design climate policies, increasing their acceptability. These diverse approaches have the potential to create momentum for citizens as indispensable agents of change.

***Horizontal institutional structures***
Results seem most successful where cities and regions adapt their institutional structures to accommodate the cross-cutting nature of climate neutrality policies. Traditionally, public administrations tend to work in silos, therefore some adaptation is necessary to these structures, which should be designed and built into the climate plans. Providing coordination teams, streamlining measures and targets, and having regular meetings with all departments are important tools that improve horizontality.

***Cooperation with a wide range of stakeholders***
Successful examples underline the importance of harnessing the experience and knowledge of a wide diversity of actors. Using technical support from researchers and institutes, engaging with business stakeholders for innovative approaches, and incorporating bottom-up approaches from the wider public improves the resilience of plans, creates acceptance and ultimately leads to better outcomes.

***Added value of EU initiatives***

The interviews suggest that environmental policies in general and the Green Deal in particular are important policy levers for LRAs. This was already the case before the COVID-19 crisis. The participants noted that messages coming from the EU provide strategic signals to stakeholders and improve the acceptance of policies at local level.

# 2. The impact of COVID-19 on the Green Deal and climate neutrality policies

Before the COVID-19 pandemic, many LRAs were already taking steps towards climate neutrality, incorporating elements from the Green Deal. However, it has led to major disruptions around the world, creating abrupt changes in political agendas and priorities[83]. This sudden, disruptive force necessitates an understanding of the impact of COVID-19 on climate policy at local and regional level so that appropriate responses can be designed at EU and national level. This section builds on in-depth interviews conducted with LRAs, a review of some key documents, and initial reactions from the LRAs identified through desk research. It also presents two examples of green recovery at local level. It follows two main questions:

- Has the impact of COVID-19 shifted priority areas of action for LRAs that are working towards climate neutrality and the Green Deal? If so in what ways?
- What are the lessons that can be learned from the early examples of recovery initiatives which are taking progressive action towards climate neutrality?

## 2.1 Climate policies and the pandemic: main findings

The crisis has led to major disruptions, some of which are still unfolding. However, it is important to draw a distinction between the immediate impacts, both positive and negative, and the potential to transform long-term climate policies. These separate developments are not isolated, and their complex inter-relationships will only become fully apparent with time.

### Short-term disruptions due to the COVID-19 crisis

#### Environmental and societal impacts

In the short-term, unintended environmental impacts of the crisis are positive and negative: $CO_2$ emissions are likely to decline by 8% in 2020, which will mean they are at the lowest levels since 2010[84], and air pollution has lessened in cities

[83] The Institute for European Environmental Policy and The Foundation for European Progressive Studies, 2020.
[84] International Energy Agency, 2020, Global Energy Review 2020: Global energy and CO2 emissions in 2020.

across Europe due to a drop in industrial activity and transport[85]. On the other hand, the huge increase in medical waste from the use of disposable masks and disposable personal protective equipment has brought about new challenges for recycling and waste disposal[86]. These issues were echoed during the interviews. Aside from the economic impacts, a diversity of immediate experiences underlined the vulnerabilities of the city systems, increased public awareness of climate issues and created unintended opportunities.

**In some cities and regions, shortcomings in supply chains and waste management became apparent.** In some places, the increase in takeaway food from restaurants created challenged for the cleanliness of public spaces, especially in the summer season, when littering was an increasing problem.

**In others, the switch to tele-working helped to reduce air pollution and left buildings empty**, creating an unexpected opportunity for renovations, especially for the public buildings. The latter is a perfect example of an unintended consequence of the COVID-19 crisis which is being used to remove a known barrier to renovation projects.

**Green spaces became important, heightening public awareness.** The participants stressed that confinement and limited recreational opportunities in cities led to an awareness among citizens of the importance of green spaces. A trend observed by several authorities was an increase in citizens' demand and interest in the availability of green space and nature within walking distance of their homes. Lockdown policies implemented in countries across the EU have meant that people have been unable to travel to find natural environments and so have been forced to rely on green spaces close to home. This is expected to create potential entry points for wider acceptance of climate policies. For instance, several participants mentioned that public acceptance of climate policies since the beginning of the pandemic has been most successful for policies related to climate adaptation, which emphasise natural and green spaces, rather than mitigation. This has improved political support for green infrastructure projects and some authorities have plans to better integrate local ecosystems into policy on food security and disaster preparedness, enlarging the scope of policies.

[85] European Environmental Agency, 2020, Monitoring Covid-19 impacts on air pollution, monitoring tool, available at: https://www.eea.europa.eu/themes/air/air-quality-and-covid19/monitoring-covid-19-impacts-on, accessed 14.10.2020.
[86] OECD, 2020, Making the Green Recovery Work for Jobs, Income and Growth.

**Some cities observed increased public interest and participation in green policy development.** Surveys have shown that the general population's awareness of the link between human well-being and environmental protection has increased since the crisis[87]. In some cases, this may have led to greater public interest in related policies. For instance, in one example, it was mentioned that the participation in public meetings has been greater in number and in diversity of participants. Now held online rather than in person, the meetings have attracted a different profile of participant, notably of working age and from different ethnic and social backgrounds. Findings of this report show that social participation in the development of climate policy can help to encourage citizens to feel more invested. Several interviewees observed that the importance of citizens' behaviour in bringing change cannot be underestimated and usually provides an important enabler. Therefore, such developments can lead to a wider uptake of climate change policies and improved public engagement.

Mobility patterns changed. Lockdown policies have significantly restricted the movement of citizens. The transition to homeworking in many sectors has dramatically reduced demand for public transport in many municipalities and regions. In addition, fears about transmission of the virus are thought to have a dissuasive effect on the use of public transport. This has led to a fear among LRAs that there will be a large uptake in cars, with a resulting negative effect on emissions and air quality. In addition, where the city or region has planned large-scale investments for public transport, this creates a risk to the success of the policy.

Some LRAs, particularly in cities, have responded by providing additional bus capacity outside of peak hours and encouraging businesses to adopt altered working hours. Another solution has been to try to counter personal car use by e-mobility solutions, such as shared bikes, scooters and electric cars. Some stressed that they need to put in place communication campaigns that will convince citizens that measures are being taken by authorities to ensure the safety of passengers. Several cities have strengthened their cycling infrastructure during the pandemic, with additional cycle lanes and dedicated cycle streets where cyclists have priority over cars. It is hoped that these policies will help to redirect shifts in mobility patterns during the health crisis.

[87] Ibid.

## Economic impacts

The economic impacts of the COVID-19 pandemic on sub-national budgets depend on a multitude of factors and is expected to become clearer in longer-term[88]. However, these impacts will be challenging, with increased expenditures and lower revenues[89], especially for LRAs where budgets have been operating at sub-optimal levels even before the crisis. Similar concerns were mentioned during the interviews. The word 'survival' was frequently used, underlining the immediate impacts on citizens and businesses. The cities and regions interviewed noted that hospitality and tourism sectors were particularly hard-hit, especially in places where these sectors constitute important economic activities. For policies at local and regional level, this meant diverting funds to more urgent matters, such as health or support for businesses whereas these resources could have been used for climate policies. Some cities and regions noted that their struggle to integrate climate into their recovery so far. Several LRAs referred to difficulties in gathering sufficient support for combining the response to the economic and climate crises and the desire among businesses to return to business as usual before thinking about further integrating sustainability into their practices. Others believe that it is still too early to make any final observations.

# From crisis to recovery: long-term implications

**Long-term ambitions seem to remain intact.** An important message from the interviews was that despite the short-term disruptions, the COVID-19 crisis did not significantly impact the overall direction towards climate neutrality. There is consensus among the participants that previously agreed climate policies had not been undermined by the crisis, and indeed policies related to green businesses practices are helping some authorities to orientate businesses towards a sustainable recovery. There is also a general feeling that the crisis has helped to convince diverse stakeholders, policymakers and businesses that the current systems have vulnerabilities that need to be remedied. Some participants contrasted this situation to the financial crises of 2008 and 2011, where sustainability concerns were not seen as a priority.

**There is optimism for permanent change.** The immediate impact of the crisis provides an additional impetus for change and creates a space for reflection. Some participants underlined a will to maintain the benefits of these changes, for instance maintaining air quality improvements permanently. There are plans to offer new and adapted forms of mobility, plans to respond to citizens' demands for greater availability of green space in cities, plans to retain altered consumption

[88] OECD, 2020, The territorial impact of COVID-19: Managing the crisis across levels of government.
[89] Ibid.

patterns by prioritising the local economy and circular economy: all of these actions are currently being taken at local and regional level in response to the pandemic. There are instances where the impacts of the crisis opened up venues that would not be possible under a business-as-usual scenario. An example of this is the tourism industry – although the immediate impacts have been disastrous, there was also mention of great willingness to use this crisis as opportunity to make long-term changes to improve resilience.

**Pre-COVID-19 policy action improved resilience and facilitated sustainable solutions to the emerging problems.** Progressive policies that were already place before the pandemic improved resilience during the crisis. For instance, one participant said that because they had an established communication with the restaurant sector regarding circular economy, they could successfully switch to biodegradable packaging. This could have been impossible during the crisis if prior policy actions had not laid the groundwork. Some sectors have been able to find innovative solutions to their changed circumstances, such as the use of food surpluses in the surrounding areas of Amsterdam for food donation as part of the city's circular economy strategy (see end of this chapter). As in the case of Ljubljana, an existing renovation plan for the public buildings meant that they could use the period of teleworking to carry out assessments of buildings and actual works more easily.

**COVID-19 has accelerated climate policies.** In some LRAs, existing climate policies have been accelerated as a result of the pandemic. In both the examples of economic recovery plans given at the end of this chapter, existing climate and environmental policies have been repackaged and reprioritised as part of the response to the economic crisis in order to give new impetus and signal a prioritisation of the policies. In others, there were clear efforts to align the Green Deal and the recovery plans. Policy sectors such as energy, clean mobility and building renovations will be potential entry points.

**Emphasis on the employment is important and some sectors come forward.** In view of the pressing need for economic recovery, it is not surprising that climate policy is often successfully integrated into recovery plans where it is related to job creation. Some of the participants mentioned that in policy discussions with other areas of local government, it had been easiest to find support for climate policies that combined investment with an increase in employment. Jobs in the energy sector are created through installation of renewable energy production, such as photovoltaic panels on building roofs. Energy efficiency of buildings is also a major target area for job creation by several authorities.

**The Green Deal can be used as a launchpad for local ambition.** While all LRAs consulted have climate policies and some have ambitious roadmaps for

climate neutrality, many recognised the role of the Green Deal in putting in place a solid framework that signals a definitive shift towards more sustainable societies. The European level is often seen as less politicised than national-level politics and in many EU countries is more ambitious. It is seen as a powerful communication base in order to engage with citizens. It also secures a level-playing field between LRAs across the EU. For some LRAs who wish to progress faster than the European climate targets, it is seen as a launchpad to greater ambition at local and regional level. LRAs can use it as a baseline for further change and, as many examples in this study show, this was in progress even during the pandemic.

## 2.2 First responses from the LRAs: examples

Some cities and regions already stressed the importance of taking action that combines economic growth, job creation, reducing inequalities and addressing environmental concerns. The Covenant of Mayors called on European decision makers to fully integrate climate action into their recovery packages[90]. C40 Cities, a global initiative that helps metropolitan cities to collaborate in their work against climate change, launched the 'Agenda for a Green and Just Recovery'[91], along with the 'Global Mayors COVID-19 Recovery Task Force[92]', stressing the critical role that cities are at the forefront of the crisis and the role they will play during the recovery, laying out principles which should guide the process[93].

Individual LRAs have already developed recovery plans and these are a very important source for understanding how priorities have changed in the aftermath of the COVID-19 pandemic. Two examples are provided below.

[90] Fedarene, 2020, The Covenant of Mayors Board calls for a Green Recovery Strategy, available at: https://www.fedarene.org/publications/the-covenant-of-mayors-board-calls-for-a-green-recovery-strategy, accessed: 12.11.2020.
[91] C40 Cities, 2020, Mayors Launch a Green and Just COVID-19 Recovery Plan & Demand National Governments End Fossil Fuel Subsidies, available at: https://www.c40.org/press_releases/mayors-launch-a-green-and-just-covid-19-recovery-plan-demand-national-governments-end-fossil-fuel-subsidies, accessed: 12.11.2020.
[92] C40 Cities, Global Mayors COVID-19 Recovery Task Force, available at: https://www.c40.org/other/covid-task-force, accessed: 12.11.2020.
[93] C40 Cites, C40 Mayors' Agenda for a Green and Just Recovery.

# Example one – Madrid

## COVID-19 recovery plan

Madrid's recovery plan was adopted in July 2020 after a meeting between all political groups on the Madrid City Council. These municipal agreements[94] consist of a collection of measures developed by four sectoral working groups (social affairs; city strategy; economy, employment and tourism; and culture and sport). The measures aim to relaunch Madrid's economic activity following the COVID-19 crisis while targeting a wide range of areas relevant to the Green Deal, such as energy efficiency of buildings, development of the circular economy, sustainable mobility, improving air quality and increasing green spaces in the city.

More specifically, recovery policies addressing green issues include:

- Energy efficiency of buildings;
- Creation of an innovation platform (MADRID INNOVATION) to support projects that have an environmental impact and create jobs;
- Investment in the city's bus network to better connect the periphery in the north and south of the city;
- Make permanent the temporary bus lanes that were created in May 2020 in the city as a response to COVID-19;
- Insertion of safe provisional bike lanes according to the city's cycling plan; definitive pedestrianisation in all the city's districts, focusing on areas close to markets, health centres, schools and public transport access areas;
- Development of the Metropolitan Forest project that will establish green areas throughout the city;
- Develop a pilot of the Superblocks concept, as trialled in Barcelona[95];
- Development of the polycentric or 15-minute-city concept;
- Public awareness campaign on recycling, repair and reuse of waste.

## Coordination with existing climate measures

The economic recovery plan takes pre-existing policies and ideas related to climate change and gives them new impetus by integrating them into Madrid's COVID-19 response. In this sense it helps to build up existing measures and signals their importance to Madrid's recovery.

[94] Madrid City Council, 2020, COVID-19 City Council Agreements, document approved in the Plenary of the City Council Extraordinary session, Tuesday, 7 July 2020.
[95] Barcelona Urban Ecology Agency, 'Superblocks', available at: http://bcnecologia.net/en/conceptual-model/superblocks, accessed 22. 10.20.

The City of Madrid is also part of the EIT Climate KIC's 'Sustainable and Healthy Cities Demonstrator' programme, where it is one of 15 European cities planning to become carbon-neutral by 2030[96]. The programme aims to encourage innovation to find transformative solutions that provoke systemic change. Rather than taking existing measures and policies further, it aims to find new levers and tools to reach carbon neutrality. Madrid has created a climate group in the city that takes a cross-sectoral approach, with issues that go beyond typical climate areas. A partnership with cultural association Matadero has led to support for a range of artistic research projects that help to build new forms of communication with the public, such as innovative narratives around climate change using formats including TV series, documentaries, podcasts, cartography, gamification and online collaboration[97]. The programme collaborates with Madrid's technical university (*Universidad Politécnica de Madrid*) and transport operator Ferrovial, as well as other organisations and citizen movements.

# Example Two - Amsterdam

## New strategies launched in the midst of the pandemic

I

n April 2020, the City of Amsterdam approved its **Circular Strategy 2020-2025**[98]. The strategy aims to reduce the use of raw materials by 50% by 2030 and become a fully circular city by 2050 through three main action areas: food and organic waste streams; consumer goods; and built environment.

In March 2020, the city had become the first public entity to officially adopt the **doughnut model**, an economic tool developed by economist Kate Raworth to guide economic development[99]. The concept helps to see how societies can ensure that they provide basic social needs for all while also respecting the ecological limits of the planet. The doughnut is composed of an inner ring representing the social foundation of society and an outer ring representing the ecological ceiling, beyond which too much stress is put on the planet (see Figure 3). Societies should aim to remain in the space between these two boundaries in order to thrive. The strategy aims to develop a holistic approach to policy-making and includes a pathway to becoming carbon neutral by 2050. The main axes of action are short and local food chains, improved treatment of organic waste, reducing

[96] EIT Climate-KIC, 2020, Madrid officially signs up to EIT Climate-KIC's Deep Demonstration of Clean & Healthy Cities, available at: https://spain.climate-kic.org/en/news/madrid-officially-signs-up-to-eit-climate-kics-deep-demonstration-of-clean-healthy-cities/, accessed 22. 10.20.

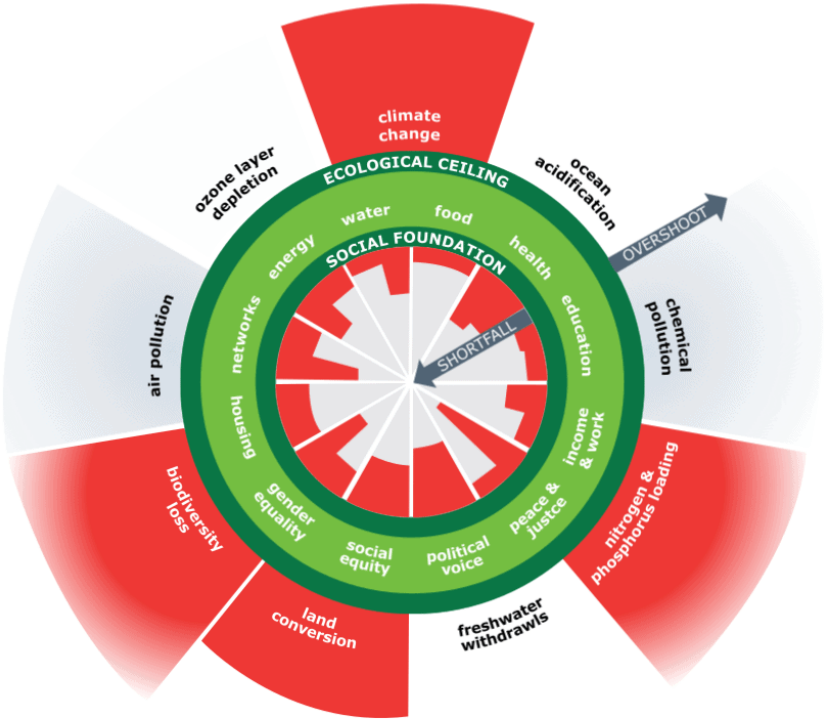
[97] Matador Madrid, 2020, Mutant Institute of Environmental Strategies, available at: https://www.mataderomadrid.org/sites/default/files/media/document/2020/09/Dossier%20INMA%2015%20SEP_DEF%20ingl%C3%A9s.pdf, accessed: 12.11.2020.

[98] City of Amsterdam 2020, Amsterdam Circular Strategy 2020-2025.

[99] Donut Economics Action Lab. et al., The Amsterdam City Donut: A tool for transformative action, 2020.

consumption and overall discarded waste, and development of a cross-cutting circular city approach[100].

**Figure 3: The doughnut model, demonstrating the ecological ceiling and social foundation that represent the balance that economic development should respect[101]**




Source: Donut Economics Action Lab. et al.

## A need to innovate

Publishing the circular economy plan during the pandemic has meant that policy action can respond directly to the new set of needs created by the crisis. This has provided an opportunity for the city to adapt the plan as part of its recovery.

The pandemic has imposed restrictions, however. There were plans for the healthcare sector, as well as the arts and culture sectors that involved public gatherings, many of which had to be cancelled. As with many places that have an important tourism sector, Amsterdam has seen a significant drop in revenue with the loss of tourists. The resulting emptying of the city centre is viewed as an opportunity to reflect on the functioning of these industries. Examples of cooperation within the hotel industry include hotels working together to find

[100] C40 Cities Climate Leadership Group, 2020, Amsterdam's City Doughnut as a tool for meeting circular ambitions following COVID-19, available at: https://www.c40knowledgehub.org/s/article/Amsterdam-s-City-Doughnut-as-a-tool-for-meeting-circular-ambitions-following-COVID-19?language=en_US, accessed: 12.11.2020.

[101] Donut Economics Action Lab. et al., 2020.

innovative ways to adapt their business plans and use unused hotel space for alternative activities, such as workspaces[102] or student accommodation.

Surpluses in the agricultural sector in the area surrounding Amsterdam have been taken in by the city and made into food packages that have been distributed to vulnerable people, providing a social benefit while tackling food waste, which is one of the aims of the Circular 2020-2025 Strategy. When it was discovered that infrastructure for transporting the food grown in the surrounding region to the city centre was not optimised, the problem was solved, making it easier for citizens of Amsterdam to consume food that is grown locally, reducing the supply chain. The new reality created by the pandemic forced the city to innovate to solve the problem. This problem that had long existed but the circumstances created by the pandemic provided an additional motivation to solve it.

[102] See, for example, My Extraordinary Workspace, a platform that allows businesses to rent converted workspaces in luxury hotels, available at: https://meow.space/, accessed: 22.12.2020.

# 3. The way forward: initial reactions from the EU and Member States

Recovery from the economic and social impacts of the COVID-19 pandemic will take many forms, depending on the national, regional and local context. The case studies and interviews conducted for this study suggest that the situation at local and regional level prior to the economic crisis will shape the responses. Irrespective of the initial context, however, those responses have the potential to profoundly transform European societies for decades to come. At the same time, failing to integrate sustainability into the recovery could cause the loss of years of progress[103]. The World Economic Forum warns that neglecting climate in recoveries – for example, under-investment in adaptation infrastructure, withdrawals from agreements and weaker climate activism - could lead to severe environmental consequences and biodiversity loss. This presents a double challenge for policymakers to respond to the urgent economic situation while ensuring that responses deliver on ambitious climate and sustainability objectives at all levels of government. This has several implications for European, national, regional and local policymakers.

To respond to the impacts of the crisis, the European Commission has proposed a recovery plan. The Next Generation EU (NGEU) has the potential to contribute to the overall ambitions of the Green Deal, working towards a *more sustainable, resilient and fairer Europe*[104]. The NGEU and MFF 2021-2027 were agreed by European leaders in July 2020[105], leading to a proposed budget of EUR 750 billion reinforcement for the 2021-2023 period, alongside the EUR 1074.3 billion for the MFF. The NGEU is divided between different instruments under three main pillars: supporting Member State recovery; kick-starting the economy and helping private investment; and learning lessons from the crisis[106].

The NGEU employs several mechanisms to ensure that economic recovery is in line with environmental ambitions. It emphasises the need to mainstream climate action into the recovery plans, calls for at least 30% of investments to be directed to sustainable initiatives and recalls the 'green oath to do no harm' principle. At

[103] World Economic Forum, 2020, COVID-19 Risks Outlook: A Preliminary Mapping and its Implications.
[104] European Commission, 2020, Europe's moment: Repair and Prepare for the Next Generation, 2020, COM (2020) 456.
[105] European Commission, 2021-2027 long-term EU budget & Next Generation EU available at: https://ec.europa.eu/info/strategy/eu-budget/long-term-eu-budget/2021-2027_en#latest, accessed 13.11.2020.
[106] European Commission, Recovery Plan for Europe, available at: https://ec.europa.eu/info/live-work-travel-eu/health/coronavirus-response/recovery-plan-europe/pillars-next-generation-eu_en, accessed 13.11.2020.

Member State level, Recovery and Resilience Plans (RRPs[107]) will determine how financial instruments are spent and the European Commission will review and assess these plans against a number of criteria, including 'effective contribution to green transition'[108].

Initiatives such as the NGEU will have to ensure that there is enough emphasis on the mainstreaming of climate and environmental objectives of the Green Deal, using the RRPs as an important lever. These mechanisms should systematically demand the inclusion of LRAs as active participants in the design and implementation of the national RRPs and all resulting policy action. This should be done so as to accommodate the diversity of the contexts, strengths and progress of the LRAs in each of the policy fields related to the Green Deal.

At national level, the policy initiatives - including the RRPs - should fully mainstream the objectives of the Green Deal and systematically incorporate LRAs' needs and perspectives, following the direction set by the EU. This section provides an overview of the early recovery responses at EU and national level, assessing the extent to which these considerations are taken into account.

## NGEU and the National RRPs

Member States will draft their RRPs to access funding from the NGEU. This creates an important opportunity for EU-level policy to support LRAs to benefit fully from the funds available and create synergies between economic recovery and climate neutrality. As mentioned in the previous section, the NGEU introduces some mechanisms to ensure that climate neutrality is mainstreamed into the national RRPs and the European Commission has published a guidance document for Member States drafting their RRPs[109]. Although this document can be adapted according to the decisions made at a later stage, it provides an important perspective on whether the needs and perspectives of LRAs are sufficiently taken into account, thereby incorporating them into the very structure of the NGEU.

[107] European Commission, Covid Recovery Factsheet, available at: https://ec.europa.eu/info/sites/info/files/2020mff_covid_recovery_factsheet.pdf, accessed 13.11.2020.
[108] European Council, Conclusions Adopted by the European Council, Decision of July 21, EUCO 10/20.
[109] European Commission, 2020, Guidance to Member States Recovery and Resilience Plans, SWD (2020) 205.

In terms of mainstreaming climate action into economic recovery, the guidance document reiterates the general objective of the Recovery and Resilience Facility in contributing to economic recovery and promoting sustainable growth (Article 4(1))[110]. One of the assessment criteria for the European Commission is the extent to which national RRPs respond to the objective of supporting the green and digital transitions. Member States are invited to detail how their recovery plan will contribute to Europe's 'Digital Future' while following the 'do no harm' principle in terms of environment, climate, as well as social and digital rights. The plans should demonstrate how they will achieve the 30% target for climate mainstreaming in concrete terms and how they work together with national energy and climate plans, as well as other policy fields related to the Green Deal (e.g. circular economy, zero pollution in the environment or greening of urban areas). Member States are also invited to present coherent recovery plans grouping 'reforms and investments' under 'components'. For each of these components, they have to present details, measures, objectives and expected contribution, targets, milestones, a timeline and financial information, such as costs. The guidance document also emphasises the importance of reforms in improving the quality and efficiency of public administrations, thus having a transformative impact on the frameworks that underpin the design, implementation and monitoring of public policies.

The guidance document provides limited concrete guidelines on governance and the consideration of LRAs in the national plans. The most relevant parts are those that deal with implementation, governance, administrative structures and coordination, as well as involvement of stakeholders from businesses to larger public. The document acknowledges the importance of public administrations in implementation, and advises Member States to ensure sufficient administrative capacity. This has important implications for Member States and LRAs, given the recognised capacity challenges as one of the most important barriers to successful implementation in various policy fields. For both reforms and investments, Member States are asked to provide a description of institutional structures that will carry out the implementation, including a clear division of responsibilities between different departments and government levels. This issue is also emphasised in cross-border projects. There is emphasis on the coordination of activities among all administrative departments. This is another important point as the confusion about 'who does what' and the reticence to duplicate work at local administrations was already identified as a challenge in previous studies. The guidance document notes that Member States should clarify how the investments will be channelled to sub-national level.

[110] Ibid.

In terms of governance, the most explicit reference to LRAs is made under the section on institutional structures and decision-making processes, with Member States advised to describe the consultation processes that took place before the adoption/submission of the RRPs and the involvement of regional and local authorities in this regard. However, this only partially addresses the challenge of fully incorporating the perspectives of LRAs into the design of the RRPs. For instance, a Member State can provide a limited opportunity for the LRAs to participate in the drafting of the plans and describe this in their application. The guidance document does not provide any indication of how this should be done in a progressive manner or how this can be accomplished in practical terms. Another important point related to local and regional levels is the consultation with social partners and the larger public. The guidance document states that the RRPs should include a strategy for communication targeting the wider public. Member States should also describe the ways in which different stakeholders are consulted and how they contributed to the plan at both design and implementation stage.

The guidance document places limited emphasis on the systemic integration of perspectives of sub-national levels into the national RRPs. The final outcome of the process will then greatly depend on the Member States, their political will to ensure this inclusion, their existing governance systems and the capacity of the LRAs to participate.

## Early examples of the National Resilience and Recovery Plans

At national level, RRPs provide an important example of the extent to which national governments mainstream the objectives of the Green Deal and work in close collaboration with LRAs in the drafting and implementation of their plans. As it is very early in the process, only a very limited number of Member States have published their recovery plans[111], and they do not constitute official submissions to the European Commission. The following section provides an overview of the French, Spanish and Italian RRPs. The Italian and Spanish documents constitute an overall guiding roadmap for the actual recovery plan that will follow. Nonetheless, they can provide early examples of good practice for others to follow or highlight shortcomings can be remedied in the future.

France published its recovery plan 'France Relance' in September 2020[112]. The plan foresees an investment of EUR 100 billion, of which EUR 38 billion will come from the European Resilience and Recovery Facility grants[113]. The recovery

[111] As of November 2020, only France, Italy, Spain and Slovenia have announced recovery plans, none of which has been formally submitted to the European Commission.
[112] French Ministry of Economy, 2020, French Recovery Plan: France Relance.
[113] European Commission, Grants Allocation per Member State (2018 Prices), available at: Recovery and Resilience Facility – Grants allocation per Member State (2018 prices).

plan is built on three main pillars: green transition, competitiveness, and social cohesion. Ultimately, the plan aims to build a more resilient, competitive, sustainable and cohesive France by 2030. The total amount of investments is somewhat similarly allocated under the three main pillars (EUR 30 billion for green transition, EUR 34 billion for competitiveness and EUR 36 billion for social cohesion). Each pillar has multiple measures targeting different policy areas. The plan details the context, description, existing examples, expected impacts and indicators, beneficiaries, costs and timeline of each measure. The strong territorial aspect, the acknowledgement of the importance of local actors to implement change[114], and emphasis on cohesion gives the French plan a strong starting point to support LRAs in the transition. Many measures under each pillar are directly relevant for sub-national entities and there is a clear indication of how the measures will be implemented and by whom. As yet, however, there are no specific cross-cutting measures or mechanisms integrated into the plan to ensure systemic incorporation of the sub-national entities in future decision-making processes, nor is it clear whether or not there has been a thorough consultation of LRAs in its preparation. The recovery plan received some criticism from diverse stakeholders. For instance, the Association of French Mayors (AMF)[115] stated that it provides tax deductions to businesses at the expense of the local authorities, while Greenpeace France criticised the continued support for polluters such as the automotive and airline industries[116]. These reactions indicate that the plan does not fully correspond to their expectations.

Spain published the general outlook of its recovery plan (*Plan de Recuperación, Transformación y Resiliencia*) in October[117]. The country will receive around EUR 59 billion in grants from the Resilience Recovery Facility[118]. The Spanish plan has four cross-cutting themes that will underpin the transformation of the economy as a whole: ecological transition; digital transformation; gender equality; and social and territorial cohesion. Building on these cross-cutting themes, 10 policy levers will be used to modernise Spain's society and economy. Some of these policy levers are very relevant for LRAs, especially the urban and rural agenda and the fight against depopulation (first policy lever). The importance of cities is also emphasised in the introduction to the document, which calls for healthy and sustainable cities, underlining the importance of 'urban

[114] French Ministry of Territorial Cohesion and Relations with Territories, France Relance: un accompagnement spécifique des collectivités territoriales, available at : https://www.cohesion-territoires.gouv.fr/france-relance-un-accompagnement-specifique-des-collectivites-territoriales, accessed 13.11.2020.
[115] Le Monde, 2020, Le désaccord est total, très centré sur les entreprises : les réactions au plan de relance, available at : https://www.lemonde.fr/politique/article/2020/09/04/le-desaccord-est-total-tres-centre-sur-les-entreprises-les-reactions-au-plan-de-relance_6050984_823448.html , accessed 13.11.2020.
[116] Reuters, 2020, Encadré : Réactions au plan de relance en France, available at : https://www.reuters.com/article/france-economie-idFRL8N2G020V, accessed 13.11.2020.
[117] Office of Spanish Presidency, 2020, Plan Espana Puede: Plan de Recuperation, Transformation y Resiliencia.
[118] European Commission, Grants Allocation per Member State (2018 Prices), available at: Recovery and Resilience Facility – Grants allocation per Member State (2018 prices).

rehabilitation, best use of resources, renewable energies and the configuration of sustainable mobility aimed at restoring pedestrian areas and guaranteeing connectivity'[119]. Beyond the first policy lever and the introduction, the remaining areas are also relevant for LRAs (e.g. resilient infrastructures, energy transition, modernisation of small and medium-sized enterprises (SMEs)).

The Spanish recovery plan strongly emphasises governance. Across the four themes, it acknowledges the social and territorial divides that exist in the country, leading to rising inequalities. Therefore, one of the main focuses in the document is ensuring cohesion and coordination across all levels of governance (EU level, national, regional, local). The plan refers to a special 'model of governance' to best allocate the funds, as well as to select, monitor, evaluate and coordinate the different projects developed. The need to coordinate with LRAs is mentioned several times in this section. The plan also details how this coordination will take place, namely through high-level advisory councils and the Sectoral Conference on European Funds. Finally, the implementation of the NGEU plan and its instruments will be included in regular discussions at the next Conferences of Presidents of Autonomous Communities (regions). That these cross-cutting mechanisms are already integrated in the plan provides a promising starting point for the country. This was echoed by the three interviewees from the Spanish regions and cities, who stated that they are expecting close cooperation with the national level in the coming months in terms of design and implementation of the specific actions[120].

As yet, the first roadmap of the Italian RRP (*Piano Nazionale di Ripresa e Resilienza*[121]) consists of a set of guiding principles for the actual plan that will be drafted, following the entry in force of implementing regulations of the NGEU. Italy will receive the biggest share from the funds available under the Recovery and Resilience Facility, around EUR 65 billion[122] in grants. The guidance document lists a number of objectives for the recovery plan, including quantified economic targets (e.g. increased growth rate, public investment and employment rate), improving well-being of citizens and cohesion between the regions, improvements in education, population growth, ensuring resilience against future disasters, promoting sustainable food chains and increasing the resilience of public finance. Six missions will help to achieve these objectives: digitalisation; green transition; infrastructure for mobility; education and training (including

[119] Office of Spanish Presidency, 2020, Plan Espana Puede: Plan de Recuperation, Transformation y Resiliencia.
[120] Consultations with Madrid, Rioja and Extremedura Region.
[121] Italian Presidency of Council of Ministers, Department of European Politics, 2020, Piano nazionale di ripresa e resilienza, available at: http://www.politicheeuropee.gov.it/it/comunicazione/approfondimenti/pnrr-approfondimento/#:~:text=Il%20Piano%20nazionale%20di%20ripresa,pandemica%20provocata%20dal%20Covid%2D19., accessed: 15.10.2020.
[122] European Commission, Grants Allocation per Member State (2018 Prices), available at: Recovery and Resilience Facility – Grants allocation per Member State (2018 prices)

research and development); social, gender and territorial equity and health.

Several dimensions of the recovery plan are pertinent for LRAs. The document acknowledges the need to improve coordination between the national government and regional authorities, which was also stressed by the European Council in its recommendation on the national reform programme of Italy[123]. It also stresses the importance of addressing the disparities between the regions of Italy in terms of employment, income and education, and signals policies aimed at achieving territorial and social cohesion. There is also mention of specific financial support to municipalities for investments in infrastructure, urban regeneration projects and public transport. Another important angle is the modernisation of public systems and the simplification of administrative procedures while ensuring monitoring of investments. The document states that these initiatives will address the asymmetries between the central government and LRAs, improving their access to centrally managed funds. When it comes to governance procedures, the document does not refer to cross-cutting measures to ensure structural participation of LRAs in the recovery effort. However, it states that the RRP will be drafted based on the projects presented to the national government by the ministries. There is potential for strong presence of LRAs, assuming that the ministries will closely coordinate with lower levels of government, including LRAs.

[123] European Commission, 2020, Recommendation for a council recommendation on the 2020 national reform programme of Italy and delivering a council opinion on the 2020 stability programme of Italy, COM(2020) 512 final.

# 4. Mainstreaming and monitoring the implementation of the Green Deal at local and regional level

Climate neutrality cuts across a myriad of policy sectors and government levels, including local and regional – many of which may be working towards different goals using different approaches. This necessitates mechanisms to ensure coherence between these different levels and sectors, and mainstreaming of climate objectives. Similarly, monitoring the impacts of these policies is also a challenge, given the many different indicators and data collection measures in place across different sectors and governance levels, or because such data do not exist. Effective monitoring remains key to such a policy evaluation, as it not only tracks trends but also highlights successes and weaknesses which can guide future policy action. In the context of recovery from the impacts of COVID-19, coherent mainstreaming and monitoring become even more important to ensure public funds are used to create real change on the ground while simultaneously working towards the objectives of the Green Deal, or at least do not undermine them.

Mainstreaming and monitoring of policies across such different policy fields can be daunting task for the LRAs, who may not always have adequate financial and technical resources. However, solutions can be tailored to local contexts and the resources available, and there is no one-size-fits-all solution. Furthermore, there are already many tools already in place that could help LRAs monitor and mainstream climate neutrality, which could reduce additional burden. LRAs can therefore identify their starting point and from there develop their own systems, adapting tools and research instruments already available.

This section first looks at main overarching international and EU level frameworks, providing insights regarding their potential use and limitations. It then presents some examples of approaches driven by LRAs in parallel to these frameworks. The findings are based on literature review, survey responses, interviews, and lessons learned from the case studies presented in the previous sections.

# 4.1 Overarching frameworks

## Sustainable Development Goals (SDGs)

In September 2015, the 2030 Agenda for Sustainable Development was adopted, including 17 Sustainable Development Goals (SDGs) and 169 targets. These goals (see Figure 4) represent 'a call for action to change our world' and provide an action plan for people, planet and prosperity.

**Figure 4: The 17 Sustainable Development Goals**


Source: United Nations[124]

The European Commission and the EU as a whole are committed to achieving the SDGs and various initiatives have been put in place to implement the actions and measure progress. The European Commission states that the SDGs feature in all of its priorities for 2019-2024[125] (one of which is the Green Deal, see below). At national level, research shows that Member States have developed their own approaches to implementation of the SDGs. Most have adopted national sustainable development plans or strategies, although only 13 such strategies were adopted or updated after the SDGs entered into force in 2016[126].

[124] United Nations, Communication Materials, available at: https://www.un.org/sustainabledevelopment/news/communications-material/, accessed 11.11.2020.
[125] European Commission, EU Approach to Sustainable Development, available at: https://ec.europa.eu/info/strategy/international-strategies/sustainable-development-goals/eu-approach-sustainable-development-0_en, accessed: accessed 11.11.2020.
[126] See, for example, Keesstra, S.D., et al, 2020, Providing support in relation to the implementation of soil and land related Sustainable Development Goals at EU level, Wageningen, Wageningen Environmental Research, Report 3032.

## SDGs at local and regional level

While the SDGs are pledged by national governments, LRAs are crucial to achieving the SDGs. Many SDGs specifically require actions that fall under the competences of LRAs (from education to water services), and LRAs are increasingly recognised not just crucial for the implementation of measures, but also vital for the success of the SDGs[127].

Across Europe there are many examples of LRAs that have taken action to promote and implement the SDGs at local and regional level (see Box 1). These examples show have the general SDG framework can help to mainstream sustainable development into local and regional policies.

**Box 1: SDG implementation in Belgium's Walloon region**

**Example of SDGs at regional level: the Walloon example[128]**

In 2013, the Walloon government (Belgium) adopted a decree on its sustainable development strategy. It ensures a new sustainable development strategy in every legislature and determines its key elements (state of the art, vision, transition paths, action plan). The second Walloon Sustainable Development Strategy was adopted in July 2016.

The Strategy is long-term and broad-based to help to implement the SDGs and promote coherence in the actions undertaken by the Walloon government to achieve the SDGs.

It comprises the following sections:

- A long-term vision to give direction to the various actors, describing how Wallonia should look in the future and giving a set of long-term objectives;
- A diagnosis of the weaknesses and strengths of Wallonia in its transition to sustainable development, based on a set of indicators;
- Intermediate objectives to be achieved in the short and medium term, as Wallonia works towards the long-term objectives;
- An action plan including concrete measures contributing to the realization of the objectives for the themes it covers.

Wallonia introduced an **Action plan for responsible (sustainable) public**

[127] See, for example, Siragusa A., et al, 2020, European Handbook for SDG Voluntary Local Reviews, EUR30067 EN, doi:10.2760/670387, JRC 118682.
[128] Walloon Department of Sustainable Development, available at: http://developpementdurable.wallonie.be/english, accessed 11.11.2020.

**purchases**, with the objective to attain 100% of green public procurements by 2020, an **Environment/Employment Alliance** based on protecting and improving the environment to create economic benefits and employment opportunities (the second plan in 2016 has a focus on sustainable construction), an **Action Plan for a more sustainable Walloon Public Service** to reduce the negative impacts of the public services of Wallonia on the environment while improving the well-being of civil servants, and an **independent sustainable development advisory unit** (established in 2013), which the government consults on sustainable development compliance of certain projects or legislative proposals. It provides an integrated assessment carried out on sustainability criteria. This assessment contains recommendations for improving the policy proposal, and government ministers must justify where recommendations are not implemented.

In addition to preparing local/regional sustainability plans and strategies, there have been initiatives to promote the reporting and review of those plans/strategies. The Joint Research Centre (JRC), for example, published a handbook[129] to support local-level authorities in preparing reviews of SDG implementation (voluntary local reviews), which provides examples of official and experimental indicators that could be used to set up effective local SDG monitoring systems in European cities. The handbook breaks down each SDG and gives examples of harmonised and locally collected indicators so that local actors can benchmark themselves with other cities and monitor their own specific needs and challenges.

# Relationship between SDGs and Green Deal

In theory, the synergies between the SGDs and the European Green Deal are clear. Both are broad, long-term frameworks with clear targets that break down the final goal into objectives at sectoral level. These synergies are also recognised in Green Deal communications, while the latest report on sustainable development in Europe noted that the Green Deal can be seen as an integral part of the Commission's strategy to implement the SDGs[130]. Beyond the strategic mutual reinforcement of both initiatives, the work carried out to mainstream and monitor implementation of the SDGs provides a potential framework to support the implementation of the Green Deal as well.

[129] Siragusa et al, 2020.
[130] Sustainable Development Solutions Network and Institute for European Environmental Policy, 2019, The 2019 Europe Sustainable Development Report.

Some synergies within the SDGs are evident. SDG 13 concerns climate action, while actions taken under SDG 14 (life below water) and SDG 15 (life on land) could also have a positive impact on climate change due to the significant role of the oceans and land (including forests, peat bogs, and wetlands) in climate change. Similarly, climate mitigation measures could (and should) be integrated into measures to support SDG 11 (sustainable cities and communities), while SDG 4 (quality education) plays a crucial role in climate action. The youth climate activist movement has grown exponentially in recent years, not only reflecting children's greater understanding of the world and their place in it, but providing them with the tools to demand change. As education is often a regional competency, regional long-term strategies need to ensure that sufficient emphasis is placed on education.

Synergies between the SDG and the Green Deal are also clear. Action to mitigate climate change undertaken as a response to the SDGs is highly likely to have a positive impact on Green Deal actions. Indeed, the Green Deal itself provides an overarching framework to mainstream EU-level policies, bringing them in line with the SDGs[131] and working to ensure that policies and budgets designed to stimulate one sector do not have detrimental effects in others.

## How the SDGs can support the Green Deal?

The synergies between the SDGs and the Green Deal make these frameworks mutually supportive of each other's implementation. However, making use of SDGs to implement the Green Deal is not without its challenges.

When it comes to mainstreaming, the broad range of the SDGs compared to the Green Deal offers the first challenge: conflicting priorities. While the SDGs are theoretically designed to be complementary, in practice the balance may be skewed. In the face of economic recovery, certain connections can become even more contradictory. SDG 2 (zero hunger) and the Green Deal commitment to increase sustainable agriculture is one possible example. Many people now have less disposable income due to COVID-19 and are even less able to afford goods produced used organic and/or less-intensive agriculture, and action taken to increase the amount of cheap food available to consumers may inversely affect actions to promote sustainable agriculture. Similarly, consumers previously thinking about switching to a sustainable energy provider may no longer be able to afford the extra expense or have the resources to invest in energy renovation. The SDGs may therefore restrict the implementation of the Green Deal, as it requires other elements to be considered. On the other hand, the broad scope of the SDGs may also be an advantage. For example, integrating climate action into

[131] SDSN & IEEP, 2019.

SDG 8 (decent work and economic growth) might see increased employment opportunities in the climate sector, benefitting both SDGs. These considerations underline the importance of careful policy design in the context of economic recovery. A recent OECD study suggest that a well-planned and sufficiently large green stimulus can help to create jobs and boost the economy while producing environmental benefits, but the trade-offs between competing economic, environmental and social objectives must be carefully addressed[132].

Extensive monitoring is already carried out on the SDGs, with Member States contributing to both EU and UN-level progress reports. While most monitoring is carried out at national level, work by different government agencies can provide a starting point to gather data on local and regional levels. For instance, in 2019, a prototype[133] was developed by the Sustainable Development Solutions Network (SDSN) and the Brabant Center for Sustainable Development, assessing the distance to target assessment for 45 capital cities and large metropolitan areas in the EU and European Free Trade Association (EFTA) for the SDGs. Should this prototype be rolled out to more cities, it would provide a robust monitoring system that could be aligned with monitoring of the Green Deal at sub-national level. This framework, along with other existing monitoring SDG frameworks relevant for LRAs are set out in Table 3.

**Table 3: Overview of existing SDG monitoring at local level**

| Name | Geographical level | Coverage | Sources | Number of indicators | References |
|---|---|---|---|---|---|
| City Prosperity Initiative (CPI) | City | 400 cities globally | Administrative data | | UN-HABITAT [134] |
| OECD | Metropolitan areas or functional urban areas of more than 250,000 people | 600+ functional urban areas of 33 OECD countries and Colombia | OECD regional and large metropolitan areas databases | 100+ indicators | OECD Programme on a Territorial Approach to |

[132] Agrawala, S., et al, 'What policies for greening the crisis response and economic recovery? Lessons learned from past green stimulus measures and implications for the COVID-19 crisis', *OECD Environment Working Papers*, No. 164.
[133] Lafortune, G., et al, 2019, The 2019 SDG Index and Dashboards Report for European Cities (prototype version). Sustainable Development Solutions Network (SDSN) and the Brabant Center for Sustainable Development (Telos).
[134] Urban Agenda Platform, available at : https://www.urbanagendaplatform.org/, accessed 11.11.2020.

| Name | Geographical level | Coverage | Sources | Number of indicators | References |
|---|---|---|---|---|---|
| | | | | | the SDGs[135] |
| SDSN SDG Index (composite index) | Country | 193 UN Member States | National Statistical Offices | 75 indicators for 17 goals | (Sachs et al., 2019[136]) |
| | SDG index for European cities | 45 European capital cities and large metropolitan areas | Eurostat, ERA, JRC, Eurobarometer, OCED, European Social Survey | 56 indicators for 15 goals | (Lafortune and Zoeteman, 2019[137]) |
| | Italy – city level | 101 cities (among the "Capoluogo di provincial") | Eurostat and local statistics | 39 indicators for 16 Goals | (Cavalli and Farnia 2018[138]) |
| | Spain – city level | 100 Spanish cities | Various | 85 indicators for 17 goals | (Sánchez de Madariaga, García López, and Sisto, 2018[139]) |
| | United States of America (US) – metropolitan statistical area (MSA) | 105 US cities | Various | 57 indicators for 15 goals | (Lynch, 2019) |

Source: Adapted from the JRC European handbook for SDG voluntary local reviews.

[135] OECD, 2020, A Territorial Approach to the Sustainable Development Goals: Synthesis report, OECD Urban Policy Reviews, https://doi.org/10.1787/e86fa715-en.
[136] Sachs, J. et al., 2019, Sustainable Development Report.
[137] Lafortune et al., 2019.
[138] Cavalli, L. and Farnia, L., Per Un'Italia Sostenibile: L'SDSN Italia SDGs City Index, Milan, 2018.
[139] De Madariaga at al. 2018, Los Objetivos de Desarrollo Sostenible En 100 Ciudades Españolas.

Working to align SDG and Green Deal monitoring provides an opportunity to fine-tune SDG monitoring, using what is already in place while ensuring it is fit for purpose. EU-level SDG monitoring by the JRC, the European Economic Area (EEA) and Eurostat is already looking to standardise sub-national data and indicators[140], and the recent JRC handbook provides cities with a comprehensive breakdown of SDG indicators, including where data are available, even if the handbook does not explicitly link the SDGs and the Green Deal at local level.

Using SDG monitoring to bolster the Green Deal is not without its challenges. Data are not real-time and may even have several years of delay, there are gaps in the data, or data may not be easily comparable between different departments or levels of government. The costs involved must also be recognised, especially if data collection requires specially trained staff. Working with specific indicators might not provide the whole picture – a recent report[141] asserted that SDG monitoring draws an overly optimistic conclusion on the impact of policies. For instance, the report states that Eurostat measures the average $CO_2$ emissions of new passenger cars, which has been decreasing due to better fuel efficiency. The indicator does not, however, reflect an increase in the number of passenger cars over the same period of time and thus cannot show if total emissions have increased or decreased during that time. Before SDG monitoring can be used to show the progress of the Green Deal, work will need to be done to identify which of the existing indicators and data can be used when viewing progress through the lens of climate neutrality.

# Green Oath

The Green Oath would see that actions and policies 'do no harm', including those already in place. Under such a philosophy, not every policy or action must be focused towards climate mitigation or other environmental objectives but they should not actively work against these goals. Such mechanisms become increasingly important, especially in the context of NGEU recovery funds where 37% dedication to Green Deal objectives also means that the remaining can effectively overturn all progress in the right direction without robust safeguarding mechanisms.

[140] Lafortune, 2019.
[141] Beales, S. and Gelber, G. (eds.), 2020, Time to reach for the moon - The EU needs to step up action and lead the transformation to sustainability, Report for SDG Watch Europe.

As a way to achieve this, the Green Deal promises that the Commission will 'improve the way its Better Regulation Guidelines and supporting tools address sustainability and innovation issues'. The Better Regulation Guidelines[142] are a set of evaluation criteria used to assess whether policies and legislation are fit for purpose with respect to effectiveness, efficiency, relevance, coherence, and EU-added value[143]. As part of the Green Oath, the Commission hopes to use the coherence evaluation criteria in particular, to examine the relationship between current legislation and new priorities, including climate and environmental goals. Such evaluations are a first step in identifying and mitigating inconsistencies in EU-level legislation.

The role of LRAs in this process should not be underestimated. All evaluations and impact assessments include an extensive consultation phase, where stakeholders, including LRAs, are invited to share their experiences and views. Inconsistencies experienced at municipal or regional level may not be obvious to EU-level evaluators, and yet LRAs are often responsible for implementing EU-level actions. The views of LRAs are thus crucial to shaping future legislation and revising outdated legislation, even if the topics do not directly cover environmental and climate goals.

LRAs can adapt the Better Regulation Toolbox to evaluate their own policies, both current and future. While such an exercise need not be as extensive (or expensive) as the EU-level evaluations, LRAs should be in the habit of reviewing and revising their policies and strategies, and the evaluation questions set out in the Better Regulation Toolbox may be a good starting point when developing a local or regional evaluation. Some of the interview participants indicated that they have robust impact assessment systems in place for policies, which serve as safeguards. LRAs should design new policies and review existing policies with a view to 'do no harm' when it comes to environmental and climate goals, and they are encouraged to follow the EU example set out in the Green Deal, which promises that all new legislation and accompanying measures will include a specific statement explaining how each initiative upholds this principle[144].

[142] European Commission, Better regulation: guidelines and toolbox, available at: https://ec.europa.eu/info/better-regulation-guidelines-and-toolbox, accessed: 10.10.2020.
[143] As well as a selection of addition criteria which can be used if necessary.
[144] See for example the European Commission Staff Working Document Guidance To Member States For Recovery And Resilience Plans, SWD (2020) 205 final.

# Financial mainstreaming

The use of financial instruments is an important lever for policy action towards climate neutrality. From EU to local budgets, including funds, public procurement and other financial mechanisms, public spending can significantly boost efforts across all policy fields related to the Green Deal, serving as a kick-start and providing signals to the private sector or creating direct financial support for projects. It is also identified as an important policy lever to counter the challenges associated with limitations of financial resources[145]. Systematically incorporating climate objectives into financial instruments is thus an important element of the EU-level frameworks. For instance, the MFF integrate mechanisms to track climate spending in the EU budget[146]. The NGEU also incorporates mainstreaming of climate and overall sustainability ambitious into recovery investments. However, these mechanisms are designed at EU and national levels and there is not enough guidance or exploration of the challenges for LRAs. It has also been reported that there is limited tracking or monitoring of public spending at local level, creating challenges in assessing the impact of public investments[147]. Nevertheless, tools are available for financial mainstreaming. A recent report from Energy Cities provides the following main categories of tools[148]:

- Environmental reporting and budgeting;
- Green public procurement;
- Divestment of municipal funds from fossil fuels;
- Green municipal bonds;
- Earmarking local revenue and other financial instruments.

These instruments should be investigated further to identify how LRAs can fully benefit by choosing the best fit for their context or combining different instruments.

[145] Rossi et al, 2017, Financing climate action: opportunities and challenges for local and regional authorities, Milieu Study for the Committee of the Regions.
[146] The European Commission, Supporting Climate Action Through EU Budget, available at: https://ec.europa.eu/clima/policies/budget/mainstreaming_en, accessed: 11.10.2020.
[147] Cicmanova J., Barnhusen F., 2018, Climate Mainstreaming Municipal Budgets, Report for Energy Cities.
[148] Ibid.

**Box 2: Example of innovative tools for financial mainstreaming**

**OECD's Paris Collaborative on Green Budgeting[149]**

The OECD's Paris Collaborative on Green Budgeting was launched in 2017 and aimed to design new, innovative tools to assess and drive improvements in the alignment of national expenditure and revenue processes with climate and other environmental goals. It was designed to support governments to achieve environmental goals by evaluating the environmental impacts of budgetary and fiscal policies, assessing their coherence towards the delivery of national and international commitments, and contributing to informed, evidence-based debate and discussion of sustainable growth. The Paris Collaborative works closely with governments and experts to co-design practical and pragmatic approaches, providing a coordinating platform for:

- Identifying research priorities and gaps;
- Sharing best available data, expertise and information to advance policy-relevant research and implementation;
- Facilitating alignment of national and international budget policy design;
- Introducing a coherent narrative across what would otherwise be disparate research outputs;
- Communicating results to raise awareness and signal support for action and accountability on environmental policy imperatives;
- Developing cross-national indicators of progress against various international environmental goals.

# 4.2 Initiatives driven by LRAs

## Mainstreaming climate action

Beyond the overarching frameworks described above, LRAs can draw from existing initiatives at sub-national level, adapting them to their needs and context. However, sporadic information is available on tools and instruments used for mainstreaming climate objectives at local and regional level. Available evidence suggests that mainstreaming efforts differ across policy fields. For instance, there seems to be more information on the mainstreaming of climate adaptation, implying more progress in this field[150]. A recent study[151] found that the degree of mainstreaming of climate concerns in European cities is low for mitigation (9% of reviewed cities; 12% of the identified plans) and somewhat higher for adaptation (10% of cities; 29% of plans). The same study found that these

[149] OECD, Paris Collaborative on Green Budgeting, available at: https://www.oecd.org/environment/green-budgeting/ accessed: accessed: 11.10.2020.

[150] See for example OECD, 2009, Integrating climate change adaptation into development co-operation: Policy guidance.

[151] Reckien D., et al., A., 2019, Dedicated versus mainstreaming approaches in local climate plans in Europe. Renewable and Sustainable Energy Reviews, 112, 948-959.

numbers appeared to be influenced by national guidelines on local climate planning (which could motivate/demand cities to act) and the history of environmental planning in the area – more mainstreaming was observed where there is a long history of environmental planning. There was little evidence that this was dependent on the economic situation of the country, but instead mainstreaming was dependent on citizen engagement. These findings are key for any LRAs looking to use mainstreaming, and it shows that although some factors may certainly influence their success, there is potential for them to shape their own approach from the bottom up. It is also worth noting that the study recommended that municipalities adopt a 'dual-track approach', developing and adopting a dedicated climate plan together with a mainstreaming plan, or starting with a dedicated climate plan and then developing sectoral and horizontal mainstreaming approaches, so as to ensure that climate action can begin.

The interviews did not yield any specific examples of mainstreaming, although it appears that at least some LRAs have measures in place, especially through climate policy/strategies. **Section 1** of this report provided two examples, from Munich and San Sebastian, both of which have incorporated mainstreaming into their climate plans. In both cases, there is an integration of targets and initiatives from different departmental units into the overarching plan. In San Sebastian, all relevant departments have to work with the same targets and measures[152], while in Munich there is a strong emphasis on inter-departmental work and coordination[153]. These examples are very relevant for future efforts to reconcile economic recovery and sustainability.

Another LRA-driven example is from the CoR's new Green Deal Going Local initiative[154]. It includes a specific mandate to provide a cross-cutting view of the numerous policy areas within the Green Deal and ensure policy coherence and consistency. The working group aims to ensure that the EU's sustainable growth strategy and COVID-19 recovery plan both translate into direct funding for cities and regions and tangible projects for every territory, while helping to mitigate challenges and promote good practices to facilitate local green transition across the EU.

## Monitoring the impacts of policies

The challenges in monitoring of policies at local level are primarily related to the

[152]Energy Cities, San Sebastian Energy Climate Roadmap, available at: https://energy-cities.eu/wp-content/uploads/2018/11/San-Sebastian_Energy-Climate-Roasmap-2050_2018_en.pdf, accessed: 10.10.2020.
[153] City of Munich, 2014.
[154] Committee of the Regions, Green Deal Going Local, available at: https://cor.europa.eu/en/engage/Pages/green-deal.aspx, accessed: 10.10.2020.

lack of data. This is repeatedly emphasised as a barrier to successful policy action at all levels of government[155]. It is also intertwined with other challenges that undermine better design and implementation of policy, such as technical capacity[156]. For the LRAs, this is even more pressing. Monitoring frameworks and data are almost always available at national level, without the necessary detail level for sub-national entities. In the absence of these data, creating monitoring mechanisms, data collection and updates can be difficult and burdensome for local and regional administrations.

Some LRAs are taking steps to counter this challenge, which usually starts at local level, in cooperation with national governments. For instance, under the Covenant of Mayors, signatories commit to SECAPs, which include a formal monitoring mechanism[157]. Signatories must produce regular monitoring reports, which could easily be designed to include indicators relevant for the Green Deal (see Box 3 below).

**Box 3: Steps taken by Covenant of Mayors signatories**

**Steps taken by Covenant of Mayors signatories[158]**

Signatories to the Covenant of Mayors must:

- Develop a strategy with a long-term vision, including climate adaptation and mitigation targets and goals (within two years of their official acceptance of the Covenant of Mayors).
- Develop a baseline emissions inventory, quantifying the energy consumed and therefore the emissions emitted on their territory (within two years).
- Develop a risk and vulnerability assessment, identifying and assessing the climate hazards and vulnerable sectors (within two years).
- Set out actions on mitigation and adaptation (at least three key mitigation actions within two years, and at least three key adaptation actions within four years).
- Produce monitoring reports on the implementation of actions (every two years after submitting the action plan) and on emissions (every four years after submitting the action plan)

[155] See for instance, United Nation Report Roadmap for localizing the SGDs: Implementation and monitoring at subnational level, available at: https://www.uclg.org/sites/default/files/roadmap_for_localizing_the_sdgs_0.pdf.
[156] Blank M., 2019, European Data Portal, Open Data Maturity, Report for European Commission DG Connect.
[157] Covenant of Mayors, Support, available at: https://www.covenantofmayors.eu/support/faq.html, accessed: 16.10.2020.
[158] Ibid.

During the interviews, a number of participants stated that they have a dedicated monitoring system in place for at least some policies/strategies, either through a dedicated scheme or via monitoring carried out through other obligations. These monitoring systems were not necessarily linked to SDG monitoring, with some respondents doubtful that the SDG indicators provided an effective monitoring system. Some participants mentioned that the wide scope of the SDG indicators makes them overly complex, while others underlined the issue of data availability to populate these indicators. The general problem of data availability was mentioned as a possible area where EU-level initiatives can support LRAs.

An important example identified during the interviews was Flanders' (BE) data inventories, which have been built in recent years. The initiative includes a set of tools (accessible via a website[159]) that local authorities can use to see the current situation in their localities and progress made on their SECAPs. Some of the data presented are real measurements, while others are projections and can be used to track progress towards municipal goals by identifying the sectors that most need improvement. These data include important fields for GHG emissions and energy use of transport, agriculture, and public buildings. It also includes information on the energy sources, including the share of renewables used by municipalities. Another tool sets out different actions that could be undertaken by LRAs to tackle climate and energy issues (insulation of roofs, heat-pumps etc.) and includes information on impacts (e.g. emission reductions), costs of implementation and related information. It is important to state that such monitoring systems are constantly refined and developed, requiring ongoing effort and resources.

A limited number of replies to the survey indicated that a European Regional Scoreboard on the Green Deal[160] would provide useful information on the impact and progress on the three main drivers of the Green Deal (climate ambition targets, investments including NGEU and the MFF) and Green Deal policy implementation in the field. Such a scoreboard, proposed by the CoR, would include mechanisms and indicators to accurately assess the impact of climate change at local and regional level, while highlighting good practices. Such a tool is vital as it not only encourages LRAs to align their approaches with solid, measurable indicators, but provides an incentive to showcase progress and highlights gaps. The Scoreboard would also serve as a knowledge tool to represent the diversity of territories' needs, and identify and replicate best practices, including finance-ready pilot actions at local and sub-national level.
These findings suggest a complex picture with different frameworks and tools, from international to local levels. The existing initiatives, some of which are

[159] Flanders Environment Agency, Klimaat Portal Vlaanderen, available at: https://klimaat.vmm.be/nl/kaartapplicatie-thema-5, accessed 13.11.2020.
[160] Committee of the Regions, 2020, "We call for a European Regional Scoreboard to track cities and regions' climate action and assess its impact", Press Release, available at: https://cor.europa.eu/en/news/Pages/european-regional-scoreboard.aspx, accessed: accessed 13.11.2020.

described here, are scattered and not always entirely fit for the LRAs' purpose. More effort is needed at every government level to overcome the important challenge of monitoring and mainstreaming, which has become even more pressing in light of post-COVID economic recovery plans.

# 5. Recommendations

This section builds on the key messages from the previous sections and the input from the cities and regions interviewed for the study.

## 5.1 Policymakers at EU level

### LRAs are the key to recovery and progress towards the Green Deal

LRAs are at the forefront of the implementation of many policies relevant for the achievement of the European Green Deal. LRAs have a unique understanding of local contexts, needs and strengths, and are best placed to gauge the type and extent of support they can gather from diverse stakeholders. Their key role is emphasised during the current COVID-19 crisis: these unexpected circumstances create spaces in which cities and regions can identify their vulnerabilities and discover ways to improve their resilience. In the aftermath of the crisis, while Europe is trying to seize this 'make or break' moment, LRAs must be at the forefront, fully participating in policy design. Their role in the process should go beyond that of conventional 'input providers' in one-way consultations. Rather, LRAs should be active participants in all stages of the policy cycle. EU policy processes should be adapted to facilitate this more systemically. The Climate Pact and the anticipated Fit for 55 package present an excellent opportunity for such adaptations and should be fully exploited.

### Recognise the diversity of LRAs

There is considerable diversity in LRAs' approaches to climate goals and policy priorities before and after the disruptive impacts of the COVID-19 pandemic. Local contexts create specific challenges and opportunities and are particularly important in the context of just transition across Europe. Moreover, structural differences such as administration styles, governance models, differences in capacity and resources have an impact on how policies are designed, implemented and monitored. This diversity across places and policy fields should be taken into account when designing policy responses to the impacts of COVID-19. The consideration of the diversity among the LRAs is the key to providing appropriate responses, especially when important decisions are being made that will shape Europe for decades to come.

### Continued support to empower the LRAs

LRAs will need substantial support from all levels of government to implement policies related to the Green Deal. They will have to adapt their institutional structures, increase their technical capacity, and secure financial sources for the implementation and monitoring of policies. EU-level initiatives should continue their support while avoiding one-size fits all approaches. Moreover, available support should match the cross-cutting nature of the Green Deal, making space for innovative, holistic and long-term initiatives. This applies to all type of support from financial instruments to communication tools.

An important role for the EU is the coordination between regions, facilitating exchange of good practices, providing visibility for successful examples (e.g. awards), and providing technical support in numerous fields, from project development to monitoring. There is already a myriad of sources and tools available to LRAs but there seems to be problems with their effective use. A starting point might be a simplification of this offer, for instance under the form of a centralised portal where different types of support, across different policies can be gathered. Such a one-stop-shop would increase the visibility of different types of support, provide a more effective communication material and reduce the confusion which might be due to the variety of sources scattered across different policy areas and institutions.

It is also important to explore why the same problems of under-use of available support persist. A better understanding of the barriers experienced by LRAs in accessing and benefiting from EU-level initiatives will help to improve them, e.g. exploring them through a more detailed typology (technical, capacity-building, communication).

## 5.1 National authorities

### Fully integrate LRAs' perspectives

For sustainability policies in general and recovery plans in particular, it is crucial that national governments fully integrate the perspectives of LRAs. Evidence from the early examples of recovery plans suggests that this is not being done in a systematic manner. Beyond being viewed as 'stakeholders' to be consulted in the conventional sense, LRAs need to be active participants in designing policies. This is particularly important given their key role in the implementation of policies.

### Gateway to EU institutions

National governments provide an important link between the EU level initiatives and sub-national governments. They also have an understanding of the specific contexts within their country. As such, national governments can support the LRAs in translating the ambitions of EU level policy into action at local level. In the context of the Green Deal, national governments can provide support in navigating the structures of the EU, provide a national level portal mirroring the one suggested above, offering information about available support in local languages.

## 5.2 Local and regional authorities

### Identify a promising entry point

LRAs can use the cross-cutting nature of the Green Deal and climate neutrality to their advantage. Experience shows that successful climate policies should not necessarily be large scale undertakings but can grow from a smaller scale. This would provide an entry point for other policies to build upon. These entry points can be used to engage with the public, generate institutional learning and lay the groundwork for other policy fields. Success in one policy field, especially where it is easily perceived by citizens, can positively impact other policies and increase public acceptance. The large spectrum of policy areas relevant for the Green Deal and climate neutrality means that this entry point can be anything from circular economy to nature-based solutions to climate adaptation. LRAs can identify this considering their strengths and build upon early successes to expand the policy action into other fields.

### Learn from the crisis to create new entry points

The COVID-19 pandemic created unexpected circumstances that exposed vulnerabilities of systems. This moment of crisis is an important learning opportunity that can improve resilience. A sustainable recovery could be based on integrating the changes in working practices, consumption of goods and mobility seen during the pandemic into future policies. As LRAs come out the crisis, these unexpected changes can be aligned with policy work that was already in place before the pandemic and create additional momentum.

### Importance of bottom-up initiatives and citizen engagement

Citizens and businesses can be catalysts of change, and their importance is

increasingly recognised as key for successful policies. Before the crisis, citizen initiatives and innovative businesses reconciling economic growth with sustainability were already working towards the objectives of the Green Deal. During the crisis, these bottom-up structures made their cities more resilient. In its aftermath, the same structures will be crucial for creating new jobs as part of the recovery efforts. LRAs should harness this momentum to create the synergy needed. For instance, policies that combine green recovery with job creation will enjoy wider acceptance from the public. By prioritising such policies, LRAs can build upon the existing bottom-up initiatives, empowering the civil society as agents of change while enjoying greater support.

Case studies included in this report show that support and acceptance from citizens can be achieved using different methods, from actively engaging them with the project implementation to providing their perspectives to help shape policies that better respond to their needs. LRAs can also communicate with the public to better inform them about tools and measures that can empower them in their projects. There is already a myriad of concrete initiatives and success stories from different contexts across Europe about citizen participation. These experiences can be useful for LRAs to build their own methods.

## Mainstreaming and monitoring

The findings indicate that there is great variety across the LRAs both in terms of approaches and success when it comes to mainstreaming and monitoring of climate policies into all relevant fields. Existing efforts remain scattered and sporadic. LRAs should explore the existing tools and adopt those that best fit their local context. Where such tools are not appropriate or available, LRAs will have to build their own systems, with support from national governments as well as EU level initiatives. Although likely a challenging process, it is nevertheless necessary, especially in the context of recovery funds. Experiences from the frontrunners in this regard suggest that such mechanisms are necessary to create dynamic policy responses which be continuously adapted to changing circumstances. LRAs can cooperate with research institutes and other technical organisations to create their monitoring systems.

# Annexes

## List of LRAs interviewed for the study

**Table 4 List of LRAs interviewed for the study**

| # | Locality/Region/MS | Department | Date |
|---|---|---|---|
| 1 | City of Ljubljana, Slovenia | City Administration, Mayor's Office | 26 October 2020 |
| 2 | Flanders Region, Belgium | Department of Energy, Climate and Green Economy | 26 October 2020 |
| 3 | City of Madrid, Spain | City Council, Environment and Mobility | 27 October 2020 |
| 4 | City of Mechelen, Belgium | City Strategy Department | 28 October 2020 |
| 5 | City of Amsterdam, the Netherlands | Circular economy program | 29 October 2020 |
| 6 | Autonomous Community of La Rioja, Spain | Regional Ministry of Sustainability and Ecological Transition | 30 October 2020 |
| 7 | Autonomous Community of Extremedura Region, Spain | Directorate-General for External Action of the Regional Government | 3 November 2020 |
| 8 | Occitanie / Pyrénées-Méditerranée Region | Directorate of Ecological and Energy Transition (DiTEE) and Directorate of European and International Relations (DREI) | 3 November 2020 |
| 9 | District 1 of Bucharest, Romania | Public Utilities Direction, Sanitation and Environment Protection | 4 November 2020 |
| 10 | City of Lodz, Poland | Environment Management Division | 6 November 2020 |
| 11 | Helsinki-Uusimaa 2035 Region, Finland | Helsinki-Uusimaa Regional Council | 9 November 2020 |

# List of references

Agrawala, S., Dussaux, D. and Monti, N., 2020, What policies for greening the crisis response and economic recovery? Lessons learned from past green stimulus measures and implications for the COVID-19 crisis, OECD Environment Working Papers, No. 164.

Blank M., 2019, European Data Portal, Open Data Maturity, Capgemini Report for the European Commission DG Connect.

C40 Cities 2020, C40 Mayors Agenda for a Green and Just Recovery.

Cavalli, L. and Farnia, L., Per Un'Italia Sostenibile: L'SDSN Italia SDGs City Index, Milan, 2018.

City of Amsterdam, 2020, Amsterdam Circular Strategy 2020-2025.

City Council of Litomerice, 2018, Akční Plán Udržitelné Energetiky A Adaptace Města Litoměřice Na Klimatickou Změnu (SECAP) Do Roku 2030.

City of Munich, 2014, Climate Protection in Munich: The Integrated Action Program for Climate Protection in Munich (IHKM).

Coker, E.S., Cavalli, L., Fabrizi, E. et al., 2020, The Effects of Air Pollution on COVID-19 Related Mortality in Northern Italy', *Environ Resource Econ* 76, 611–634.

De Madariaga at al. 2018, Los Objetivos de Desarrollo Sostenible En 100 Ciudades Españolas.

Donut Economics Action Lab, et al., 2020, The Amsterdam City Donut: A tool for transformative action.

European Commission, 2018, A Clean Planet for all: A European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy, COM (2018) 773 final

European Commission, 2019, The European Green Deal, COM (2019) 640 final.

European Commission, 2020, European Economic Forecast: Spring 2020, Institutional Paper 125.

European Commission, 2020, A New Industrial Strategy for Europe, COM (2020) 102 final.

European Commission, 2020, Circular Economy Action Plan.

European Commission, 2020, EU Biodiversity Strategy for 2030: Bringing nature back into our lives, COM (2020) 380 final.

European Commission, 2020, A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system, COM (2020) 381 final.

European Commission, 2020, Proposal for a Regulation of the European Parliament and of The Council Establishing The Framework For Achieving Climate Neutrality And Amending Regulation (EU) 2018/1999 (European Climate Law).

European Commission, 2020, Europe's moment: Repair and Prepare for the Next Generation, COM (2020) 456.

European Commission, Grants Allocation per Member State (2018 Prices), available at: Recovery and Resilience Facility – Grants allocation per Member State (2018 prices).

European Committee of the Regions, 2020, RESOL-VII/002, Resolution on the 2020 Work programme of the European Commission.

European Council, 2020, Conclusions of the Special Meeting of the Council on 17, 18, 19, 20 and 21 July, EUCO 10/20

Energy Cities, 2018, Local Energy and Climate Roadmaps 5 city visions for 2050.

Italian Presidency of Council of Ministers, Department of European Politics, 2020,

International Energy Agency, 2020, Global Energy Review 2020: Global energy and CO2 emissions in 2020.

Keesstra, S.D., et al, 2020, Providing support in relation to the implementation of soil and land related Sustainable Development Goals at EU level; Wageningen, Wageningen Environmental Research, Report 3032.

Klusak J., 2017, Local heating and cooling strategy recommendations for Litoměřice, Report for ProgressHeat Project.

Lafortune, G., et.al, 2019, The 2019 SDG Index and Dashboards Report for European Cities (prototype version). Sustainable Development Solutions Network (SDSN) and the Brabant Center for Sustainable Development (Telos).

Madrid City Council, 2020, COVID-19 City Council Agreements, document approved in the Plenary of the City Council Extraordinary session, Tuesday, July 7, 2020.

Matador Madrid, 2020, Mutant Institute of Environmental Strategies.

McGuinn, J. et al., 2013, Study of adaptation activities at regional level in the EU, Milieu and Collingwood Environmental Planning Study for the European Commission, Directorate-General for Climate Action.

McNeill, A, et al., 2020, Boosting the capacity of LRAs to implement the Green Deal: a toolbox for the climate pact, Milieu Study for the European Committee of the Regions.

Munteanu, R. A., 2020, Public policies in the First District of Bucharest - Sustainable solutions for increasing energy efficiency, pp. 40-49, doi: 10.2478/picbe-2020-0005.

Rossi et al, 2017, Financing climate action: opportunities and challenges for local and regional authorities, Milieu Study for the Committee of the Regions.

OECD, 2009, Integrating climate change adaptation into development co-operation: Policy guidance.

OECD, 2020, A Territorial Approach to the Sustainable Development Goals: Synthesis report, OECD Urban Policy Reviews.

OECD, 2020, Making the Green Recovery Work for Jobs, Income and Growth.

OECD, 2020, The territorial impact of COVID-19: Managing the crisis across levels of government.

Peters, B.G., 1998, Managing horizontal government: The politics of coordination', *Public Administration*, Vol. 76, 1998, pp. 295-311, doi:10.1111/1467-9299.00102.

Publenef, 2017, Marathon 2020 – Community of Bucharest District 1 to be the first energy efficient community in Romania by 2020.

Reckien, D., Salvia, M., Pietrapertosa, F., Simoes, S. G., Olazabal, M., Hurtado, S. D. G., ... & Fokaides, P. A., 2019, Dedicated versus mainstreaming approaches in local climate plans in Europe. Renewable and Sustainable Energy Reviews, 112, 948-959.

Sánchez de Madariaga, I., García López J., and Rafaele Sisto. R., 2018. Los Objetivos de Desarrollo Sostenible En 100 Ciudades Españolas. Madrid: Red Española para el Desarrollo Sostenible (REDS).

Office of Spanish Presidency, 2020, Plan Espana Puede: Plan de Recuperation, Transformation y Resiliencia.

Sachs, J., et. al, 2019, Sustainable Development Report 2019.

Siragusa A., et al, 2020, European Handbook for SDG Voluntary Local Reviews, EUR30067.

Skopkova H, 2016, Strategy Paper of Litoměřice Towards A Post-Carbon City, Paper for POCACITO Project.

The Institute for European Environmental Policy and The Foundation for European Progressive Studies, 2020, Green Deal for All: How to achieve sustainability and equity between the people, regions, countries and generations of Europe in a post-COVID-19 era.

United Nations, Roadmap for localizing the SGDs: Implementation and monitoring at subnational level.

World Economic Forum, 2020, COVID-19 Risks Outlook: A Preliminary Mapping and its Implications.

**Websites** (all hyperlinks were accessible as of 11 November 2020):

Barcelona Urban Ecology Agency ‘Superblocks’, article undated, available at: http://bcnecologia.net/en/conceptual-model/superblocks.

European Committee of the Regions, Green Deal Going Local, Available at: https://cor.europa.eu/en/engage/Pages/green-deal.aspx.

C40 Cities 2020, Global Mayors COVID-19 Recovery Task Force, available at: https://www.c40.org/other/covid-task-force

C40 Cities, 2020, Press Release: Mayors Launch a Green and Just COVID-19 Recovery Plan & Demand National Governments End Fossil Fuel Subsidies, available at: https://www.c40.org/press_releases/mayors-launch-a-green-and-just-covid-19-recovery-plan-demand-national-governments-end-fossil-fuel-subsidies

C40 Cities Climate Leadership Group, 2020, Amsterdam's City Doughnut as a tool for meeting circular ambitions following COVID-19', available at: https://www.c40knowledgehub.org/s/article/Amsterdam-s-City-Doughnut-as-a-tool-for-meeting-circular-ambitions-following-COVID-19?language=en_US

City of Munich, Climate Protection Plans, available at: https://www.muenchen.de/rathaus/Stadtverwaltung/Referat-fuer-Gesundheit-und-Umwelt/Klimaschutz_und_Energie/Klimaschutzstrategie/IHKM.html#Klimaschutzprogramm2019

City of Munich, Economic Key Data, available at: https://www.muenchen.de/rathaus/wirtschaft_en/munich-business-location/economic-data.html

Committee of the Regions, Database of stories and good practices related to Green Deal, available at: https://cor.europa.eu/EN/regions/Pages/eir-map.aspx?view=stories&type=greendeal

Energy Cities, 2018, ProgressHeat Case Study, Geothermal energy for ensuring sustainable and affordable heating & cooling: Litomerice, available at: http://www.progressheat.eu/IMG/pdf/progressheat_case_study_litomerice_en.pdf.

Energy Cities, 2015, Litoměřice, the next Czech post-carbon city, available at: https://energy-cities.eu/litomerice-the-next-czech-post-carbon-city/

Energy Cities, City of Litomerice Profile, available at: http://energy-cities.eu/members/city-of-litomerice/

Energy Cities, (No date), The Integrated Action Program for Climate Protection in Munich (IHKM), available at: https://energy-cities.eu/best-practice/the-integrated-action-program-for-climate-protection-in-munich-ihkm/

EU Covenant of Mayors, Climate Action Plans, available at: https://www.covenantofmayors.eu/plans-and-actions/action-plans.html

EU Covenant of Mayors – Europe Board, 2020, Open letter from the Covenant of Mayors – Europe Board', available at: https://www.fedarene.org/wp-content/uploads/2020/05/EU-CoM_Open-letter_Post-virus-recovery_final.pdf

EU Covenant of Mayors, Litomerice Action Plan in a Nutshell, available at: https://www.eumayors.eu/about/covenant-community/signatories/action-plan.html?scity_id=19394

EU Covenant of Mayors, 2016, Litoměřice: Sit and connect on the Czech Republic's first solar bench, available at: https://www.eumayors.eu/news-and-events/news-and-events/news/1379-litoměřice-sit-and-connect-on-the-czech-republic-s-first-solar-bench.html

EIT Climate-KIC 2020, 'Madrid officially signs up to EIT Climate-KIC's Deep Demonstration of Clean & Healthy Cities', website article, 31 July 2020, available at: https://spain.climate-kic.org/en/news/madrid-officially-signs-up-to-eit-climate-kics-deep-demonstration-of-clean-healthy-cities/

European Commission, 2021-2027 long-term EU budget & Next Generation EU available at: https://ec.europa.eu/info/strategy/eu-budget/long-term-eu-budget/2021-2027_en#latest.

European Commission, Better regulation: guidelines and toolbox, available at: https://ec.europa.eu/info/better-regulation-guidelines-and-toolbox

European Commission, Factsheet on Recovery and Resilience Facility, available at: https://ec.europa.eu/info/sites/info/files/2020mff_covid_recovery_factsheet.pdf

European Commission, EU approach to sustainable development, available at: https://ec.europa.eu/info/strategy/international-strategies/sustainable-development-goals/eu-approach-sustainable-development-0_en

European Commission, Press Release: State of the Union: Questions & Answers on the 2030 Climate Target Plan, available at: https://ec.europa.eu/commission/presscorner/detail/en/QANDA_20_1598

European Environmental Agency, Monitoring Covid-19 impacts on air pollution, monitoring tool, available at: https://www.eea.europa.eu/themes/air/air-quality-and-covid19/monitoring-covid-19-impacts-on

European Environmental Agency, 'Air quality and COVID-19', available at: https://www.eea.europa.eu/themes/air/air-quality-and-covid19.

Fedarene, The Covenant of Mayors Board calls for a Green Recovery Strategy, available at: https://www.fedarene.org/publications/the-covenant-of-mayors-board-calls-for-a-green-recovery-strategy

Go100% Renewable Energy, Energy City Frederikshavn, available at: http://www.go100percent.org/cms/?id=109.

Innovate Project, Case Studies: Litoměřice. Available at: http://www.financingbuildingrenovation.eu/cases/litomerice-municipality-czech-republic/.

Innovate Project Website, available at: http://www.financingbuildingrenovation.eu/

Italian Presidency of Council of Ministers, Department of European Politics, 2020, Piano nazionale di ripresa e resilienza, available at: http://www.politicheeuropee.gov.it/it/comunicazione/approfondimenti/pnrr-approfondimento/#:~:text=Il%20Piano%20nazionale%20di%20ripresa,pandemica%20provocata%20dal%20Covid%2D19.

Klusak J., 2020, Litomerice: two decades of working towards a just transition in the Czech republic, available at: https://municipalpower.org/articles/litomerice-two-decades-of-working-towards-a-just-transition-in-the-czech-republic/

ProgRESsHEAT Project Website, available at: http://www.progressheat.eu/Project.html

POCACITO Project, Case Studies: Litomerice, available at: https://pocacito.eu/case-studies/litomerice

OECD, Paris Collaborative on Green Budgeting, available at: https://www.oecd.org/environment/green-budgeting/

State of Green, Master Plan for Renewable Energy 2030, available at: https://stateofgreen.com/en/partners/energy-city-frederikshavn/solutions/master-plan-for-renewable-energy-2030-by-frederikshavn-municipality/

United Nations, Sustainable Development Goals Communication Materials, available at: https://www.un.org/sustainabledevelopment/news/communications-material/

Urban Agenda Platform, available at: https://www.urbanagendaplatform.org/

Urban Sustainability Exchange, Case Study for Munich Climate Protection Plans, available at: https://use.metropolis.org/case-studies/integrated-action-program-for-climate-protection-in-munich#casestudydetail

Wallonie Service Public, Sustainable Development, available at: http://developpementdurable.wallonie.be/english

EN

ISBN 978-92-895-1092-9
doi:10.2863/2456

QG-03-20-850-EN-N

**European Committee of the Regions**

Created in 1994, the European Committee of the Regions is the EU's political assembly of 329 regional and local representatives such as regional presidents or city-mayors from all 27 Member States, representing over 446 million Europeans.

Rue Belliard/Belliardstraat 101 | 1040 Bruxelles/Brussel | BELGIQUE/BELGIË | Tel. +32 22822211
www.cor.europa.eu | @EU_CoR | /european.committee.of.the.regions
/european-committee-of-the-regions | @EU_regions_cities