Work Package 6

Deliverable 6.1

National and EU factors affecting EUCityCalc pilot cities' climate transition

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Executive summary

Cities and local governments play a key role in implementing the policies and measures that will be required to achieve national climate goals. Cities often demonstrate a high level of ambition to cut their greenhouse gas emissions that can even go beyond national-level targets, but they also face a range of challenges to implement measures, which can slow their transition.

This report builds on a body of work on the topics of multi-level governance, finance and capacity, seeking to identify the main factors that can either slow or unlock local-level action. As part of the EUCityCalc project, this report focuses on the experience of the ten cities involved in the project: Koprivnica, Varazdin, and Virovitica (Croatia), Zdar (Czechia), Dijon Métropole (France), Mantova (Italy), Riga (Latvia), Palmela, Sesimbra, and Setúbal (Portugal). Findings from the city-level experience were gathered through a 42-question survey and discussions in the project.

A selection of the main factors identified in this report that influence cities' transition pathways include the following:

- National-level governance and policy alignment factors
    - National-level frameworks inadequately consider/support local-level action
    - Communication gap between national-level and local authorities
    - Dependence on national-level policies to achieve local-level ambition
    - Inconsistent national-level policies slow local-level action
- EU-level governance and policy alignment factors
    - Low accountability and questionable enforcement of the Governance Regulation
    - Limited local-level awareness of Governance Regulation and provisions for multi-level governance
    - Key role of city networks and associations to ensure local governments perspective is adequately reflected at different levels (EU and national)
- Finance factors
    - Unreliable and limited access to climate finance at local-level (siloed funding, diversification of funding, human capacity and skills), including difficulties in accessing financing
    - National and especially EU funding opportunities are not easily accessible to cities (application process too complex, limited knowledge of what exists)
- Capacity (technical and human) factors
    - Technical capacity varies but tends to be low overall in cities

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- Limited technical capacity support from national government
- Moderate technical capacity support from EU-level but room for improvement
- Limited municipal staff

These factors are not exhaustive and are partly tied to the context of the ten pilot cities, but overall they point to several gaps and obstacles in truly unlocking action at the city-level. At the same time, these factors also represent important areas of opportunities, as indicated in the report. Other untapped opportunities to accelerate and scale-up local action that are related to these factors can be identified through the EUCityCalc webtool, which has been developed to allow cities to simulate low-carbon transition scenarios in order to prioritise mitigation measures and to communicate the results to a range of stakeholders, from local residents to policymakers at the national and EU-levels.

1. Introduction

To limit global warming to 1.5°C above pre-industrial levels, greenhouse gas emissions must be rapidly cut across all levels of government and society. National and supranational levels of government play a key role to design overall planning, regulations, and incentives to reduce emissions and to embed climate action in a range of other economic and social policies.

Cities and local governments also play an essential role in actually implementing the policies and measures that are necessary to achieve national climate goals, as well as in discussing these policies with residents and all local public and private stakeholders. Local governments can be even more ambitious than their national governments on climate action, such as the "EU Mission for 100 climate-neutral and smart cities by 2030". Cities across the world are also part of networks and associations to coordinate climate planning, share best practices, and continually raise the level of ambition: e.g. the Covenant of Mayors for Climate and Energy - Europe has about 12 000 signatory cities and local governments with the objective to reduce GHG emissions by 55% by 2030, strengthening resilience and alleviating energy poverty.[1] Thousands of cities have voluntarily committed to develop and implement Sustainable Energy and Climate Action Plans (SECAPs), which even exceed the EU's 2030 energy and climate targets in some cases.

As part of this dynamic, the EUCityCalc project brings together 10 European cities[2] to support them in developing scientifically robust, detailed and integrated pathways to rapidly cut their emissions via an open-source modelling tool. Discussions in the project as well as experience designing the EUCityCalc tool have underscored that many cities have a high level of climate ambition, are proactive, and can innovatively implement many policies themselves. At the same time, cities also

[1] www.eu-mayors.ec.europa.eu

[2] The ten cities are Koprivnica, Varazdin, and Virovitica (Croatia), Zdar (Czechia), Dijon Métropole (France), Mantova (Italy), Riga (Latvia), Palmela, Sesimbra, and Setúbal (Portugal).

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face barriers when it comes to implementation, whether this is due to a mismatch of national and local policies or a lack of capacity, finance and data at the local level.

Overall, there is widespread agreement that without engaged and ambitious cities that receive adequate support, climate targets at the national-level will not be met. This calls for a holistic understanding of gaps and synergies for local-level action.

To this end, a 42-question survey was prepared on multi-level governance to identify factors influencing urban climate action, which was answered by all 10 cities in the EUCityCalc project. This report discusses selected factors at national- and EU- levels identified in the survey that act as barriers or opportunities to unlocking and accelerating climate action at the local level.

2. Key factors influencing city-level climate action

In this section, selected findings from the survey are presented to illustrate key factors impacting pilot cities' climate transition, which are complemented with relevant literature.

2.1. Policy and mandate alignment: national- and local-level links, and the EU's Governance Regulation

In the first instance, the survey sought to address the extent to which policies and implementation mandates are aligned, or not, between the national/EU-levels and the local level. Related to this, the survey also sought to assess the good implementation of the EU's Energy Union and Climate Action Governance Regulation[3] (hereafter "Governance Regulation") when coming to multi-level governance provisions.

The Governance Regulation sets out how climate and energy targets are to be achieved in the European Union. To this end, EU Member States are required to prepare forward-looking 10-year National Energy and Climate Plans (NECPs) detailing how climate action will be addressed via emissions reductions, renewable energy, energy interconnections and research and innovation. These plans, currently covering the period 2021-2030, are required to be updated every 5 years, with the ongoing revision taking place between now and June 2024. National governments are required to organise early and effective public consultations prior to the finalisation of these plans (Article 10 of the Governance Regulation) and to also establish "multi-level climate and energy dialogues"

[3] *Regulation* (EU) 2018/1999, https://eur-lex.europa.eu/legal-content/EN/TXT/?toc=OJ:L:2018:328:TOC&uri=uriserv:OJ.L_.2018.328.01.0001.01.ENG

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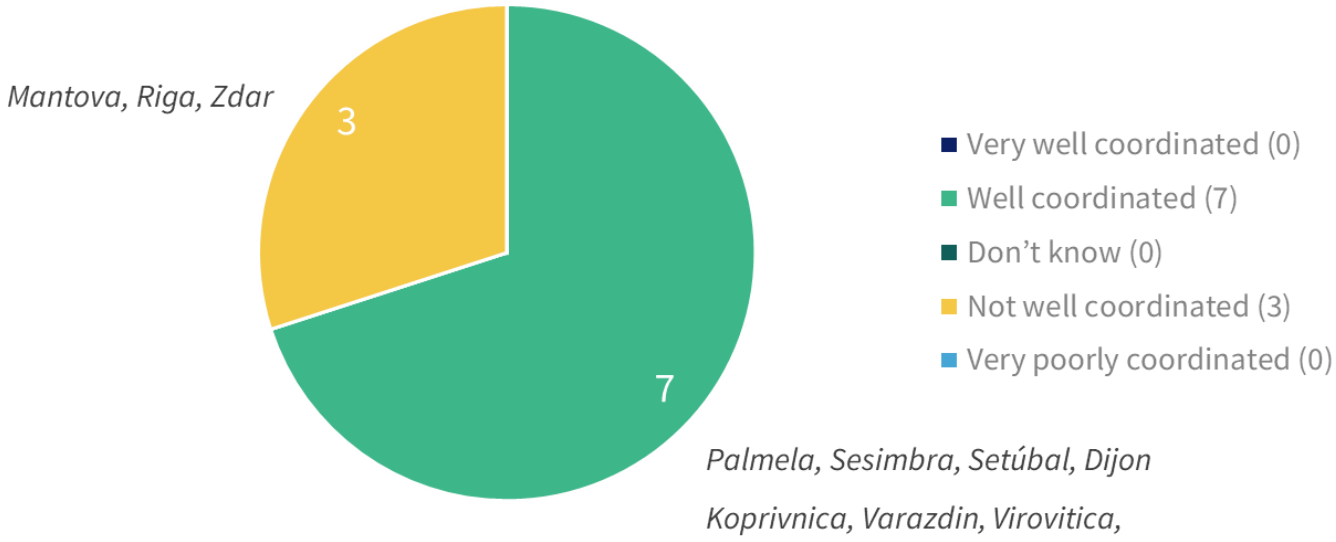
(Article 11) to discuss energy and climate policies with a wide group of stakeholders including local governments.

2.1.1 National and local climate planning

Survey results

In half of the countries, the ten surveyed cities from the project reported that there was good overall coordination between the national and local levels on climate/energy policy (Figure 1). While this might seem positive, at least in half of the countries, the survey also revealed greater nuances concerning the extent of national-local coordination.

Figure 1 - Overall, are climate and energy policy and planning well coordinated between national and local-levels?



For example, when it comes to their countries' national energy and climate plans (NECPs), the majority of cities found that these plans did not adequately recognise interlinkages between national and urban climate action (Figure 2): in Croatia, the 3 pilot cities reported that the NECP underscores support for urban climate action in moderate detail, but in all other country contexts and cities, the NECPs were reported to refer to urban climate action in little detail.

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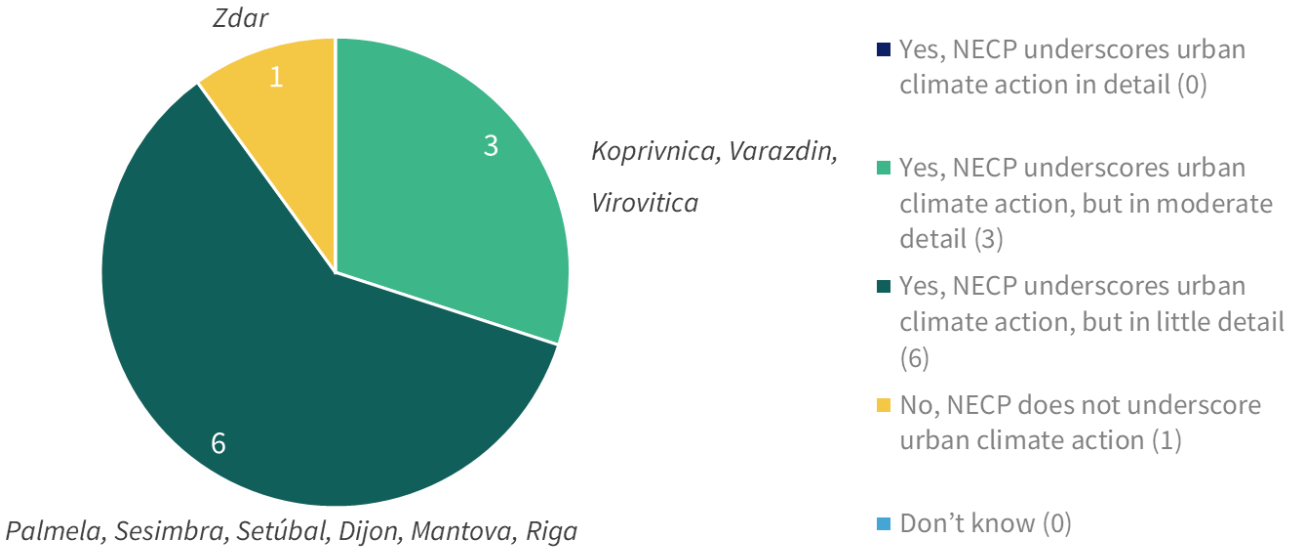
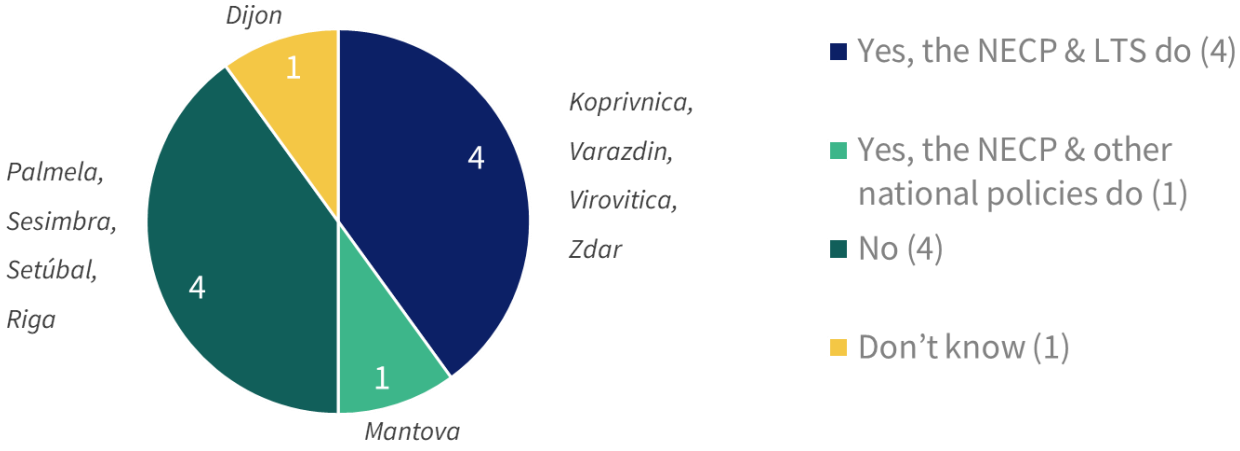
Figure 2 - Does your country's National Energy and Climate Plan (NECP) adequately recognise interlinkages of cities and climate change, including by supporting urban climate action?



Similarly, in half of the country contexts, the cities reported that national-level policies and frameworks did not take into account urban climate planning such as cities' Sustainable Energy and Action Plans (SECAPs) or broader city network initiatives in the domestic context (Figure 3), despite these being clear and comprehensive illustrations of how cities plan to implement climate measures and contribute to their national government's overall target.

Figure 3 - Do national-level policies and frameworks take into account SECAPs or urban climate policies and plans in general?



This gap is rendered more striking by the fact that cities' ability to achieve their SECAPs reportedly depends strongly on good alignment with the national-level: the six Croatian and Portuguese cities noted strong dependence on synergies with the national government in order to achieve their SECAPs, while Dijon, Mantova and Riga noted moderate dependence (Figure 4). Only Zdar, in Czechia, reported their SECAP did not particularly rely on alignment with the national-level.

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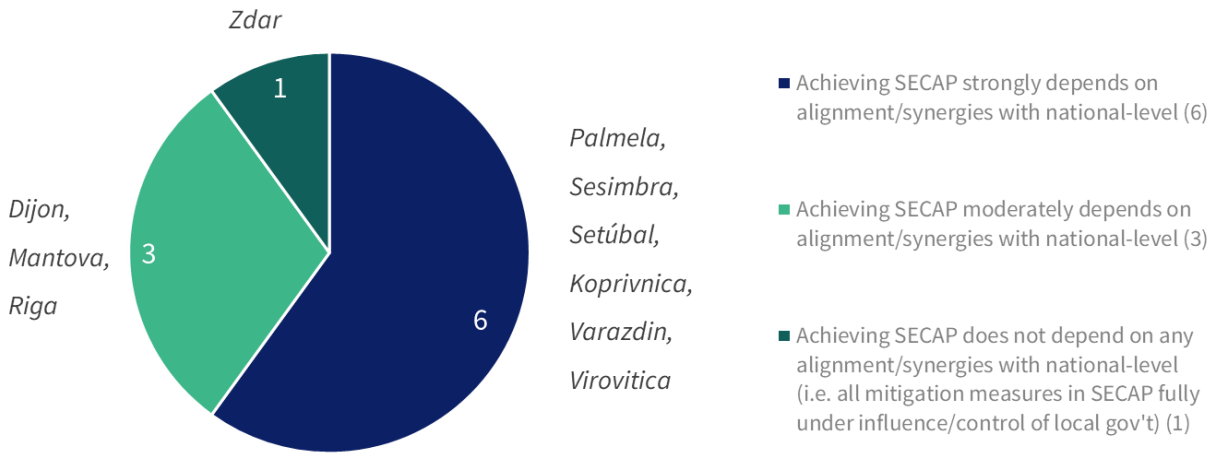
Figure 4 - To what extent does achievement of pilot city's SECAP depend on alignment or synergies with the national-level



Discussion

The represented Member States do not seem to want to make bottom-up a priority in the national planning method, despite what this could bring in terms of involvement and motivation of sub-national authorities, and of facilitating implementation.

Other challenges beyond those already covered in the previous section include when city-led action may heavily depend on the national-level or be linked to other factors on which cities do not have much influence. For example, in Mantova, a large share of the building stock consists of historical buildings. This means there are restrictions in place in order to preserve local culture and architecture that make it difficult to implement energy efficiency measures or similar types of interventions. Similarly, in many cities, electricity production, heat/cold production, industry, and waste may be strongly influenced by national or European regulation, economic and energy policies, with limited ability for local governments to intervene in a meaningful manner.

Inconsistent or indecisive national policies can also sometimes be counterproductive and slow cities' climate action: e.g. when a national government accelerates actions to phase out fossil fuels and to install renewable energy, while at the same time putting forward economic policies that would increase resource consumption or even encourage further fossil fuel exploration and production.

In addition, in some cases rigid national regulations can limit space for flexibility and innovating at the local-level, for example when it comes to national regulations favouring a centralised energy system that may not be appropriate at the local level (Net Zero Cities, 2022a). Similarly, some cities that host large or important strategic national infrastructure with their territory may also be more constrained in what they can do: e.g. Rotterdam has the largest seaport in Europe, accountable for around 15% of the total carbon emissions of the Netherlands, and with an administration that goes beyond the local authority (Ibid).

In other cases, geopolitical developments can also slow national-level action, with consequences at the local-level as well. Russia's invasion of Ukraine in 2022 has demonstrated this, with some countries increasing their use of coal and biomass for energy/thermal generation in response to the reduction in supply of natural gas or that the rise in prices, and

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therefore in the budgets that cities allocate to this expenditure, is likely to slow investment in energy transition projects. While developments such as these are not directly predictable, actions could have been taken in member states in the preceding years to mitigate the impact of a sudden cut-off of natural gas: e.g. a mix of regulatory measures and public spending to support a more rapid rollout of renewable energy and stricter requirements on energy efficiency measures at national- and local-levels.

Therefore, even with the best intentions and with ambitious plans, cities may not always be able to unlock the full level of action needed unless there is stronger and more coherent climate action at the national-level and better multi-level governance arrangements.

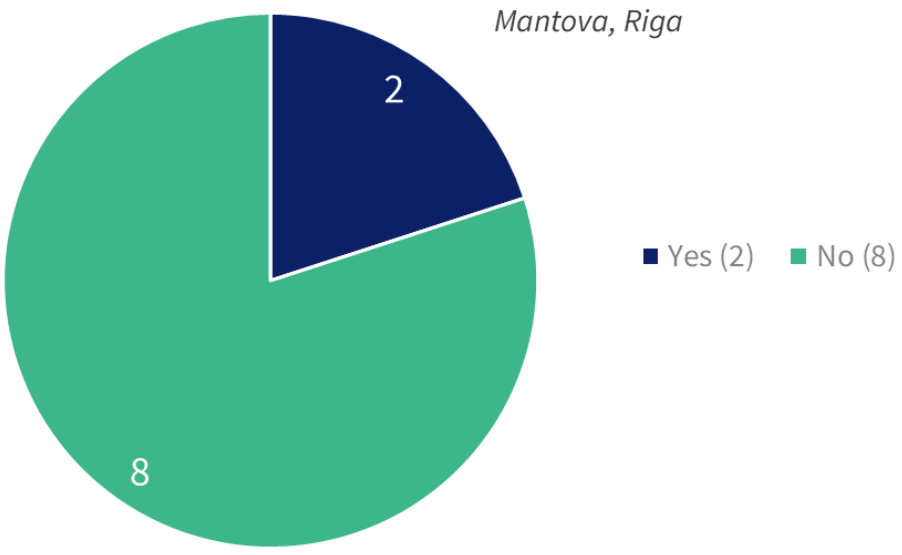
2.1.2. The Governance Regulation and EU-level links for urban and local climate action

Survey results

(For a quick overview on the Governance Regulation's provisions, see the previous section)

When asked whether the majority of city staff who work on urban climate action were aware of the Governance Regulation and its provisions for public participation and multilevel dialogues, most cities in the project reported this was not the case (Figure 5).

Figure 5 - Are the majority of city staff who work on urban climate action aware of the EU Governance Regulation and of its provisions for multi-level climate action?



Dijon, Palmela, Sesimbra, Setúbal, Koprivnica, Varazdin, Virovitica, Zdar

This unfamiliarity with the Governance Regulation and NECP process could be due to a number of factors: on the one hand, some cities may not have many (or any) staff dedicated solely to climate, and in cases where there is staff on climate, they may have limited capacity since they keep track of many different topics, meaning that they have limited or no time to dedicate to link with national level and EU legislation, nor participate in potential existing consultations process. On the other hand, national governments may not have sufficiently raised awareness about the NECP process, and hence perhaps have not

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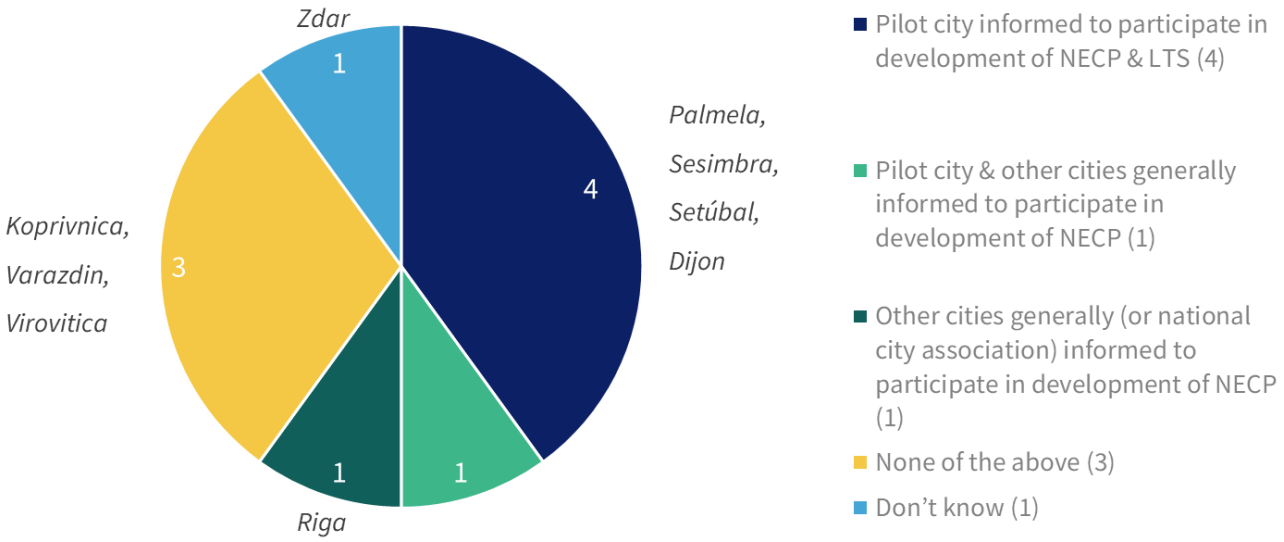
ensured early and effective public participation in the NECP process or set up multi-level climate and energy dialogues, which is a factor confirmed in recent research (see Together for 1.5°C, 2023 - further discussed below). This latter outcome is also corroborated by the fact that only half of the cities in the project were informed about the possibility to submit their views on their country's draft NECP and national-long-term strategy (Figure 6).

Figure 6 - Was the pilot city, or other cities in country, informed to submit views on country's draft NECP and national Long-Term Strategy (LTS)?



Despite not always being informed of their ability to participate in the NECP development process, most cities managed to participate indirectly (Figure 7). Typically, this occurs via a national cities association that represented their interest in the discussions – such associations follow the NECP process, and hence give inputs that reflect the general views of a range of cities in the domestic context. This can also be explained by the limited resources within local administrations to work with the national level.

While it is not an ideal outcome that cities may not be informed about their ability to directly participate in the NECP process, it is nonetheless positive to learn that many still manage to do so indirectly via their involvement in city associations. This underscores the important role played by city associations and networks.

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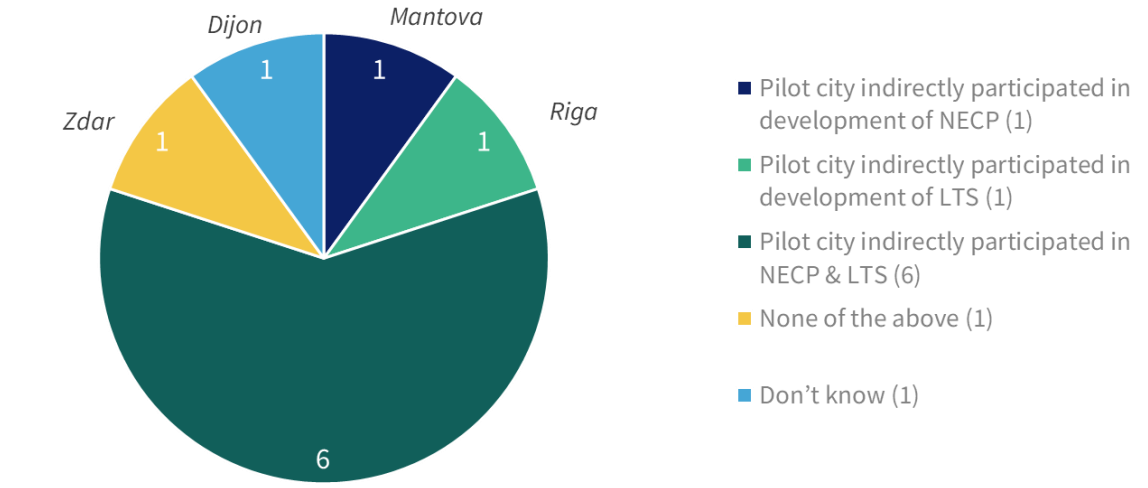
Figure 7 - Did pilot city, or other cities in country, participate in development of country's NECP and LTS?

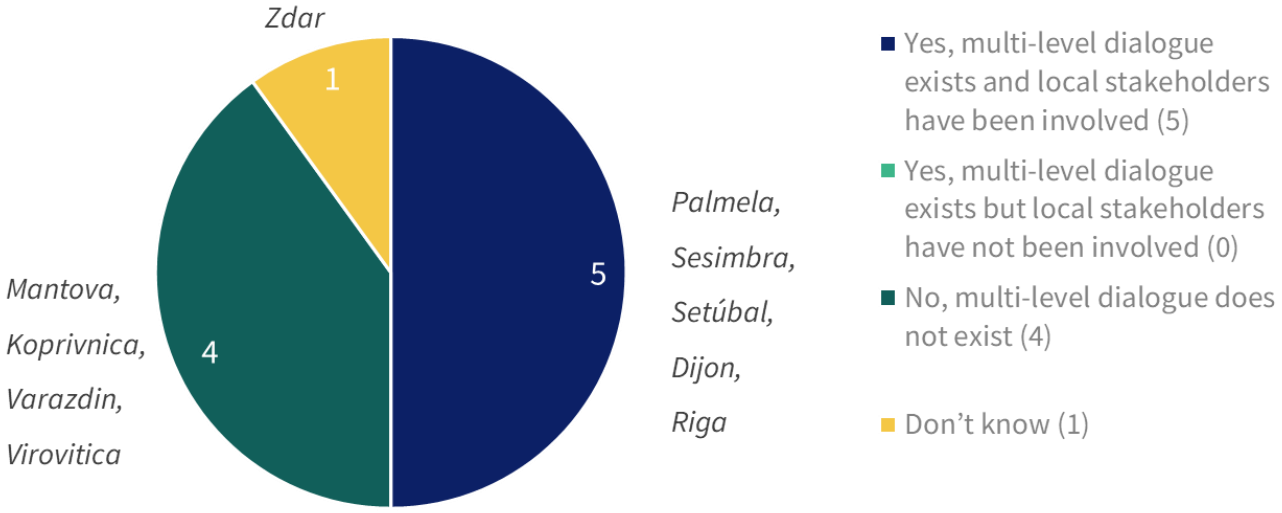


Palmela, Sesimbra, Setúbal, Koprivnica, Varazdin, Virovitica

Establishing a multi-level energy dialogue is required under Article 11 of the Governance Regulation, but was only reported to have been set up in 3 domestic contexts (France, Latvia, Portugal – Figure 8). In addition, further discussions among the project participants have shown that in some cases it was not clear what actually constituted a "multi-level dialogue" and how regular such dialogues should take place: some countries have organised lighter one-off conferences, surveys and workshops convening city stakeholders, while other countries have dedicated roundtables that regularly meet and engage with local stakeholders.

The lack of proper dedicated multilevel dialogues, and of ambiguity around what actually constitutes such a dialogue, is also reported in other domestic contexts beyond the respondents to this survey (discussed further below), pointing to wider inadequacies and discrepancies regarding countries' implementation of the Governance Regulation.

Figure 8 - Does a "multi-level energy dialogue" exist in your domestic context and have local stakeholders been involved in this dialogue?



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Discussion

Many of the findings from the survey, notably concerning the gaps with regard to the Governance Regulation's provisions for public participation and multi-level dialogues, are supported by other relevant research into the same topic.

For example, in 2020, Energy Cities conducted a study assessing member states' final NECPs against quantitative and qualitative metrics to determine whether local authorities' key role in implementing national climate actions on the ground was well reflected (Energy Cities, 2020). The study found a few instances where NECPs explicitly mentioned good practices at the local-level, for example in Latvia, where the NECP spoke to City of Riga's involved in the Horizon 2020 project, C-Track 50. It also found that the Covenant of Mayors was mentioned by 10 member states in their NECPs, showcasing a certain, albeit limited, level of awareness of the role cities can play. However, overall, the study found that only a few EU member states properly embedded in their NECP the role of local authorities in implementing climate measures, and that even when mention of the local-level was made, this tended to be rather general in nature -- as was confirmed in the survey results described in the previous section.

Moreover, the LIFE PlanUp project's assessment of the previous NECP development process in found that Member States usually applied the public participation provisions of Article 10 of the Governance Regulation in their NECPs to a limited extent (e.g. circulating the draft NECP for public feedback, but not giving enough time), but that they mostly ignored the Article 11 provisions on multilevel climate and energy dialogues: e.g. Romania, Italy, Spain, Hungary and Poland were found to not even have multi-level dialogues, and hence certainly did not use this framework to discuss their draft or final NECPs with stakeholders (LIFE PlanUP, 2021).

For the current round of NECP revisions taking place between now and June 2024, evidence points to worrying development that Articles 10 and 11 of the Governance Regulation are not being adequately implemented by EU member states yet again. Climate Action Network Europe and WWF undertook a survey, collecting experiences and data from 35 civil society organisations across 23 EU member states to assess whether national governments have been implementing the provisions for public participation and multi-level dialogues. As of its publication in late April 2023, the study found large deficiencies, with 14 out of 23 EU member states having failed to even start any form of public consultation on the NECPs, despite the deadline for the draft NECPs being due by end of June 2023 (Together for 1.5°C, 2023).

Moreover, the study found that even in countries where public consultations have been initiated -- Belgium, Croatia, Cyprus, Estonia, France, Lithuania, Portugal, Slovenia and Spain -- that the quality of these consultations varies considerably. For example, Spain and Portugal organised preliminary consultations, but they did not provide respondents with a draft version of the revised NECPs. Similarly, even where broader consultations have started already, draft NECPs have largely not been made available to stakeholders, including in France, Cyprus and Croatia: for example, while France organised online panels about the NECP process, no draft revised NECP was provided to stakeholders, and the panels only tackled the theme of energy (Together for 1.5°C, 2023).

The case of the previous NECP cycle as well as the first indications of how the process is currently being undertaken during the ongoing revision give doubts about the extent to which national governments are truly engaging with a range of stakeholders,

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especially at the local-level. While the EU Governance Regulation has clear requirements for early and effective public participation (Article 10) and multi-level energy dialogues (Article 11), in practice it does not appear these are being appropriately implemented by Member States. At the same time, this has not led to any real consequences for Member States on behalf of the European Commission, despite the fact that several of the Commission's assessments of countries' NECPs noted that Member States had not adequately upheld Article 10 and 11. The lack of enforcement here risks further entrenching the status quo, whereby Member States do not adequately involve diverse stakeholders like cities that would actually play a key role in further unlocking the national government's climate ambition.

Summary: national and EU-level governance factors impacting the local climate transition

The national-level governance factors impacting cities' climate transition discussed in this section are summarised below:

- **National-level frameworks inadequately consider/support local-level action**: while some governments feature local-level action more prominently, most do not adequately consider the links between national-level policy design and local-level implementation of those same policies. The positive point to note here is that by better incorporating local governments' mitigation potential in national-level climate targets and by better ensuring local actors receive adequate support (financially, capacity building, etc), national governments can unlock more action on the ground while increasing their own ambition.
- **Communication gap between national-level and local authorities**: related to the mismatch of national-level frameworks, there also tends to be inadequate channels through which local authorities can communicate with the relevant ministries in charge of the environment and urban affairs. This means that cities face difficulties when proactively engaging with their national-level interlocutors – and if the national-level does not engage with local actors, then little to no vertical coordination occurs in practice.
- **Dependence on national-level policies to achieve local-level ambition**: for some cities, a significant portion of their ability to mitigate their emissions is tied to national-level policies or support, meaning that their full potential may be limited despite their best intentions. For example, a city may implement a range of measures to retrofit municipal buildings, shift from fossil gas to electricity heating and "green" its transport, but if the wider electricity grid (controlled by regional or national level of government) continues to be largely supplied by fossil fuels, then overall emissions may not decrease by much.
- **Inconsistent national-level policies slow local-level action**: related to the previous factor, in some cases horizontal coordination at the level of the national government is lacking or incoherent, which not only sends conflicting messages but may in fact impede cities' ability to implement more ambitious policies.

There are surely other national factors, but these consist of some of the major ones impacting pilot cities' transition. The positive side is that many of these factors represent missed opportunities that national governments should seize, to better unlock the potential of local governments. For example, establishing dialogues and platforms with the relevant national ministry where local authorities can directly contact

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national policymakers represents a quick win to improve the communication channels. Similarly, national governments should enhance their engagement with existing city networks and associations, since the latter are regularly in touch with cities of varying sizes/contexts in the country and can serve as an effective interlocutor that has a view of wider local authorities needs and opportunities.

In terms of factors at the EU-level, these include:

- **Low accountability and questionable enforcement of the Governance Regulation**: the survey results and related literature show that few Member States properly upheld Articles 10 and 11 of the Governance Regulation in the initial NECP process in 2019, and that this risks to repeat itself in the ongoing revision process through June 2024. This illustrates serious deficiencies since these provisions of the Governance Regulation are in fact an obligation, not an option for Member States. Without adequate enforcement from the Commission, the ongoing NECP process risks to repeat the same errors and be ungrounded.
- **Limited local-level awareness of Governance Regulation and provisions for multi-level governance**: some cities are in fact not aware of the Governance Regulation's provisions for public participation and multi-level energy dialogues, which is surely tied to the previous shortcoming. In other words, if national governments have failed to uphold Articles 10 and 11 in a meaningful way, then it is hardly surprising that cities may not be aware of their right to feed into the process of NECP development.
- **Key role of city networks and associations to ensure the local perspective is adequately reflected at different levels**: it's clear that national city associations play a key role in ensuring a link between local or regional governments and national level policymaking. For example, while many cities may not have been able to directly participate in the NECP development process or to feed into their countries' own separate climate policymaking, in many cases their views are nonetheless indirectly conveyed by city networks and national associations. EU cities network or initiatives such as the Covenant of Mayors-Europe also help consolidating different views of cities in order to represent these at EU policymaking fora.

2.2. Finance

The survey circulated to EUCityCalc partner cities also sought to assess which financial barriers and opportunities may exist towards implementing ambitious climate action. Selected findings from the survey are presented below, complemented with relevant literature.

Survey results

The survey results clearly indicate that access to climate finance presents a barrier to implementing local climate action (Figure 9). Seven of the ten cities in the project considered this to be a major barrier, while the other three considered it to be a barrier, albeit a minor one. In subsequent discussions with the cities, it was also communicated that accessing EU funding opportunities can also prove to be a challenge, especially for smaller cities with more limited capacity and staff who may not have the time or ability to continually monitor opportunities for EU funding and put together applications in time for the deadlines. While most cities in the project are aware of national-level funding opportunities, this does not always hold true for

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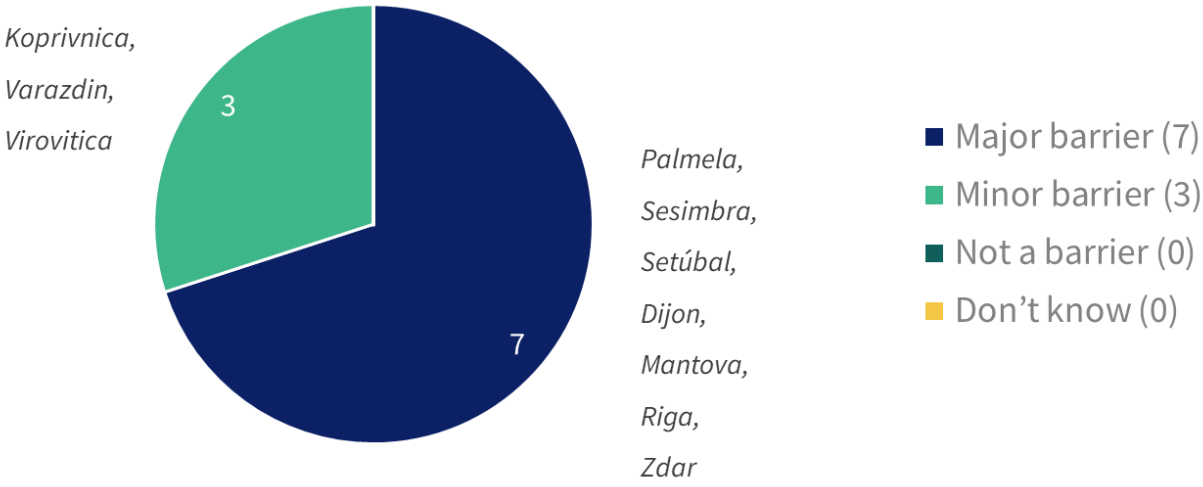
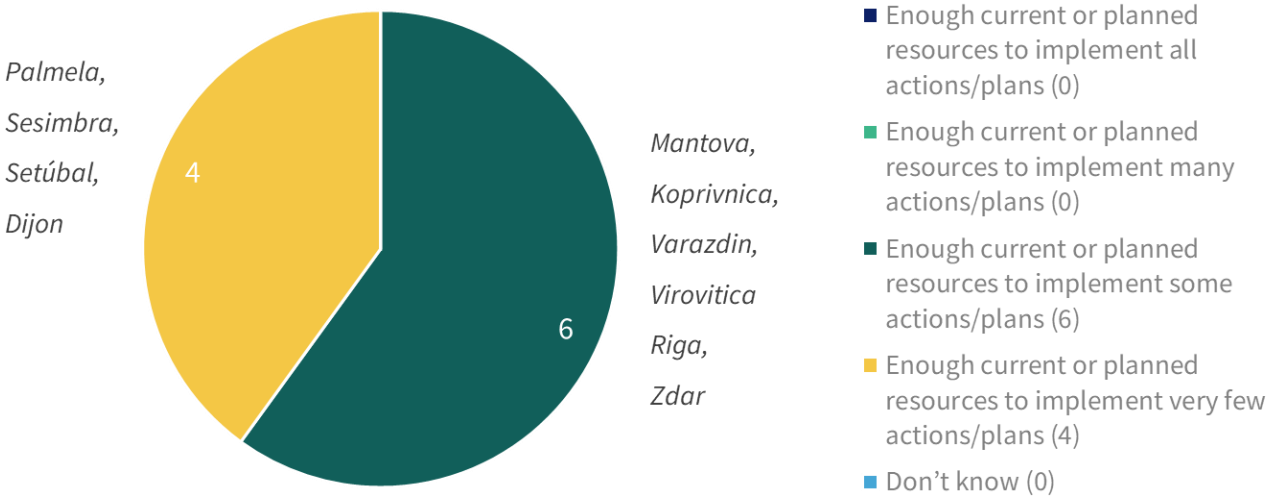
EU-level opportunities. These findings align with relevant literature and research on the same subject, as is further discussed below.

Figure 9 - Is reliable access to climate finance a barrier to implementing your pilot city's mitigation actions/plans?



Related difficulties in accessing climate finance, are that no city in the project has adequate financial resources (either currently or foreseen) to implement all of its planned mitigation actions (Figure 10). To be sure, all cities have enough resources to at least implement some of the mitigation actions, but for four cities, this only amounts to "very few" of the total potential actions/plans. For the other six cities, they have resources to deliver some of the total potential actions/plans. This clearly demonstrates that cities need access to more funding and more consistent sources of funding to implement climate measures.

Figure 10 - Does your pilot city have enough current or planned financial resources to implement its planned mitigation actions/objectives?



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Discussion

The survey results indicating that access to finance is always a barrier to the pilot cities also aligns with a considerable amount of relevant research and analysis on the subject.

For example, the Net Zero Cities project analysed data submitted by 362 cities from EU member states, finding that "68% of the cities identified lack of funding/financing schemes as the biggest barrier to pursuing climate neutrality" (Net Zero Cities, 2022a). The major barriers to access funding and financing schemes include, high initial investment costs, regulatory and governance barriers, and lack of know-how and expertise on climate finance and climate investments, which calls for the need for a more structured framework for cities to assess and access funding alternatives and financing options (Ibid).

Many cities face additional regulatory and governance barriers to carry out necessary climate investments and projects, for example when their countries have siloed funding structures in place and/or have frameworks in place that limit cities' access to financial markets and funding mechanisms or that limit the amount of debt cities are legally permitted to take on (Net Zero Cities, 2022a). Other funding barriers for cities include myriad cumbersome and complex application processes, coupled with a lack of capacity at the municipal level, difficulty in diversifying funding sources and challenges in targeting holistic actions that are not tied to a single sector alone (Figure 11). Cities in the EUCityCalc project have particularly aligned with the first two of such barriers (cumbersome/complex application processes and lack of capacity).

Figure 11 - Funding and financing barriers for cities

Source: Net Zero Cities (2022b), "City climate finance landscape"

The experience of cities in the EUCityCalc project underscores that one explanation to the difficulties in accessing funds might be the lack of awareness of funding opportunities that exist at the national or EU levels. In some cases, even if they are aware that funding

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exists, they may not have enough dedicated staff who can keep track of the different opportunities (including the related administrative steps and deadlines) and prepare detailed applications following the time consuming and detailed requirements. It is therefore difficult for EUCityCalc partners to absorb the large range of opportunities offered by the EU level and take sufficient advantage of available funding.

Finally, there are also cases where cities have available funding to implement climate investments, but it still requires a considerable amount of human resources and special skills at the local-level to manage and mature such investments in particular attracting the private investments (Net Zero Cities, 2022a).

Summary: finance factors impacting the local climate transition

The main factors impacting cities' climate transition from a financial point of view that were discussed in this section are summarised below:

- **Unreliable and limited access to climate finance at local-level**: cities often face significant challenges not only in securing climate finance but sometimes also in identifying potential sources. While this varies from city to city, this is one of the most common barriers to local climate action, especially in smaller cities that have less expertise and municipal staff. In some cases, cities may be restrained by **siloed funding** that is earmarked for specific sectors or activities and hence overlooks complementary or holistic approaches. Some cities have a greater capacity to access **diverse sources of financing** (national, EU, private), while others rely heavily on a single source of public funding which can jeopardise their planned mitigation measures in case they experience a reduction in their main source of funding.
- **National and especially EU funding opportunities are not easily accessible to cities**: While it is positive cities have a range of possible funding choices at their disposal at regional, national, or EU level, in practice it can lead to confusion regarding which to pursue, which is further compounded by **typically time-consuming and complex funding application processes**. In some cases, cities may be aware that funding opportunities exist, but they may not have enough dedicated staff to stay on top of the processes and to prepare applications. Some initiative such as the EUCityFacility try to cope with this barrier, preparing granted cities to propose investment concepts for their projects.

2.3. Capacity

The survey circulated to EUCityCalc partner cities also sought to assess whether or not technical and human capacity represented barriers to implementing ambitious climate action measures. Selected findings from the survey are presented below, complemented with relevant literature.

Survey results

In a first instance, the survey sought to assess the state of the technical capacity in the project's pilot cities. Technical capacity refers to the degree to which city staff have a sufficient technical understanding of the intersection of climate action and urban/local policy and of the various elements needed to implement the city's SECAP as well as other mitigation measures.

The survey results illustrate that technical capacity varies quite a bit between the cities (Figure 12). For example, while some cities may have very low, or even no, capacity to implement their SECAP without resorting to external

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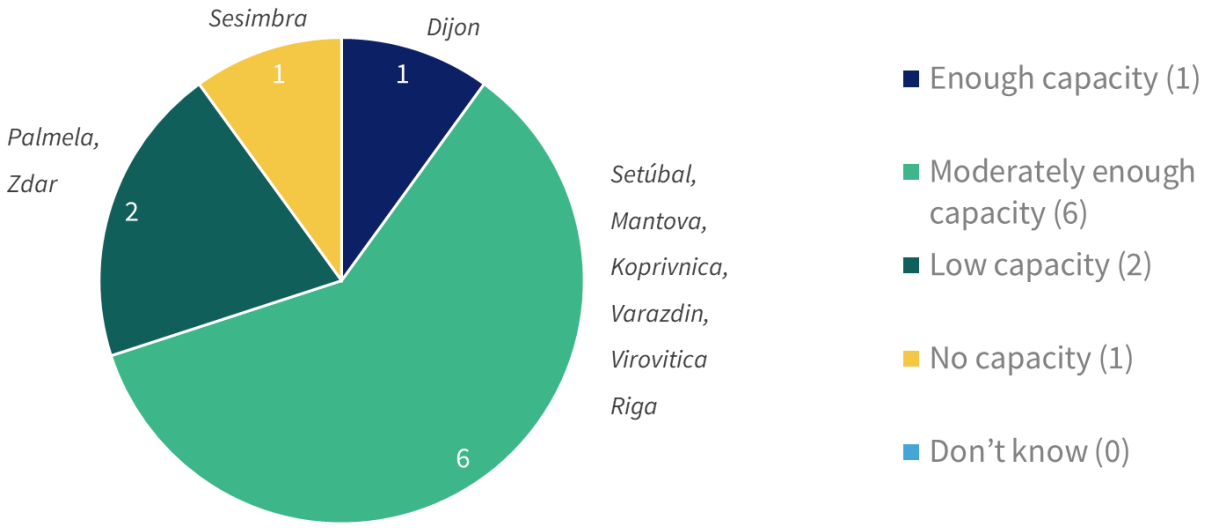
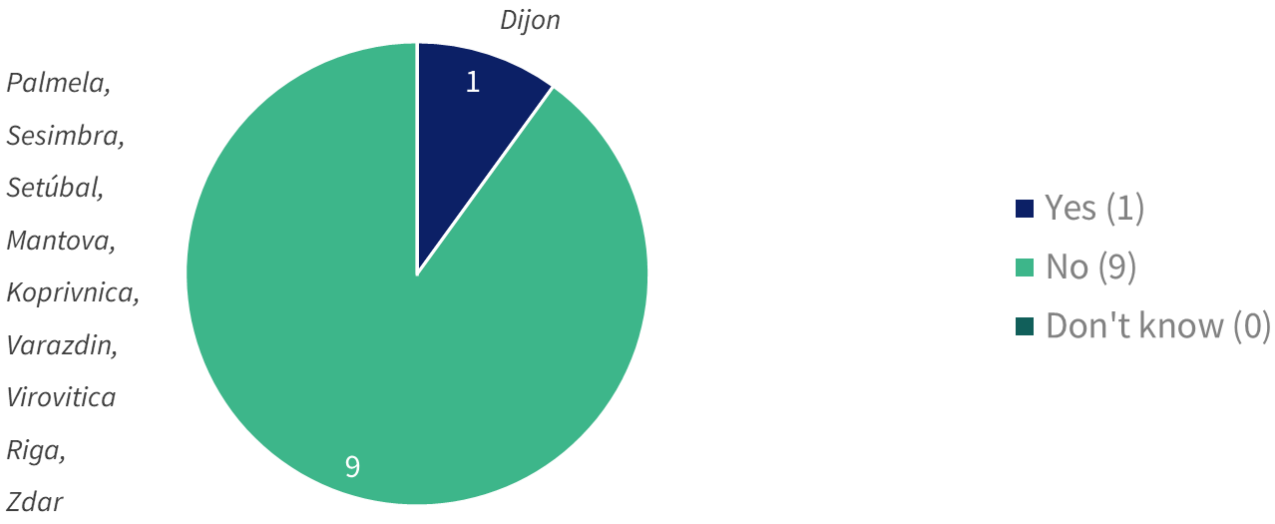
capacity (e.g. Palmela, Sesimbra, Zdar), other cities have a moderate level of capacity, with Dijon even self-reporting having enough capacity at the technical-level. This variation is not entirely surprising however, given the diverse contexts of the cities in the project in terms of geography, size, economy, national-local governance arrangements, and more (e.g. several cities have a population of 20,000-50,000, while others like Dijon and Riga have a population of 260,000 and 600,000 respectively).

Figure 12 - Is there enough "technical" capacity within your pilot city in order to implement the SECAP and/or other mitigation actions/plans?



Part of the reason why cities self-report low technical capacity may be because they do not receive enough support and capacity building from the national government, which is the case for all cities except for Dijon (Figure 13). These findings are further discussed in the next subsection.

Figure 13 - Does pilot city receive enough technical support & capacity building from the national government for planning and/or implementing local mitigation measures (SECAP and/or other policies)?



While the cities in the project report having more access to technical support and capacity building at the EU-level compared to the national-level, six cities

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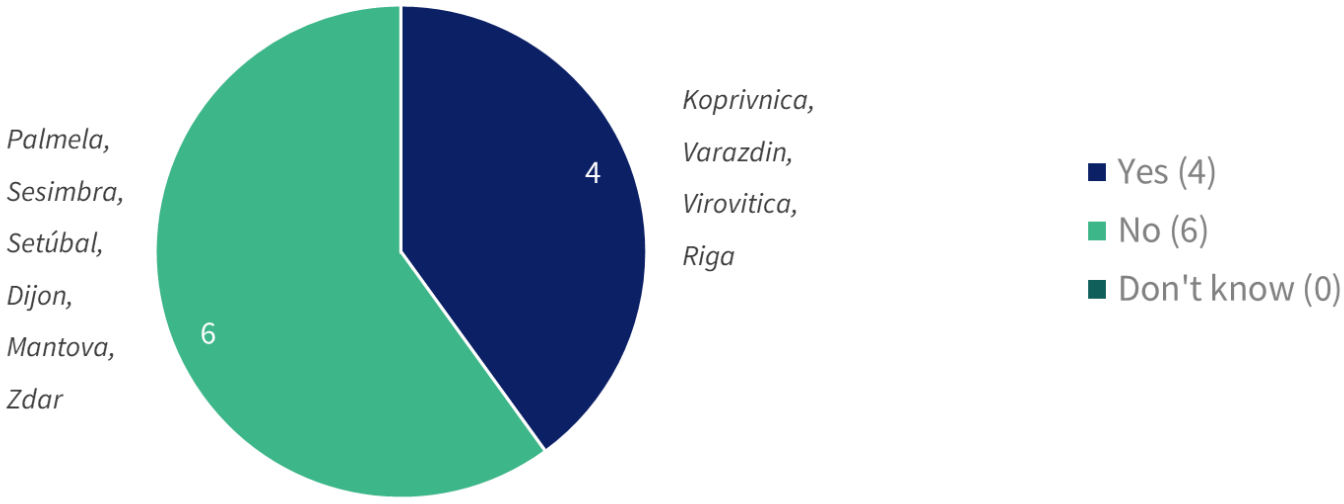
nonetheless find that they would benefit from further EU-level support (Figure 14). These findings are further discussed in the next subsection.

Figure 14 - Does pilot city receive enough technical support & capacity building from EU-level initiatives/programmes/platforms for planning and/or implementing local mitigation measures (SECAP and/or other policies)?



When asked whether they had enough "human" capacity – whether there is a sufficient number of city/local staff within the city – to implement their SECAP and other mitigation plans, the cities did not having enough capacity in most cases (Figure 15). The level of variation in terms of capacity is similar as for the technical capacity (see previous Figure 14), although overall one can see that cities lack above all the human capacity to scale up the transition (they already have a certain level of expertise as described previously). This can be explained by the fact that the cities involved in the EUCityCalc project are all already committed to deliver climate action and are involved in an EU project: hence, they already have a good technical level of capacity, but they may still lack the amount of staff that would be desired to fully implement all the measures they would plan to deliver on in an ideal setting.

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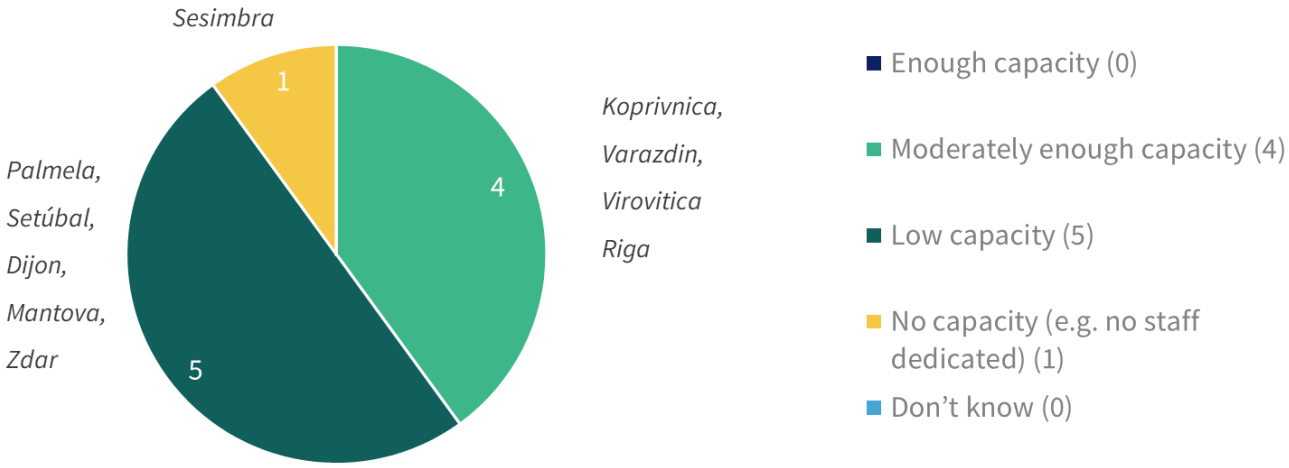
Figure 15 - Is there enough "human" capacity within your pilot city in order to implement the SECAP and/or other mitigation actions/plans?



Discussion

In terms of technical support, the survey had also assessed the types of support that would be helpful for the national government to provide to local authorities. The survey specifically asked cities if their national government had the following support measures in place, and if they didn't, whether it would be helpful:

> i) tailored workshops, events and webinars for local authorities organised by the national government;
>
> ii) guidance documents and templates for defining and implementing climate mitigation measures at the local-level;
>
> iii) specific tools and targeted training for local authorities on topics such as energy modelling and data collection/analysis;
>
> iv) centralised webpages/platforms with links to resources produced by other governments and third-party entities to support local governments in their mitigation efforts.

The results across the cities varied, but most identified a need for better or more targeted national-level support across these areas:

- Sesimbra, Setúbal and Palmela all indicated that these types of support are not currently available to local authorities in Portugal to their knowledge, but that they would all be beneficial to local authorities. Zdar, in Czechia, also reported the same situation.
- In Croatia, the pilot cities reported that workshops and specific tools (e.g. for energy modelling) would be useful, but they noted that they had founded a Regional Energy Agency to implement all energy-related activities, thereby reducing the need for specific templates and guidance documents from the national government.
- Riga reports existence of workshops/events/webinars for local authorities, but that the other types of support are missing and would be useful.

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- Mantova reports that the types of above support are available for local authorities, but that in some cases this is limited, e.g. in terms of specific tools and targeted training (e.g. on energy modelling), or is under developments, e.g. the Ministry of Environment is in the process of setting up a knowledge hub, "Piattaforma delle conoscenze".
- Dijon reports that the national government provides support to local authorities via the ADEME on the first 3 types of support (workshops, guidance documents, specific tools), and that while a centralised webpage/platform is missing that this still exists via other external sources like the Covenant of Mayors.

While there is variation between the cities and their respective domestic contexts, overall they identify a need to receive further national-level support, to better unlock their mitigation potential. The Net Zero Cities project similarly found that 45% of the 362 cities assessed in Europe identified insufficient administrative and/or operational capacity as a barrier to action (Net Zero Cities, 2022a). To tap into this, national governments should consider how to reach a broad range of local authorities with support that is both general (guidance documents) and targeted (technical training), e.g. better cooperating with national city associations or by establishing regular meetings with local authorities via a multi-level energy and climate dialogue, as required under Article 11 of the Governance Regulation, are two such ways to improve engagement and offer tools tailored to the needs of cities.

In terms of human capacity, the pilot cities are very conscious about the lack of staff in local public administration or energy and climate agencies but are not always able to recruit the necessary staff. Several factors impede cities from recruiting more municipal staff or from outsourcing work to other external organisations such as energy agencies to deliver on climate action (Figure 16): first, all cities except for Riga have an operating budget that is too tight and hence limits them in this regard; second, all cities except for Mantova and Zdar report that municipal jobs tend to not be as attractive as an alternative job in the private sector or elsewhere (salary competitiveness being an underlying factor here), which presents another challenge to retain and attract staff; third, all cities except for Dijon, Riga and Zdar face limits imposed at the national-level regarding local government debt or ability for local authorities to levy additional taxes in support of climate action.

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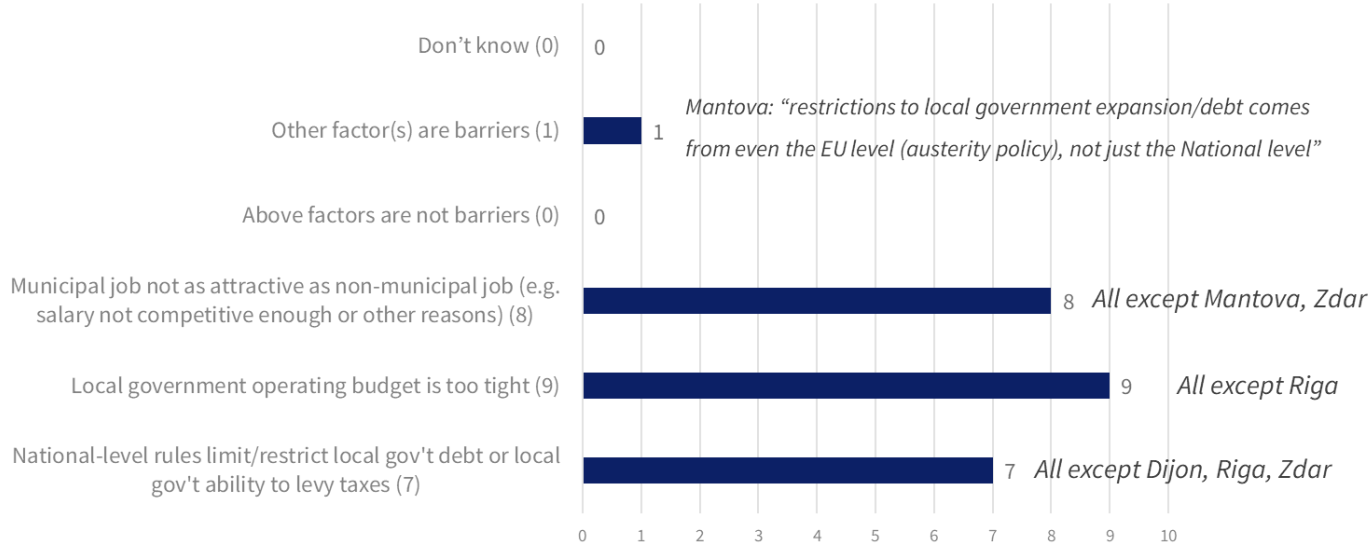
Figure 16 - Do any of the below factors prevent pilot cities from recruiting more municipal staff or outsourcing more work?



The survey's findings regarding cities' limited human capacity and limited ability to recruit further staff, is also underscored in other research.

A study led by Energy Cities found that to increase efforts to decarbonise the building sector in cities, around 2.5 additional full-time positions per municipality per year are needed through 2030 in the EU (Energy Cities, 2022). This amounts to 214,000 new local employment positions across the EU for the building sector for the 2022-2030 period, which could cost up to €16 billion per year for municipalities in the EU, and may imply a 53% increase in employee expenditures in cities' building and climate departments. In the Netherlands alone, staffing would need to double on average between 2022 and 2030 (for small cities, human capacity would need to even triple).

The need for this large increase in capacity in the building sector is because the sector requires a range of specialisations and skillsets, which municipalities may be lacking: e.g. energy analysts and policymakers are needed to design heating and energy plans, project managers and urban developers are then needed to implement these with the support of engineers and energy advisers, all of which should be done in consultation with residents and stakeholders (Ibid).

Of course, the increase in human capacity on climate change at the local-level must increase across multiple sectors, beyond the building sector. A similar study carried out by I4CE looked at the French context, finding that at least 25,000 more employees dedicated to designing and implementing local climate action will be needed to achieve the objectives of the country's national low-carbon strategy (I4CE, 2022). French local authorities would need to invest 12 billion euros each year between 2021 and 2030 to achieve the country's climate targets, which would represent 18% of their total current investment budget.

Summary: technical and human capacity factors impacting the local climate transition

The main factors impacting cities' climate transition from a technical and human capacity point of view that were discussed in this section are summarised below:

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- **Technical capacity varies but tends to be low overall**: the ability for cities to plan and implement ambitious climate measures depends heavily on the technical expertise of their employees, but this tends be low in many cities, especially those of smaller size or those that are not as actively involved in city networks and associations. For some cities, the low technical capacity is directly linked to their low "human capacity" (in terms of the number of employees that can work on climate issues), making this an interlinked challenge.
- **Limited technical capacity support from national government**: related to the lack of technical expertise is the fact that many cities do not receive enough technical support from their national governments, whether this be in the form of workshops, guidance documents and templates, specific training, or centralised knowledge platforms. The positive point to note is that national governments could implement many of these measures to enhance the capacity of cities in a structured and low-cost way, and there is sure to be strong demand for this from cities, making this a simple yet effective solution. Moreover, national governments can work with city networks and national city associations to best tailor the capacity building according to the domestic and/or regional context, to better maximise the outcome and ensure strong engagement from local authorities.
- **Moderate technical capacity support from EU-level**: there are a range of support options that cities resort to at the EU-level, including via their involvement in the Covenant of Mayors and similar networks which raise awareness about the existence of technical capacity building and provide offers to their city members. It is worth noting that since EUCityCalc is an EU project, the cities involved in the project are more likely to be aware of EU-level support than the average city in the EU, and therefore this finding should be taken with a grain of salt.
- **Limited municipal staff**: as identified elsewhere, cities often face a shortage of dedicated and specialised staff able to work on climate issues, which has knock-on effects on a range of the other factors identified earlier in this paper. This shortage of staff is tied to a range of reasons such as that cities typically have limited budgets, have difficulty in attracting and retaining skilled employees who are better paid in the private sector (or in bigger cities), and face limits on how cities can spend their money. At the same time, it's clear that cities will need to recruit more and more staff in order to fully implement the needed climate measures, posing a conundrum for many municipalities in Europe.

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3. Conclusion

This report builds on a host of other research and analysis on the topic of multi-level governance, finance and capacity building for local climate action. The survey results from the ten pilot cities of the EUCityCalc project come to broadly similar conclusions as in the literature: while cities often demonstrate a high level of ambition on climate that can even go beyond the national-level, they face a range of challenges to implement measures on the ground which can slow their transition.

A selection of the main factors identified in this report that influence cities' transition pathways include the following:

- National-level governance and policy alignment factors
    - National-level frameworks inadequately consider/support local-level action
    - Communication gap between national-level and local authorities
    - Dependence on national-level policies to achieve local-level ambition
    - Inconsistent national-level policies slow local-level action
- EU-level governance and policy alignment factors
    - Low accountability and questionable enforcement of the Governance Regulation
    - Limited local-level awareness of Governance Regulation and provisions for multi-level governance
    - Key role of city networks and associations to ensure local governments perspective is adequately reflected at different levels (EU and national)
- Finance factors
    - Unreliable and limited access to climate finance at local-level (siloed funding, diversification of funding, human capacity and skills), including difficulties in accessing financing
    - National and especially EU funding opportunities are not easily accessible to cities (application process too complex, limited knowledge of what exists)
- Capacity (technical and human) factors
    - Technical capacity varies but tends to be low overall in cities
    - Limited technical capacity support from national government
    - Moderate technical capacity support from EU-level but room for improvement
    - Limited municipal staff

The list of above factors is not exhaustive and is partly tied to the context of the ten pilot cities, but overall these factors point to several gaps and obstacles in truly unlocking action at the city-level. However, it is important to note that these factors also represent areas of opportunities, as indicated in the report. For example, transnational city networks, like the

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European Covenant of Mayors for Climate and Energy, as well as national city associations play a key role in filling part of the communication gap between national and local governments – national governments should thus seize the opportunity to more proactively engage with such networks in order to ensure that their national plans are more in line with the reality on the ground and therefore easier to implement. It is also important for them to better understand the needs of cities and take into account in their planning how cities are actively participating in achieving climate objectives. To achieve this, it is clear that national ministry(ies) with competences on local government affairs and climate change should establish, where it does not exist, a permanent channel or platform whereby cities can directly engage in dialogue with representatives from the ministry – this is an important way to centralise information and facilitate communication.

Moreover, other untapped opportunities to accelerate and scale-up local action that are related to these factors can be identified through the EUCityCalc webtool. Indeed, this tool has been developed to allow cities to simulate low-carbon transition scenarios in order to prioritise mitigation measures and to communicate the results to a range of stakeholders, from local residents to policymakers at the national and EU-levels. The EUCityCalc tool will also feature an analysis of the estimated costs of implementing specific mitigation measures, which will also help cities to best select measures that are most relevant to their context and which maximise impact relative to costs.

As part of the design process of the webtool, the pilot cities were also asked to rank 54 different greenhouse gas emission and energy drivers according to the extent to which the cities could actually influence them: for example, while cities may have a good level of influence to retrofit municipal buildings, they have much less ability to decarbonise the electricity/energy supplied to the city or to control the growth of the city (inhabitants and/or new construction).

The low-emission pathways produced by EUCityCalc tool therefore take into account cities' estimated ability to influence various mitigation measures, allowing cities to see where they can implement the largest changes, and where they are less likely to make a sizable difference. In addition, the tool also provides an estimate of the extent to which certain mitigation measures depend on national government policies and measures.

Figure 17 below shows the extent to which a city's ability to scale up its level of ambition can depend on national-level policies: on the right of the figure, one can see a city's transition pathway where mitigation measures influenced by national-level policies are preselected based on a moderate level of ambition (1.7 out of 4); on the left, one can see the same city's transition pathway (same selection of measures), but this time it is assumed that national-level policies are of a much higher level of ambition (4 out of 4). The difference between the two is striking, where there is a significantly higher reduction in emissions in the scenario on the left, when national-level policies are more ambitious. Of course, the results here should be taken with a grain of salt, since this simplifies the real world and assumes a scenario that may not be entirely realistic. Nonetheless, the message here is clear that cities' emission reduction pathways can radically improve when stronger national-level-dependent policies/measures are implemented. This sort of visualisation opportunity provided by the EUCityCalc tool gives a key message for better multi-level coordination to help overcome several of the barriers to local action identified in this report.

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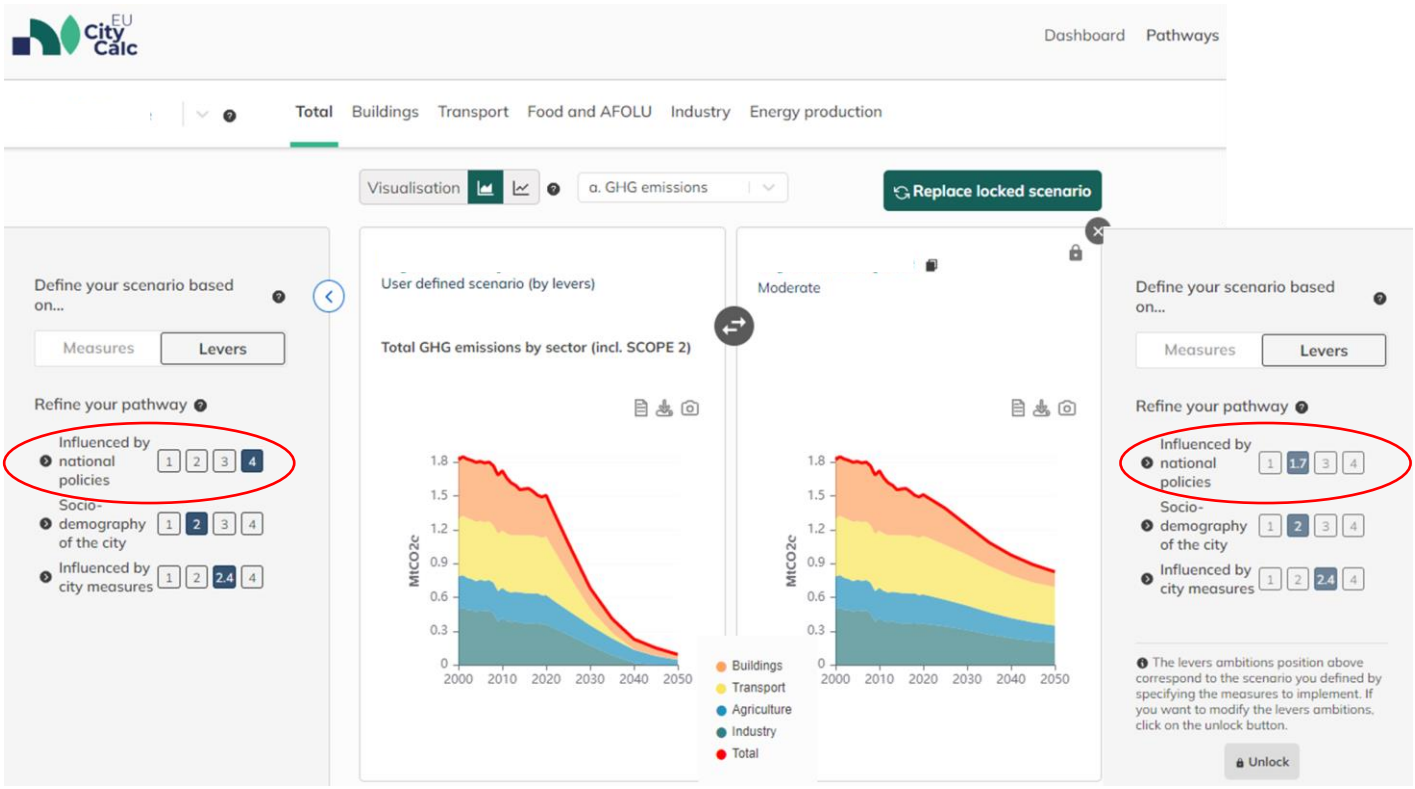
Figure 17 - Extent to which some urban mitigation measures depend on multi-level coordination



Taken together, the various modalities of the EUCityCalc tool allow cities to clearly visualise where their impact can be optimised while also enabling them to convey a clear message to a range of stakeholders and especially their national government since they can directly demonstrate that, if the ministry were to implement a specific policy, then the city could considerably scale up its climate action and thereby feed into the country's achievement of its national climate target.

To expand on work done in this report identifying key factors that influence city-level action and underscoring the need for enhanced multi-level coordination, the next stage of the EUCityCalc project will produce a capacity building toolkit that will help cities formulate recommendations to their national government based on the EUCityCalc tool in order to better unlock and accelerate climate action at the local level.

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