



# Assessment of the Covenant of Mayors initiative in the Eastern Partnership countries (CoM East)

*A 2021-2023 update*

Davide, M., Melica, G., Palermo, V.

2025

This document is a publication by the Joint Research Centre (JRC), the European Commission's science and knowledge service. It aims to provide evidence-based scientific support to the European policymaking process. The contents of this publication do not necessarily reflect the position or opinion of the European Commission. Neither the European Commission nor any person acting on behalf of the Commission is responsible for the use that might be made of this publication. For information on the methodology and quality underlying the data used in this publication for which the source is neither Eurostat nor other Commission services, users should contact the referenced source. The designations employed and the presentation of material on the maps do not imply the expression of any opinion whatsoever on the part of the European Union concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

EU Science Hub  
<https://joint-research-centre.ec.europa.eu>  
JRC139608  
EUR 40258

PDF ISBN 978-92-68-25544-5 ISSN 1831-9424 doi:10.2760/5489706 KJ-01-25-172-EN-N

Luxembourg: Publications Office of the European Union, 2025

© European Union, 2025



The reuse policy of the European Commission documents is implemented by the Commission Decision 2011/833/EU of 12 December 2011 on the reuse of Commission documents (OJ L 330, 14.12.2011, p. 39). Unless otherwise noted, the reuse of this document is authorised under the Creative Commons Attribution 4.0 International (CC BY 4.0) licence (<https://creativecommons.org/licenses/by/4.0/>). This means that reuse is allowed provided appropriate credit is given and any changes are indicated.

For any use or reproduction of photos or other material that is not owned by the European Union permission must be sought directly from the copyright holders.

How to cite this report: European Commission: Joint Research Centre, Davide, M., Melica, G. and Palermo, V., *Assessment of the Covenant of Mayors initiative in the Eastern Partnership countries (CoM East)*, Publications Office of the European Union, Luxembourg, 2025, <https://data.europa.eu/doi/10.2760/5489706>, JRC139608.

## Contents

Abstract.....	2
Executive summary.....	3
1. Introduction and background.....	5
2. SECAP Evaluation and Methodology.....	7
3. Results.....	9
3.1 Signatories and commitments.....	9
3.2 Sustainable Energy and Climate Action Plans.....	11
4 Conclusions.....	22
References.....	23
List of Abbreviations and Definitions.....	24
List of Figures.....	25
List of Tables.....	26
Annex I.....	27

## Abstract

The Covenant of Mayors initiative in the Eastern Partnership countries (CoM East) was launched in 2011. Since then it has evolved and its scope enlarged. Today, hundreds of local authorities are part of the initiative in the Eastern Partnership region committed to acting against climate change. The Joint Research Centre provides scientific and technical support to DG NEAR and is in charge of evaluating the Sustainable Energy and Climate Action Plans (SECAPs). This report is a preliminary assessment of the status of implementation of the initiative covering the period between 2021-2023 and is to be intended as a bridge between the previous CoM East Assessment report "[Overall assessment and in-depth SECAPs analysis](#)" and the next one planned for 2025. Results show that the CoM East initiative continues raising interest among local authorities in the region. Technical expertise and capacity for SECAP development show increasing improvement, although further enhancement would be needed especially in countries, where involvement of municipalities remain low. The emission reduction commitment proposed are ambitious, with an average of 38% reduction against the current 35% minimum target for the area. As for adaptation to climate change impacts, the most common hazards with high occurring probability and high impact are heavy precipitations, floods and sea level rise, drought and water scarcity, extreme heat. Almost all sectors are reported to be vulnerable to the extreme heat that, consistently, is the most targeted climate hazard by adaptation actions.

## Executive summary

The Covenant of Mayors (CoM) initiative, initially started to support EU local authorities developing sustainable energy actions, today counts over 13,000 signatories across the world. It represents the world's largest alliance for city climate leadership with increasingly stringent targets currently covering three pillars of action: emission mitigation, climate change adaptation and energy poverty/access.

Since the start of the CoM initiative in 2008, the Joint Research Centre (JRC) of the European Commission (EC) has been in charge of providing technical support to the signatories and assessing the impact of city actions and good practices. JRC recent assessment works include: the [Covenant of Mayors: 2023 assessment \(2024\)](#), [Assessment of the Covenant of Mayors initiative in the Southern Mediterranean region \(2024\)](#) and the contribution to [Banking on change – Finance for local action: The 2024 Global Covenant of Mayors Impact Report \(2024\)](#).

### *Policy context*

The Covenant of Mayors initiative in the Eastern Partnership countries (CoM East) was launched in 2011. Since then it has evolved and its scope enlarged. Today, hundreds of local authorities in the Eastern Partnership are part of the initiative. Their increased commitment represents an important component of the CoM ambition and a crucial support to both international and EU's climate objectives. Moreover, the diverse CoM East experiences offer a wide landscape of practices and examples in local energy and climate action planning.

This report provides insights into the progress of Sustainable Energy and Climate Action Plans (SECAPs) submitted by municipalities in the Eastern Partnership countries (i.e. Armenia, Azerbaijan, Georgia, Republic of Moldova and Ukraine) and evaluated by JRC between 2021 and 2023.

### *Key conclusions*

The assessment shows that the CoM East initiative continues raising interest among local authorities in the region, with new signatories, especially from the Republic of Moldova and Ukraine. Despite the current geopolitical challenges, local authorities in Ukraine are actively involved in terms of SECAPs submission: they represent 52% of the total analysed action plans. Technical expertise and capacity for SECAP development in the area show increasing improvement, although further enhancement would be needed especially in some countries, where involvement of municipalities remain low.

All the signatories under evaluation in this report propose a complete SECAP, including both mitigation and adaptation commitments. JRC evaluation reveals an overall completeness of mandatory information under both pillars, with higher quality of reporting for the mitigation pillar (e.g. complete emission inventory, clear and quantified emission reduction target covered by consistent actions) whereas the adaptation pillar still highlights some areas for improvement, especially in identifying clear and quantified adaptation targets and actions, consistently addressing major hazards. It has to be noted, however, that the relatively more recent introduction of the adaptation pillar may imply some time to develop technical skills and competencies.

The overview provided in this report highlights past and current trends, as well as potential gaps and barriers faced by signatories of the initiative in the Eastern Partnership countries. This could foster further reflection on future developments of the initiative and adoption of long-term commitments.

### *Main findings*

The CoM East initiative covers a population of over 20 million people and includes cities of different size, from very small cities to large metropolises and capitals.

The emission reduction commitment proposed in the SECAPs analysed in this report goes on average slightly beyond the required minimum commitment for the area, with a proposed average of 38% reduction against the current 35% minimum requirement. In terms of reported emissions at the inventory year, Ukraine's cities have the highest values of emissions per capita, while the lowest values are reported by Armenia's cities. At the sectoral level, 63% of total emissions come from the residential building sector, followed by the transport sector. These two sectors are covered by the planned mitigation actions, although most of them focus on the municipal buildings sector. This slight deviation is linked to the prominent and exemplary role of municipal assets and properties in local climate action. Moreover, although planning and reporting on the energy poverty pillar is still in its infancy, signatories have started embedding energy poverty considerations when planning climate change mitigation actions, which highlights the commitment and the interest in the topic by local authorities.

As for adaptation to the impacts of climate change, every signatory has identified averagely nine climate hazards in their Risk and Vulnerability Assessment (RVA). The most common hazards with high occurring probability and high impact are Heavy precipitations, Floods and sea level rise, Drought and water scarcity, Extreme Heat. Almost all sectors are reported to be vulnerable to the Extreme heat hazard, and, consistently, it is the most targeted climate hazard by climate adaptation actions.

#### *Related and future JRC work*

The JRC will continue to track progress through overall assessment of the initiative, based on future SECAPs submission and subsequent monitoring reports. Such an analysis may reveal factors for successful implementation and help drawing further conclusions on the long-term commitment and capacities of local authorities. Given the challenges and gaps highlighted in this report, JRC may also provide tailored support to local authorities in their path towards a decarbonised, resilient and just future. Finally, current analysis may inform the revision of the regional guidebook.

#### *Quick guide*

This report is organised in four chapters. Chapter 1 introduces the CoM initiative and the recent developments in the CoM East region. Chapter 2 briefly presents the steps to comply with the CoM framework approach and the methodology used to assess the SECAPs. Chapter 3 gives an overview of the signatories that submitted the SECAPs under assessment, and of the results of the evaluation on both mitigation and adaptation pillars. Chapter 4 closes the report, presenting the key findings and conclusions.

# 1. Introduction and background

The Covenant of Mayors initiative in the Eastern Partnership countries (CoM East) was launched in September 2011. In the first phase (2011-2015), 11 countries of Eastern Partnership and Central Asia regions were involved. Between 2017 and 2021, the initiative was tailored to the specific needs of 6 Eastern Partnership (EaP) countries: Armenia, Azerbaijan, Belarus, Georgia, Republic of Moldova and Ukraine. From 2022, it covers the following countries: Armenia, Azerbaijan, Georgia, Republic of Moldova and Ukraine (Figure 1).

Figure 1: Map of current CoM East countries (yellow) and the European Union (blue)



Source: JRC elaboration

CoM East supports cities from these countries in their efforts to develop local policies addressing climate challenges, based on sustainable energy principles, which also strengthen energy security. As such it is in line with the objective of the EU Eastern Partnership of working together with EaP countries towards environmental and climate resilience. This is especially relevant as it fosters regional cooperation and bottom-up engagement on local climate and energy action supporting global goals as well as it promotes the development of climate change legislation and capacity-building in the candidate countries of the region (i.e. Georgia, Moldova and Ukraine).

Local authorities in these countries, who voluntarily join the CoM East, commit to taking action against climate change in their territories to achieve climate and energy targets by 2030. The initiative, which has evolved through time, is nowadays grounded on three pillars: Climate Change Mitigation, Climate Change Adaptation and Energy Poverty (the latter will become mandatory in 2025). Therefore, cities commit to decarbonising the activities and making their territories and communities more resilient, as well as ensuring affordable energy and a just transition to their citizens. Strategies and actions developed by signatory local authorities to achieve their targets are collected in their Sustainable

Energy and Climate Action Plan (SECAP), which is a core political-technical document, and are reported through one of the official Reporting Platform: MyCovenant and CDP-ICLEI Track.

Before 2016, the main focus of the CoM initiative was on energy and climate change mitigation, with signatories committed to reducing at least 20% of their CO<sub>2</sub> emissions by 2020 and to developing and implementing a Sustainable Energy Action Plan (SEAP). From 2016, the mitigation commitment has become more ambitious, reaching an emission reduction of 30% by 2030 (further stepped up to 35% from 2021) and integrating also the climate adaptation and energy poverty pillars. With the broadening of the scope of action, cities' commitments transitioned from SEAP to SECAP (Sustainable Energy and Climate Action Plan).

The Joint Research Centre (JRC) of the European Commission provides scientific, methodological and technical support to the Covenant of Mayors initiative. The JRC, as an independent body, is in charge of the evaluation of the SECAPs providing tailored feedback to the local authorities and in-depth evaluation of selected plans. This document follows the last [CoM East Assessment report](#), and it analyses CoM East SECAPs of signatories reporting through the MyCovenant platform. Depending on the analysis carried out, it may cover the whole set of cities of CoM East or may complement previous evaluation thereby referring to the timeframe 2021/2023. This is clearly mentioned through the text.

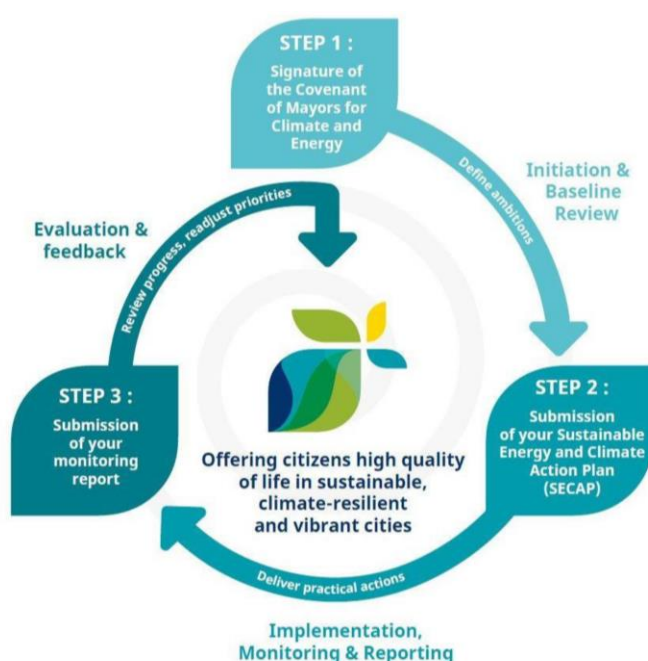
Moreover, several studies have been developed so far to support the scientific development of CoM East (e.g., Bertoldi et al. 2014; Kona et al. 2018) others have focused on the initiative development and progresses (e.g., Kona 2019; Palermo et al. 2021).

This short report is to be considered as a transitional document between the CoM East Assessment report released in 2021 and the next full Assessment Report planned to be published in 2025.

## 2. SECAP Evaluation and Methodology

Local authorities joining the CoM commit to making their territories and the lives of their citizens more sustainable, less carbon intensive, more resilient and just. To these aims, local authorities take the following steps to comply with the CoM framework: sign and become a CoM signatory, assess the status of their policies and practices and the current conditions of their territorial and economic assets in terms of energy consumption, carbon emission, vulnerable sectors and population group, as well as on energy affordability. Then signatories establish their targets, set strategies, and plan their actions. These steps are fully described into the Sustainable Energy and Climate Action Plans and the related data are reported through the official platforms.

Figure 2: The CoM steps



Source: Bertoldi P. (editor) 2018

The SECAPs are evaluated by the JRC on the basis of a set of completeness and consistency criteria covering the general process and the two pillars of the initiative currently active, namely Climate Change Mitigation and Adaptation<sup>1</sup>. The third pillar of the CoM will be become mandatory from January 2025, however current signatories may already develop strategies and actions on energy poverty and report their data via the platforms. The evaluation criteria for the mitigation and adaptation to climate change pillars are:

---

<sup>1</sup> The third pillar of the CoM will be become mandatory from January 2025, however current signatories may already develop strategies and actions on energy poverty and report their data via the platforms.

### General Criteria:

1. The SECAP is approved by an official body (in principle the municipal council).
2. The mandatory data and information provided in MyCovenant are complete and correctly filled-in, as per the Reporting Guidelines.

### Mitigation Assessment Criteria:

3. The SECAP clearly specifies the overall CO<sub>2</sub> reduction target.
4. The results of the Baseline Emission Inventory (BEI) are provided and cover the key sectors of activity.
5. The SECAP lists a set of actions aimed at reaching the identified mitigation target in the mitigation key sectors, including at least 3 Key Mitigation Actions.

### Adaptation Assessment Criteria:

6. The SECAP includes at least one adaptation goal.
7. The SECAP includes a complete local Climate Risk & Vulnerability Assessment (RVA).
8. The SECAP lists a set of actions aimed at reaching the identified adaptation goal(s), including at least 3 Key Adaptation Actions.

If any criterion is not fully met, the signatory is pre-contacted with the aim to request further information and provide recommendations enabling the SECAP to meet all the criteria and allow for a full evaluation. In addition, even when a SECAP is accepted, JRC may make recommendations for improvement.

The methodologies developed for the analysis of the data which constitute the foundations for the overall assessment of the CoM in different world regions are described in a number of scientific studies developed by JRC, such as: Franco et al 2024, Franco et al. 2022.

The assessment of the CoM initiative in the EaP countries presented in this report covers information about participating cities and local authorities, as well as contents of the evaluated SECAPs. The analysis is based on the review and elaboration of the information submitted by signatories through the MyCovenant platform<sup>2</sup> on both mitigation and adaptation, from which data were extracted and analysed in a spreadsheet to provide the aggregate results. Retrieved information include a wide set of quantitative and categorical data, as for example geodemographic statistics, figures on total and sectoral energy uses, emissions in the baseline year inventory, emission reduction targets in both percentage and absolute levels, type of hazards, vulnerable sectors and vulnerable population groups. The approach taken for the assessment, therefore, includes a review of the information provided by municipalities, data cleaning and correction of inconsistencies, if any, and finally aggregation of data in the overall quantitative analysis.

---

<sup>2</sup> Available at <https://mycovenant.eumayors.eu/>

### 3. Results

In this section, preliminary results are shown in terms of signatories and commitments included in submitted SECAPs. The following information is provided:

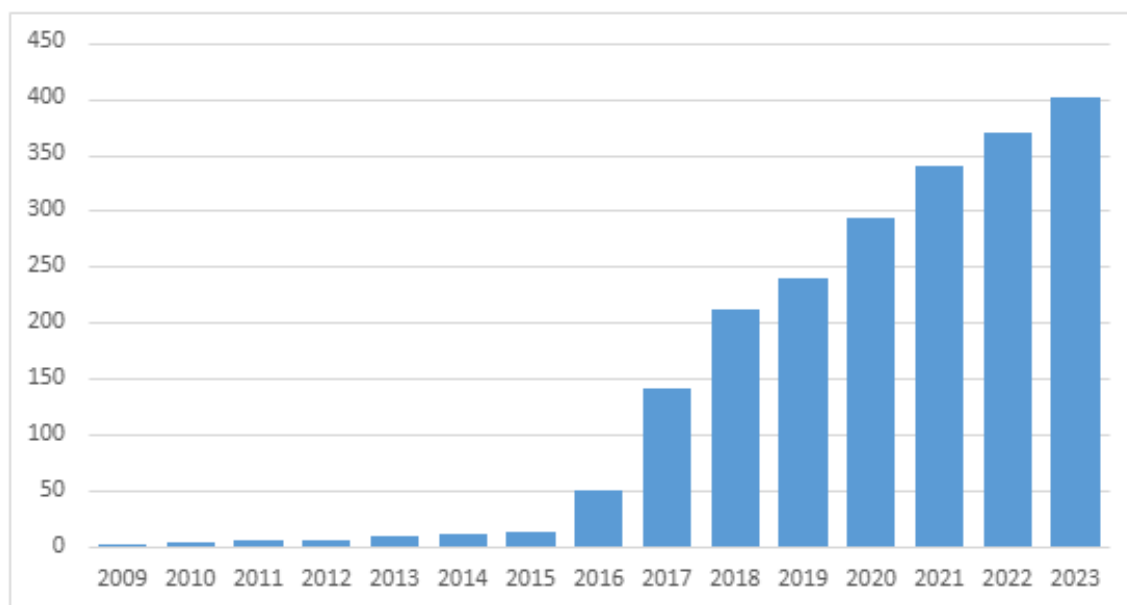
- a. Signatories and commitments
  - Signatories per country
  - Population covered
  - Total from last Assessment report
- b. Sustainable Energy and Climate Action Plans
  - SECAPs received, evaluated, goals and targets
  - Baseline Emission Inventories and Risk and Vulnerability Assessments
  - Actions' overview

#### 3.1 Signatories and commitments

##### Signatories per country

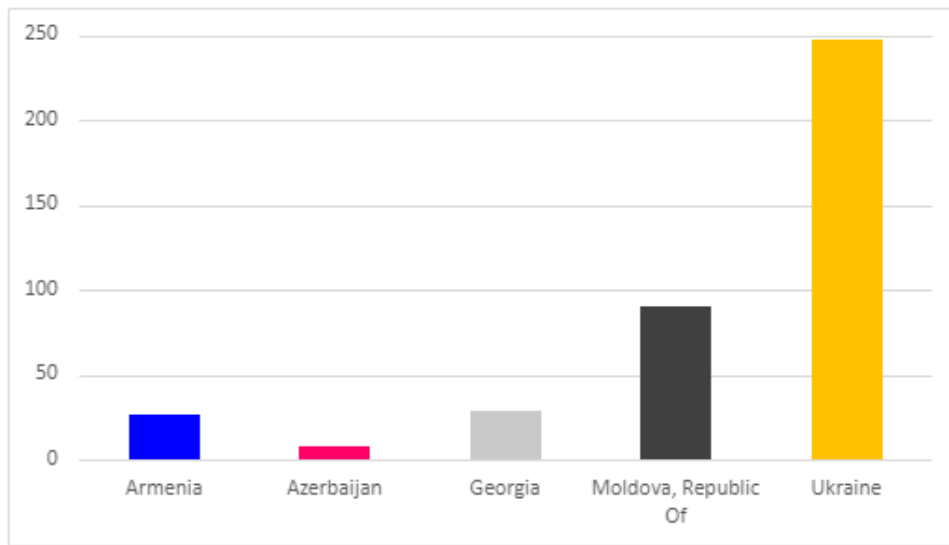
Overall, 401 signatories participate to the CoM East initiative with a 2030 commitment at the cut-off date of December 31<sup>st</sup> 2023. Their number has been increasing overtime, especially since 2016 (Figure 3). Most of them are Ukrainian cities, which account for more than a half of the total signatories (247), followed by cities in Moldova (90), Georgia (29), Armenia (27) and Azerbaijan (8) (Figure 4).

Figure 3: Total number of signatories over time



Source: JRC elaboration

Figure 4: Number of signatories, by country

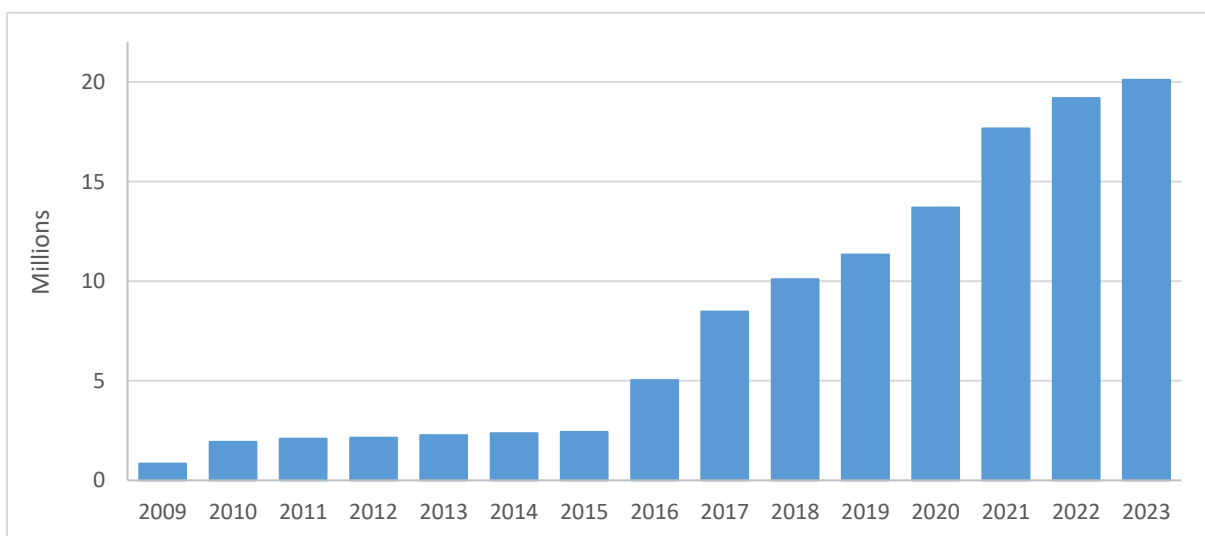


Source: JRC elaboration

### Population covered

The initiative covers a total population of more than 20 million people and includes cities of different size: from very small cities, as for example the Municipality of Greblesti, in Moldova, with 672 inhabitants, to large metropolises and capitals of over 1 million of inhabitants such as Kharkiv (Ukraine), Yerevan (Armenia) and Tbilisi (Georgia). Figure 5 shows the increase of the local population covered by SECAPs over time.

Figure 5: Population covered over time

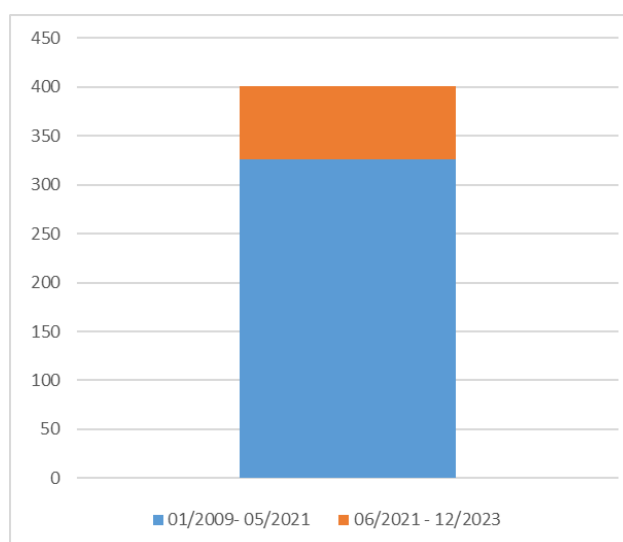


Source: JRC elaboration

## Number of new signatories from last Assessment report

Between the last CoM East Assessment report (cut-off date 31<sup>st</sup> May 2021) and the end of 2023, 75 cities from the Eastern partnership countries joined the CoM initiative (Figure 6). In this period, the country with the highest number of new signatories was Moldova, with 35 cities, followed by Ukraine with 27 new signatories (Table 1).

Figure 6: New CoM East signatories (orange)



Source: JRC elaboration

Table 1: Number of new signatories, by country, May 31<sup>st</sup> ,2021 – Dec 31<sup>st</sup> , 2023

Country	N. of Signatories
<b>Armenia</b>	6
<b>Azerbaijan</b>	1
<b>Georgia</b>	6
<b>Moldova</b>	35
<b>Ukraine</b>	27
<b>Total</b>	<b>75</b>

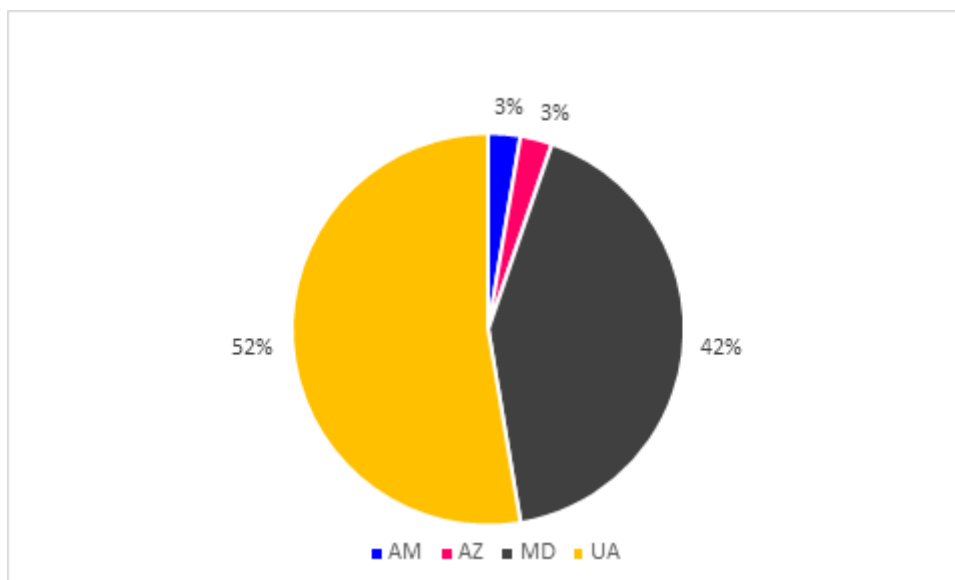
Source: JRC elaboration

## 3.2 Sustainable Energy and Climate Action Plans

The present report considers a total of 38 SECAP evaluated at the cut-off date of the study (31<sup>st</sup> December 2023). The 38 SECAPs evaluated were generally well developed, as demonstrated by the rate of successful analysis of 95% for mitigation and 87% for adaptation (See Table A 1 in the Annex).

In terms of distribution, the majority comes from Ukraine’s cities, which despite the global political context are active and committed to their green transition. No SECAPs were submitted by municipalities in Georgia during the period covered by this report, as plans from Georgian municipalities were submitted in a wave after the cut-off date.

Figure 7: Share of new SECAPs per country (N= 38 evaluated SECAPs)



Source: JRC elaboration

Table 2: Population covered by signatories of the evaluated SECAPs

Countries	Population <sup>3</sup>	n. SECAPs	Average	Median
Armenia	8 700	1	8 700	Not available
Azerbaijan	102 861	1	102 861	Not available
Rep. Of Moldova	127 110	16	7 945	3 278
Ukraine	850 894	20	42 544	35 471
<b>Total</b>	<b>1 147 605</b>	<b>38</b>		

Source: JRC elaboration

From Table 2, it is evident that the SECAPs analysed have been submitted by signatories of variable size, from very small local authorities with a population of 1 548 inhabitants to larger cities with a population of more than hundred thousand, as in Moldova and Azerbaijan.

<sup>3</sup> The population data refers to year of SECAP's submission

## Targets and goals

Cities go beyond the minimum commitment for mitigation, as the average emissions reduction target proposed by cities is above 35% for signatories in Azerbaijan, Republic of Moldova and Ukraine.

Table 3: Average GHG emission target commitment for 2030 per country

Countries	Average GHG emissions target by 2030
Armenia	30%
Azerbaijan	40%
Rep. Of Moldova	38.75%
Ukraine	38.02%

*Source: JRC elaboration*

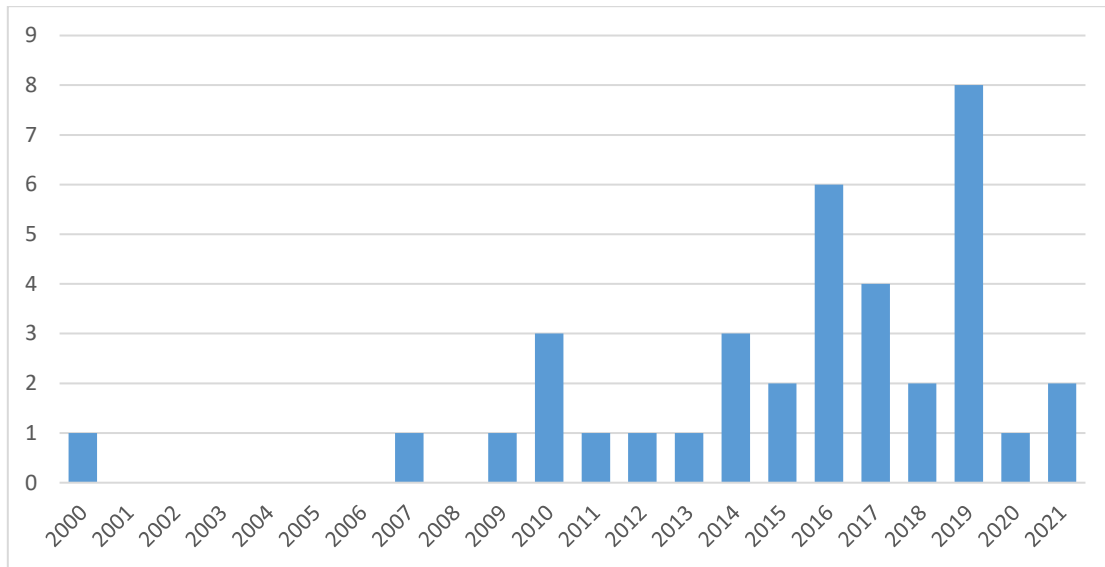
The adaptation goals reported by the selected signatories mainly refer to greening and reforestation (20%), water (30%), and the two integrated (14%). Another 4% of goals is defined in very broad terms, referring in a somewhat generic way to increased resilience of the territory. A limited number of signatories have indicated the hazard their goals refer to, namely *drought and water scarcity*, *extreme heat*, and *flood and sea level rise*, which is consistent with the goals indicated. The target year is 2030 for 82% of the SECAPs analysed, and earlier for the 11%. Similarly to signatories in the EU 27, the adaptation goals reported can benefit from improvement, as they are either very broad (i.e., “Reduction of climatic risks and fast response to the possible threats”) or merged with actions (i.e., “Introduction of smart irrigation systems”).

## Baseline Emission Inventory (BEI)

All the signatories under evaluation in this report, propose an emission reduction target against a baseline year. For the same year, they provide a complete CO<sub>2</sub> emission inventory, based on actual energy consumption data that will serve as a reference to track their mitigation efforts.

The baseline year varies across SECAPs: the earliest year is 2000, as proposed by the Municipality of Slavutych (Ukraine), however, most signatories use a base year between 2007 and 2021. In particular, 8 cities (21 %) report their emission inventory in 2019, 5 cities (16 %) in 2016 and 4 (11 %) in in 2017 (Figure 8). The use of recent base years may be attributed to better data quality and availability.

Figure 8: Number of SECAPs per baseline year



Source: JRC elaboration

According to the data reported in the Baseline Emission Inventory (BEI) of the 38 SECAPs evaluated, the aggregate final energy consumption reported on the base year is 11,023,307 MWh/year, whereas the total CO<sub>2</sub> emissions are 3.1 Million tCO<sub>2</sub>-eq/year

In both cases, Ukraine accounts for the biggest share, with about 9.7 Million of MWh of energy consumption and 2.8 Million tCO<sub>2</sub>-eq/year, followed by Azerbaijan and Moldova (Table 4).

Table 4: BEI final energy and aggregate emissions, by country

Country	Final Energy Consumption (MWh/year)		Aggregate emissions (Mt CO <sub>2</sub> -eq/year)	
	Total	Per capita	Total	Per capita
Armenia	65 911	6.1	8 165	0.8
Azerbaijan	642 446	6.4	212 087	2.1
Moldova	395 608	6.3	106 502	1.7
Ukraine	9 732 929	10.8	2 757 395	3.1
Total	10 836 894	10.1	3 084 149	2.9

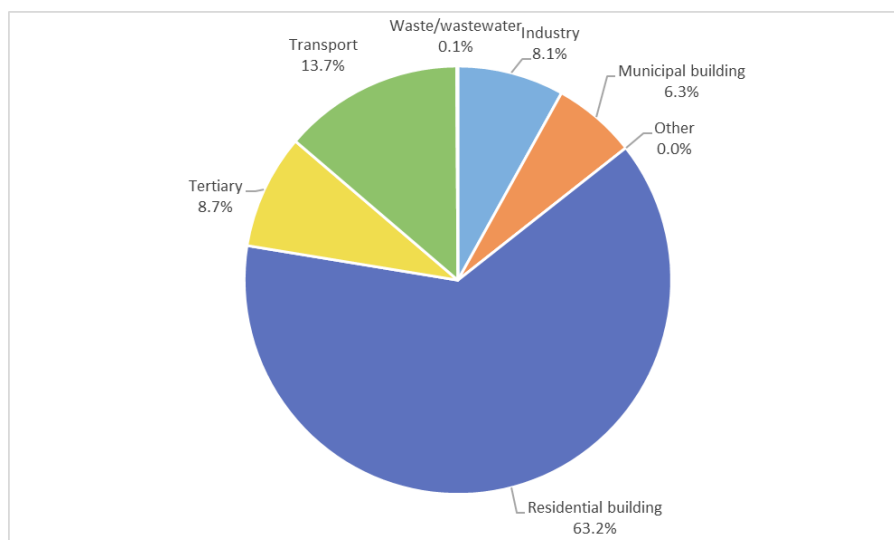
Source: JRC elaboration

When comparing these figures taking into account the local population reported in the base year, we see that Ukraine's cities have also the highest values of reported energy and emission per capita. On the contrary the lowest per capita energy consumption and emissions are reported by Armenia's cities.

At the sectoral level, 63% of total CO<sub>2</sub>-eq emissions come from the residential building sector, followed by the transport sector, which accounts for 14% of total emissions and the tertiary building

sector with a share of 9 % (Figure 9). These figures confirm the key role of the residential buildings and transport in the transition toward decarbonisation of these cities.

Figure 9: CO<sub>2</sub>-eq emissions in BEI year, share by sector



Source: JRC elaboration

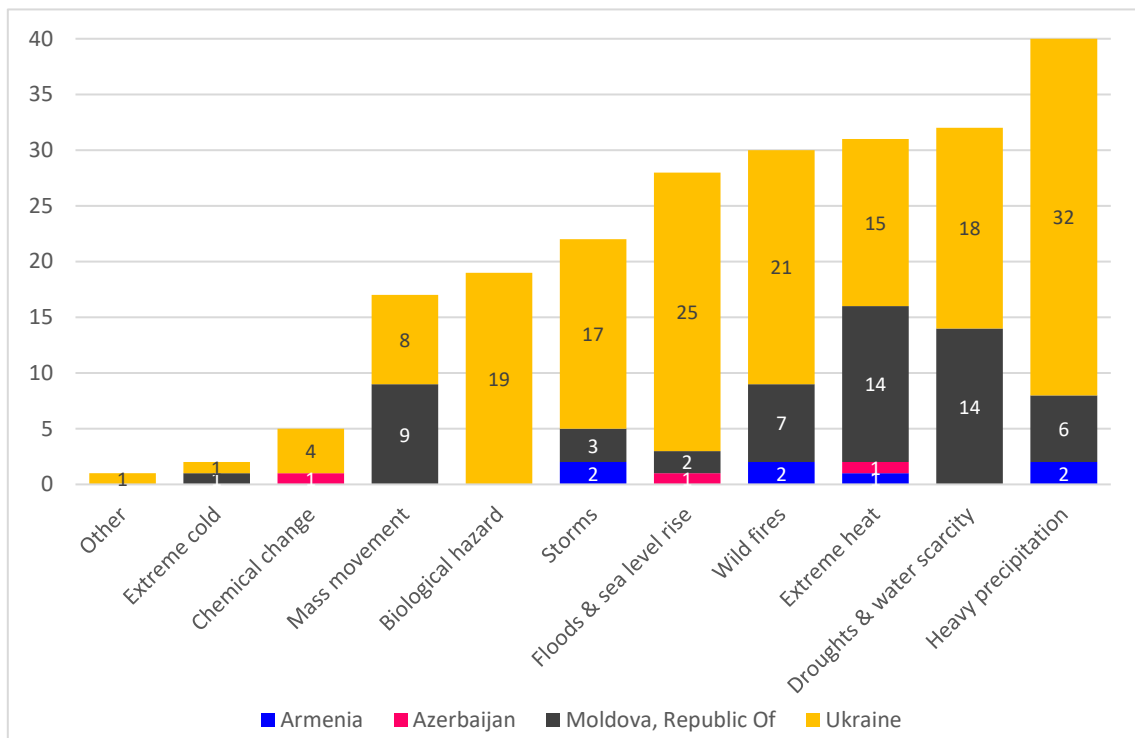
## Risk and Vulnerability Assessment (RVA)

Signatories include in their SECAP a Risk and Vulnerability Assessment identifying the hazards that could be faced in their territories, the related level of probability, the expected impact and vulnerable sectors. Overall, signatories evaluated in this report reported 339 recurrences of hazards. On average every signatory has identified 9 climate hazards in their RVA. Out of this, 227 occurrences (67%) have been identified with a high or medium occurring probability.

The most common hazards with high occurring probability are *Heavy precipitations, Extreme Heat, Floods and sea level rise, Drought and water scarcity*. When considering the distribution of the hazards with both high and medium probability of occurrence per country, *Wild fires* also become relevant (Figure 10), and *Extreme heat* emerges as the hazard reported by signatories in every country.

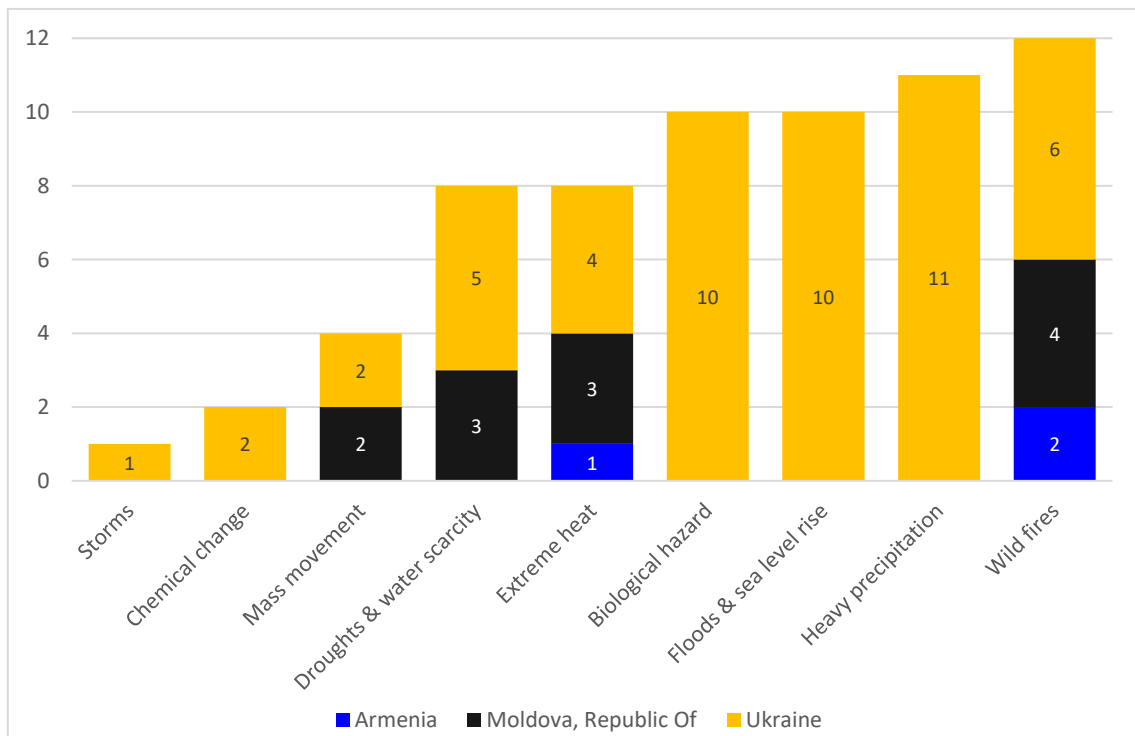
Similarly, the most common hazards with high occurring probability and high impact are *Heavy precipitations, Floods and sea level rise, Drought and water scarcity, Extreme Heat*. However, out of the 227 occurrences of hazards characterised by both high and medium probability, 30% have been reported to have already a high current impact and are associated to *Wild Fires, Heavy precipitation and rainfalls, Flood and sea level rise*, as reported in Figure 11. Notably, the SECAP of the signatory from Azerbaijan has not identified any hazard with high/medium probability of occurrence and relative high impact.

Figure 10: Distribution of reported hazards with high/medium probability of occurrence (n=227) per country



Source: JRC elaboration

Figure 11: Distribution of hazards with high impact and high/medium probability of occurrence per country

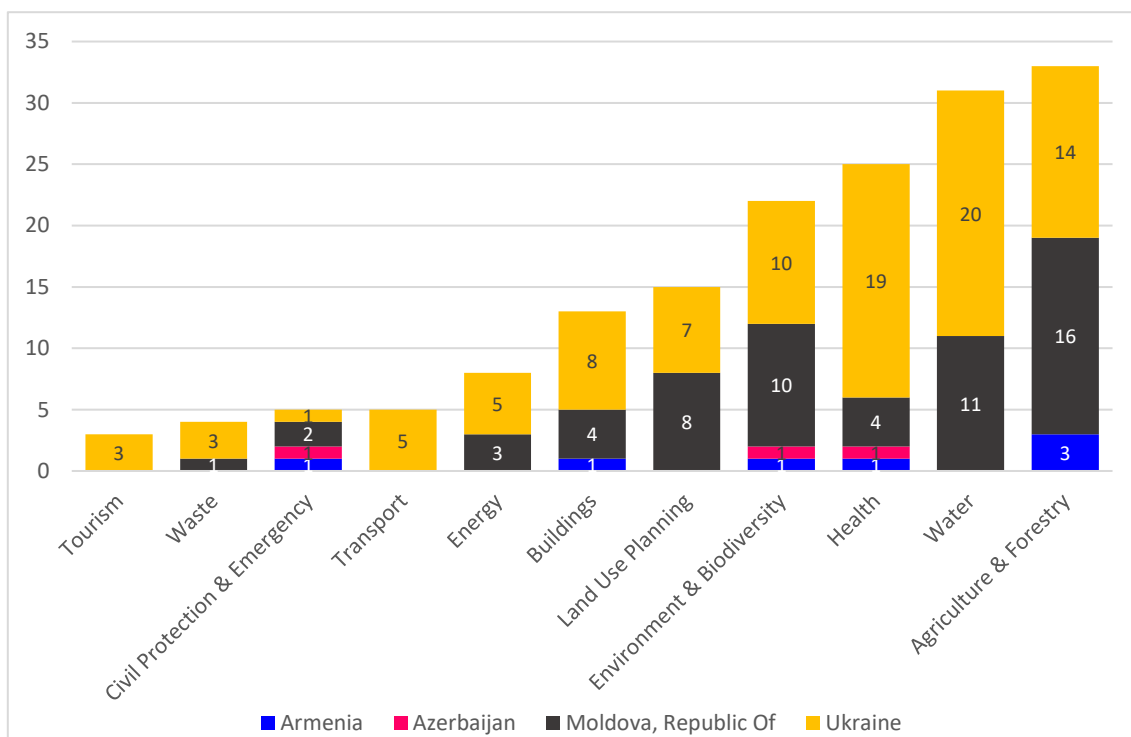


Source: JRC elaboration

## Vulnerable sectors

Figure 12 shows the sectors considered as highly vulnerable per country. *Health, Environment and biodiversity* and, *Civil protection and Emergency* are considered highly vulnerable sectors by signatories in all countries.

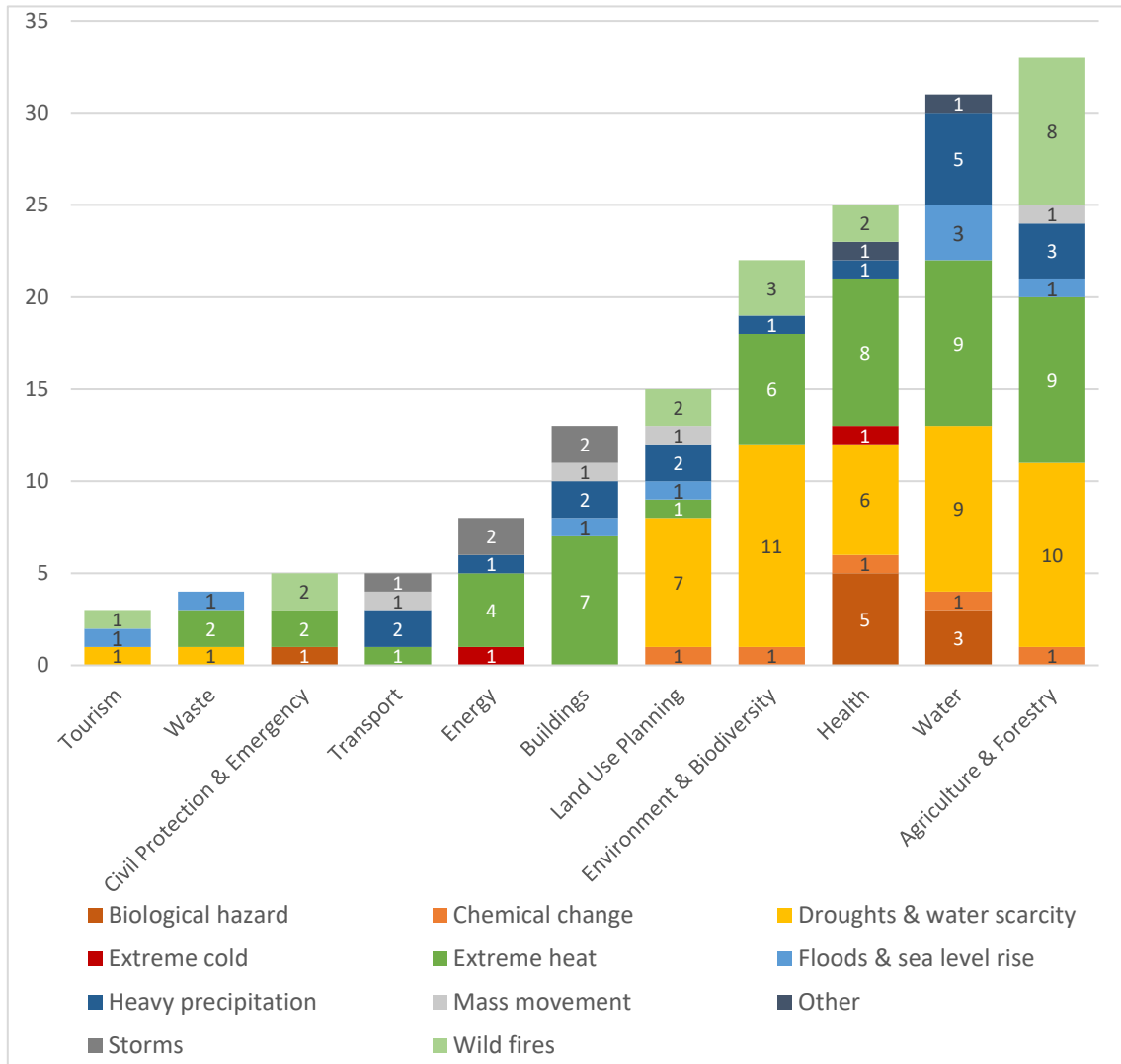
Figure 12: Reported vulnerable sectors – level High (n=164) per country



Source: JRC elaboration

Each sector is reported as vulnerable to a specific climate hazard. Figure 13 shows the sectors considered highly vulnerable in relation to the specific climate hazards. From the figure, it is evident that the sectors *Agriculture and Forestry*, *Water*, *Health*, and *Environment and biodiversity* have been reported as highly vulnerable with high occurrences (respectively 20 %, 19 %, 15 % and 13 %). These sectors are in fact vulnerable to several hazards. Finally, it is worth noting that all sectors but “tourism” are reported to be highly vulnerable to the hazard *Extreme heat*.

Figure 13: Reported vulnerable sectors with level High (n=164) and corresponding climate hazard



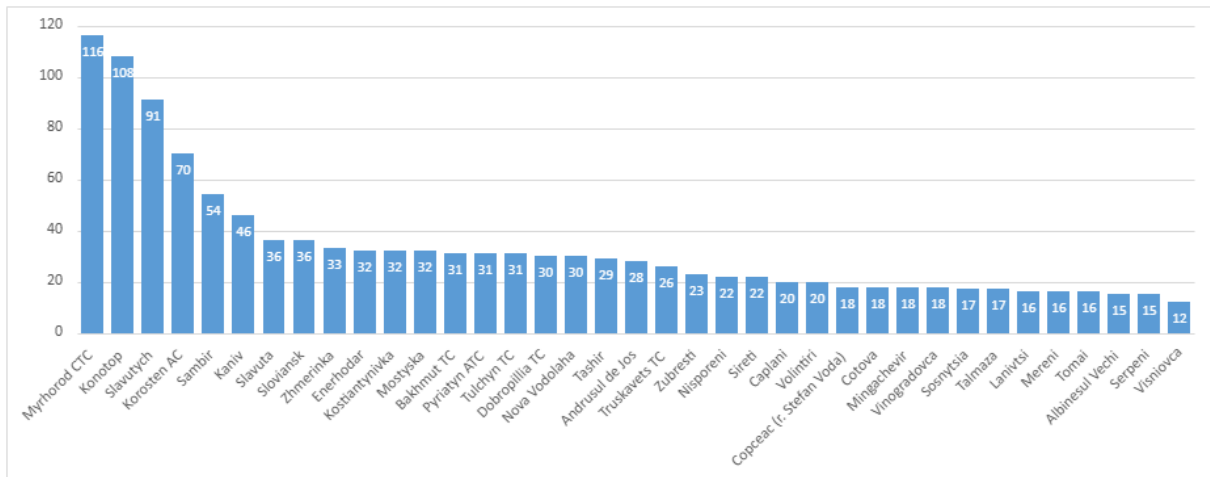
Source: JRC elaboration

### Actions' overview

The evaluated SECAPs contain on average 33 actions (mitigation/adaptation/energy poverty), with some exceptional outliers: the cities of Korosten AC with 70 actions; Myrhorod CTC, 116; Konotop, 108; and Slavutych, 91 (Figure 14). The target year of the 40 % of these actions is 2030, while 32 % refers to the timeframe between 2025 and 2029.

Five signatories (four from Ukraine and one from the Republic of Moldova) have planned also actions combining energy poverty and mitigation.

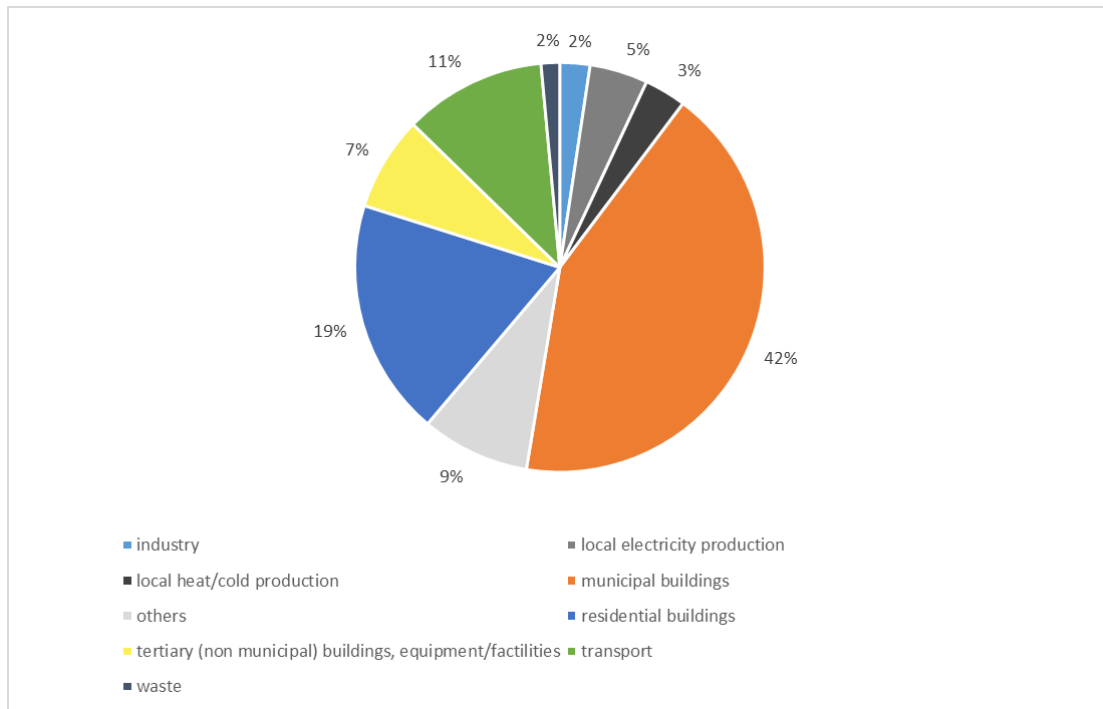
Figure 14: Number of actions (mitigation, adaptation, energy poverty) per SECAP



Source: JRC elaboration

Most of climate mitigation actions target the building sector (over 60 %), followed by the transport sector (11 %) and local energy production (8 %). Within the building sector, mitigation actions focus on building insulation (i.e. Insulation of facades, replacement of windows), replacement of existing lighting systems with more efficient ones and replacement of boilers. In the transport sector, the interventions primarily aim at introducing cycling paths, improving the public transport fleets and introducing electric vehicles (Figure 15).

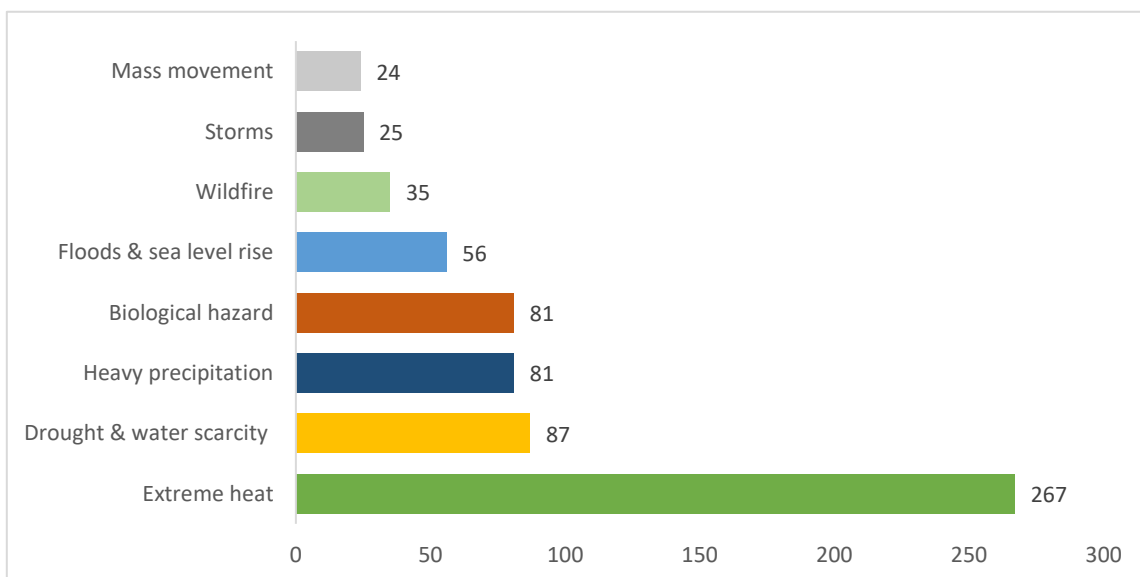
Figure 15: Distribution of mitigation actions per sector (normalised per number of SECAPs)



Source: JRC elaboration

Out of 439 climate adaptation actions, 363 indicated the addressed hazards. Considering that a single action can target multiple hazards, on average each action targets 1.8 hazard, as shown in the graph in Figure 16. The figure also shows the most targeted hazard is “Extreme heat” followed by “Drought and water scarcity”.

Figure 16: Targeted Climate hazards by Climate Adaptation Actions (n=363)



Source: JRC elaboration

With regards to climate change adaptation actions, high attention is dedicated to awareness and sharing of knowledge on climate change risks and available opportunities for adaptation. In addition, the (re)construction of flood protection systems, surface drainage networks have high consideration. Notably, inventorying and auditing are often included with multiple goals, i.e., to monitor green spaces, flood protection or for forest fires. Finally, several actions focus on reducing water pollution and on planting species to restore degraded land, to design green areas to reduce risks.

## 4 Conclusions

This document provides preliminary insights into the progresses and status of implementation of the CoM EAST initiative through the analysis of evaluated Sustainable Energy and Climate Action Plans.

The assessment shows that the initiative continues raising interest in local authorities in the region, with new signatories, especially from the Republic of Moldova. When looking at the SECAPs submitted, local authorities in Ukraine are the most active despite geopolitical changes occurred since the publication of the previous report. SECAPs from Ukrainian cities analysed in this document, represent 52% of the total plans. It is also to be highlighted that local authorities often sign and submit their SECAPs in block, thereby explaining the case for no Georgian SECAPs included in this study, as a group of 10 plans from this country was submitted in 2024.

All the signatories under evaluation in this report propose a complete SECAP, including both mitigation and adaptation commitments. JRC evaluation reveals an overall completeness of mandatory information under both pillars, with higher quality of reporting for the mitigation pillar (e.g. complete emission inventory, clear and quantified emission reduction target covered by consistent actions) whereas the adaptation pillar still highlights some areas of improvement, especially in identifying clear and quantified adaptation targets and actions, consistently addressing major hazards. It has to be noted, however, that the relatively more recent introduction of the adaptation pillar may imply some time to develop technical skills and learning path.

From the mitigation pillar's results, signatories commit to reduce emissions on average by 38%, going slightly beyond the required minimum commitment for the CoM East area, which currently is 35%. In terms of emissions, Ukraine's cities have the highest values of reported emission per capita, while the lowest per capita emissions are reported by Armenia's cities. At the sectoral level, 63% of total CO<sub>2</sub> emissions come from the residential building sector, followed by the transport sector. These two sectors are covered by the mitigation actions planned in the analysed SECAPs although most of them addresses the municipal buildings sector. This slight deviation is linked to the prominent and exemplary role of municipal assets and properties in local climate action. Moreover, although planning and reporting on the energy poverty pillar is still under a transition phase, signatories have started planning climate change mitigation actions addressing also energy poverty, which highlights the commitment and the interest on the topic by local authorities.

On average improvements in the climate change adaptation pillar were recorded. Every signatory has identified averagely 9 climate hazards in their RVA. The most common hazards with high occurring probability and high impact are: *Heavy precipitations, Floods and sea level rise, Drought and water scarcity, Extreme Heat*. Almost all sectors are reported to be vulnerable to the *Extreme heat* hazard, and, consistently, it is the most targeted climate hazard by climate adaptation actions.

To conclude, our assessment shows the relevance of the CoM East initiative in guiding and stimulating local authorities across the region toward the path of decarbonisation and resilience. Targets and actions in the SECAPs indicates a robust and ambitious commitment from signatories, although at different levels of maturity between mitigation and adaptation. Future steps of the initiative may focus on improving the definition of adaptation goals and coherence of actions, as well as in developing skills and capacity building for the inclusion of the new energy poverty pillar.

## References

Bertoldi, P., de Raveschoot, R.P., Paina, F., Melica, G., Gabrielaitiene, I., Janssens-Maenhout, G., Meijide Orive, A., Iancu, A. How to develop a SEAP in the Eastern Partnership and Central Asian Cities. European Commission EUR 26741 EN – Joint Research Centre – Institute for Energy and Transport Luxembourg: Publications Office of the European Union 2014 EUR – Scientific and Technical Research series – ISSN 1831-9424 ISBN 978-92-79-39415-7 doi:10.2790/3398.

Bertoldi P. (editor), Guidebook 'How to develop a Sustainable Energy and Climate Action Plan (SECAP) Part 1 - The SECAP process, step-by-step towards low carbon and climate resilient cities by 2030, EUR 29412 EN, Publications Office of the European Union, Luxembourg, 2018, ISBN 978-92-79-96847-1, doi:10.2760/223399, JRC112986

Franco De Los Rios, C., Melica, G., Treville, A., Baldi, M.G., Pisoni, E., Bertoldi, P. and Thiel, C., Prediction of greenhouse gas emissions for cities and local municipalities monitoring their advances to mitigate and adapt to climate change, SUSTAINABLE CITIES AND SOCIETY, ISSN 2210-6707, 86, 2022, p. 104114, JRC128979.

Franco, C., Melica, G., Treville, A. et al. GCoM datasets: a collection of climate and energy action plans with mitigation, adaptation and energy access commitments. *Sci Data* 11, 969 (2024). <https://doi.org/10.1038/s41597-024-03613-5>.

Kona, A., Bertoldi, P. Covenant of Mayors in the Eastern Partnership Countries: 2019 Assessment. Publications Office of the European Union, 2020, JRC119847.

Palermo, V., Rybak, E., Sukhodub, I. and Bertoldi, P., CoM EAST. Overall assessment and in-depth SECAPs analysis, EUR 31051 EN, Publications Office of the European Union, Luxembourg, 2022, ISBN 978-92-76-51972-0, doi:10.2760/182051, JRC128509.

## List of Abbreviations and Definitions

BEI	Baseline Emission Inventory
CO <sub>2</sub>	Carbon Dioxide
CO <sub>2</sub> -eq	CO <sub>2</sub> -equivalent
CoM	Covenant of Mayors for Climate and Energy
CoM EAST	Covenant of Mayors Eastern Partnership countries
DG NEAR	European Commission's Directorate-General for European Neighbourhood Policy and Enlargement Negotiations
EC	European Commission
EU	European Union
GCoM	Global Covenant of Mayors for Climate and Energy
GHG	Greenhouse Gas
JRC	Joint Research Centre
Mt	Million Tonnes
MWh	Megawatt Hour
RVA	Risk and Vulnerability Assessment
SEAP	Sustainable Energy Action Plan
SECAP	Sustainable Energy and Climate Action Plan

## List of Figures

Figure 1: Map of CoM East countries (yellow) and the European Union (blue).....	5
Figure 2: The CoM steps.....	7
Figure 2: Total number of signatories over time.....	9
Figure 3: Number of signatories, by country.....	10
Figure 4: Population covered over time.....	10
Figure 5: New CoM East signatories (orange).....	11
Figure 6: Share of new SECAPs per country (N= 38 evaluated SECAPs).....	12
Figure 7: Number of SECAPs per baseline year.....	14
Figure 8: CO <sub>2</sub> -eq emissions in BEI year, share by sector.....	15
Figure 9: Distribution of reported hazards with high/medium probability of occurrence (n=227) per country.....	16
Figure 10: Distribution of hazards with high impact and high/medium probability of occurrence per country.....	16
Figure 11: Reported vulnerable sectors – level High (n=164) per country.....	17
Figure 12: Reported vulnerable sectors with level High (n=164) and corresponding climate hazard.....	18
Figure 13: Number of actions (mitigation, adaptation, energy poverty) per SECAP.....	19
Figure 14: Distribution of mitigation actions per sector (normalised per number of SECAPs).....	20
Figure 15: Targeted Climate hazards by Climate Adaptation Actions (n=363).....	20

## List of Tables

Table 1: Number of new signatories, by country, 31st May 2021 – Dec 31st 2023 .....	11
Table 2: Population covered by signatories of the evaluated SECAPs .....	12
Table 3: Average GHG emission target commitment for 2030 per country .....	13
Table 4: BEI final energy and aggregate emissions, by country .....	14
Table A 1: CoM East signatories with a submitted SECAP evaluated between 2021 and 2023.....	27

## Annex I

Table A 1: CoM East signatories with a submitted SECAP evaluated between 2021 and 2023

	<b>Signatory</b>	<b>Country code</b>	<b>2030 Mitigation analysis status</b>	<b>2030 Mitigation analysis date</b>	<b>Adaptation analysis status</b>	<b>Adaptation analysis date</b>
1	<b>Dobropillia TC</b>	UA	accepted	22/11/2022	accepted	14/12/2022
2	<b>Sloviansk</b>	UA	accepted	22/11/2022	accepted	14/12/2022
3	<b>Pyriatyn ATC</b>	UA	accepted	22/11/2022	pre-contacted	22/11/2022
4	<b>Visniovca</b>	MD	accepted	13/07/2022	accepted	13/07/2022
5	<b>Mingachevir</b>	AZ	accepted	03/02/2023	Pre-contacted	30/04/2021
6	<b>Nova Vodolaha</b>	UA	accepted	31/01/2023	pre-contacted	31/01/2023
7	<b>Nisporeni</b>	MD	accepted	22/11/2022	pre-contacted	22/11/2022
8	<b>Zubresti</b>	MD	pre-contacted	16/12/2021	pre-contacted	16/12/2021
9	<b>Bakhmut TC</b>	UA	accepted	25/01/2022	pre-contacted	25/01/2022
10	<b>Tulchyn TC</b>	UA	accepted	25/01/2022	pre-contacted	25/01/2022
11	<b>Enerhodar</b>	UA	accepted	25/01/2022	pre-contacted	25/01/2022
12	<b>Tomai</b>	MD	accepted	25/01/2022	accepted	25/01/2022
13	<b>Talmaza</b>	MD	accepted	16/12/2021	accepted	16/12/2021
14	<b>Albinesul Vechi</b>	MD	accepted	25/01/2022	accepted	25/01/2022
15	<b>Sireti</b>	MD	accepted	16/12/2021	accepted	16/12/2021
16	<b>Lanivtsi</b>	UA	accepted	22/11/2022	pre-contacted	22/11/2022
17	<b>Sosnytsia</b>	UA	accepted	22/11/2022	pre-contacted	22/11/2022

18	<b>Mereni</b>	MD	accepted	03/02/2023	accepted	03/02/2023
19	<b>Kostiantynivka</b>	UA	accepted	13/07/2022	accepted	13/07/2022
20	<b>Cotova</b>	MD	accepted	02/02/2023	accepted	02/02/2023
21	<b>Sîngerei</b>	MD	accepted	02/02/2023	accepted	02/02/2023
22	<b>Serpeni</b>	MD	accepted	02/02/2023	accepted	02/02/2023
23	<b>Korosten AC</b>	UA	accepted	13/07/2022	accepted	13/07/2022
24	<b>Konotop</b>	UA	accepted	06/02/2023	pre-contacted	06/02/2023
25	<b>Mostyska</b>	UA	accepted	22/11/2022	accepted	22/11/2022
26	<b>Kaniv</b>	UA	accepted	22/11/2022	accepted	22/11/2022
27	<b>Vinogradovca</b>	MD	accepted	02/02/2023	accepted	02/02/2023
28	<b>Zhmerinka</b>	UA	accepted	17/08/2022	accepted	01/12/2022
29	<b>Myrhorod CTC</b>	UA	accepted	23/02/2023	accepted	23/02/2023
30	<b>Slavutych</b>	UA	accepted	02/02/2023	accepted	02/02/2023
31	<b>Copceac (r. Stefan Voda)</b>	MD	accepted	02/02/2023	accepted	02/02/2023
32	<b>Andrusul de Jos</b>	MD	accepted	22/02/2023	accepted	22/02/2023
33	<b>Slavuta</b>	UA	pre-contacted	06/03/2023	accepted	06/03/2023
34	<b>Caplani</b>	MD	accepted	11/09/2023	accepted	11/09/2023
35	<b>Sambir</b>	UA	accepted	06/03/2023	pre-contacted	06/03/2023
36	<b>Tashir</b>	AM	accepted	19/06/2023	accepted	19/06/2023
37	<b>Truskavets TC</b>	UA	accepted	19/06/2023	pre-contacted	19/06/2023
38	<b>Volintiri</b>	MD	pre-contacted	19/06/2023	accepted	19/06/2023

## Getting in touch with the EU

### In person

All over the European Union there are hundreds of Europe Direct centres. You can find the address of the centre nearest you online ([european-union.europa.eu/contact-eu/meet-us\\_en](https://european-union.europa.eu/contact-eu/meet-us_en)).

### On the phone or in writing

Europe Direct is a service that answers your questions about the European Union. You can contact this service:

- by freephone: 00 800 6 7 8 9 10 11 (certain operators may charge for these calls),
- at the following standard number: +32 22999696,
- via the following form: [european-union.europa.eu/contact-eu/write-us\\_en](https://european-union.europa.eu/contact-eu/write-us_en).

## Finding information about the EU

### Online

Information about the European Union in all the official languages of the EU is available on the Europa website ([european-union.europa.eu](https://european-union.europa.eu)).

### EU publications

You can view or order EU publications at [op.europa.eu/en/publications](https://op.europa.eu/en/publications). Multiple copies of free publications can be obtained by contacting Europe Direct or your local documentation centre ([european-union.europa.eu/contact-eu/meet-us\\_en](https://european-union.europa.eu/contact-eu/meet-us_en)).

### EU law and related documents

For access to legal information from the EU, including all EU law since 1951 in all the official language versions, go to EUR-Lex ([eur-lex.europa.eu](https://eur-lex.europa.eu)).

### EU open data

The portal [data.europa.eu](https://data.europa.eu) provides access to open datasets from the EU institutions, bodies and agencies. These can be downloaded and reused for free, for both commercial and non-commercial purposes. The portal also provides access to a wealth of datasets from European countries.

# Science for policy

The Joint Research Centre (JRC) provides independent, evidence-based knowledge and science, supporting EU policies to positively impact society



EU Science Hub  
[Joint-research-centre.ec.europa.eu](https://joint-research-centre.ec.europa.eu)



Publications Office  
of the European Union