



Valutazione e monitoraggio dello stato della pianificazione climatica a scala locale: La EURO-LCP Initiative

Assessing and Monitoring the Status of Climate Planning at the Local Scale: The EURO-LCP Initiative



Dr. Filomena Pietrapertosa, Dr. Monica Salvia - Institute of Methodologies for Environmental Analysis, National Research Council of Italy



Dr. Diana Reckien - University of Twente, Faculty of Geo-Information Science and Earth Observation, Netherlands

In collaboration with about 40 European researchers:

P. Eckersley, N.-A. Spyridaki, A. Krook-Riekkola, M. Olazabal, S. De Gregorio Hurtado, S. G. Simoes, D. Geneletti, V. Viguié, P. A. Fokaides, B. I. Ioannou, A. Flamos, M. Szalmane Csete, A. Buzasi, H. Orru, C. de Boer, A. Foley, K. Rižnar, M. Matosović, M. V. Balzan, M. Smigaj, V. Baštáková, E. Streberova, N. Belšak Šel, L. Coste, L. Tardieu, C. Altenburg, E. Krkoška Lorencová, K. Orru, A. Wejs, E. Feliu, J. M. Church, S. Grafakos, S. Vasilie, I. Paspaldzhiev, O. Heidrich.

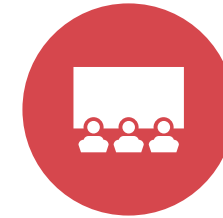
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FRAMEWORK**



**THE EURO-LCP
INITIATIVE**



**STUDIES AND
RESULTS**



CONCLUSIONS

The research framework

Cities are major contributors to climate change:

- They consume **78% of the world's energy** and
- produce more than **60% of GHG emissions** - *UN Habitat*



The high rate of urbanisation of Europe - **74%** of its population living in urban areas in 2018 (UN, 2018) - makes cities highly vulnerable to climatic threats, such as heat waves, droughts, flash floods, etc.

“Cities are as vulnerable as they are powerful”
(C40 Leadership network)

Cities and urban areas are crucial actors in climate change mitigation and adaptation.



- How European cities are taking action to address the climate crisis?
- Are the climate mitigation targets set by cities ambitious enough to ensure carbon neutrality by 2050?
- To what extent are cities in Europe prepared for the increasing risks posed by climate change?

How can climate planning be more effective, adequate, ambitious, integrated?

Which sectors are efficiently addressed and which are neglected, missing to contribute to climate preparedness?

How can account for trade-off, respect outcomes on different social groups?

How can planning and policy monitor and learn from previous local plans and their implementation?



The EURO-LCP Initiative

Assessing the State of Local Climate Planning in European Cities:

Updates of Local Climate Plans conducted by a scholarly team of around 40 researchers across 28 European countries on as much as 885 European cities

40

Researchers

28

European countries

885

European cities

How are we preparing for climate change in European cities?

The EURO-LCP Initiative collects local climate plans and policies in European cities and assesses their content with respect to important plan quality criteria, ambition levels, sectoral scope and depth, integration and mainstreaming. We summarize this information across European cities, countries, and regions with regard to the alignment with the 1.5°/2° Celsius goals and adaptation targets based on impact/risk levels.

It assesses the state of local climate planning in Europe since 2013. It originated in the framework of the COST Action TU0902 (2009-2013)



It studies the state, quality, adequacy, progress, and effectiveness of local climate planning and disseminates its findings

The main goal is to advance the implementation of climate actions and minimize maladaptation and malmitigation for wider urban resiliency and sustainability in Europe.



eurostat

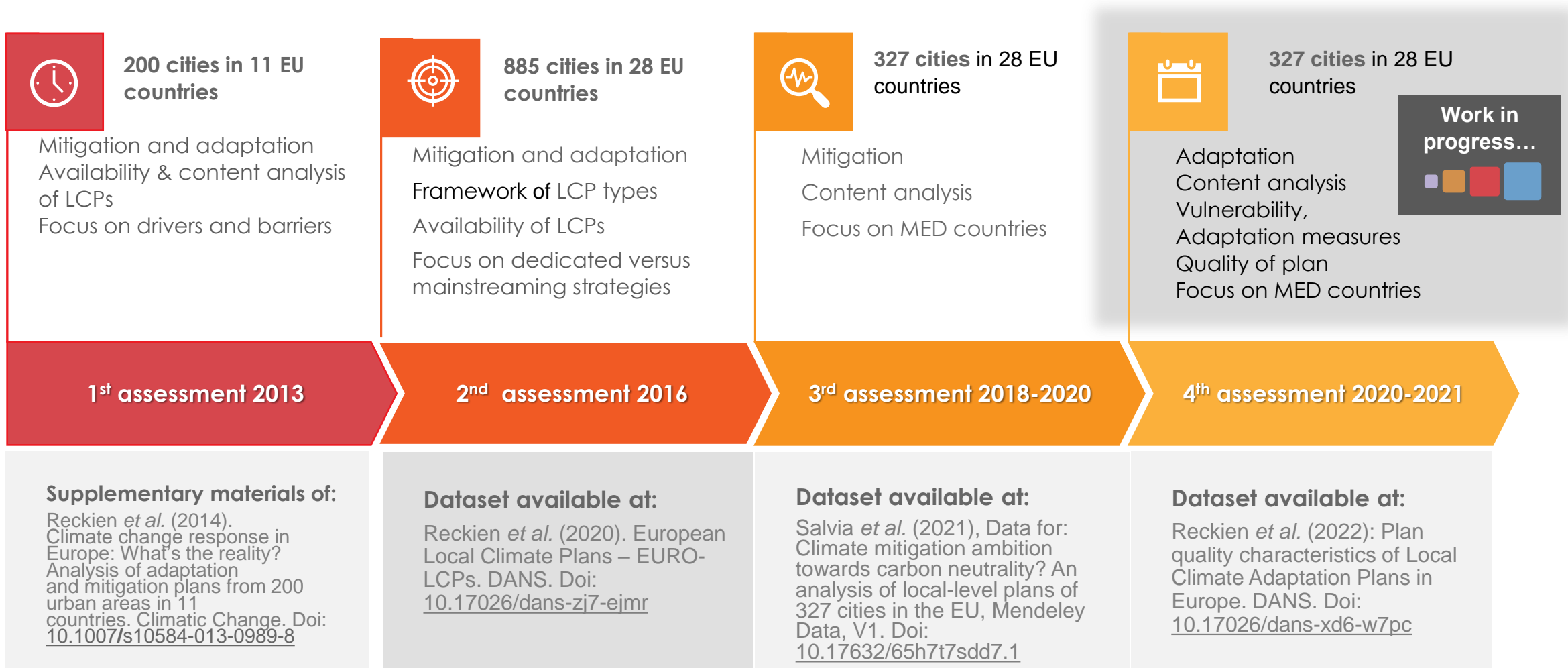
Your key to European statistics



The City statistics database (Urban Audit)

How cities respond to climate change?

Studies conducted on the assessment of Local Climate Plans (mitigation & adaptation)



Work in progress...



200 Urban Audit in 11 countries (17% of the pop EU-27)

Database with 120 variables per city:

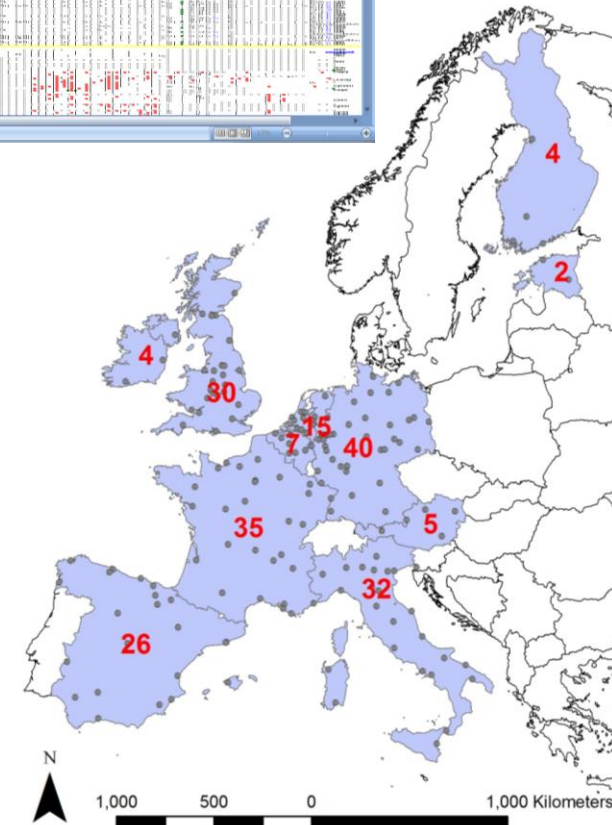
- LCPs & content
- Membership in international climate networks
- Socio-economic data & Natural aspects

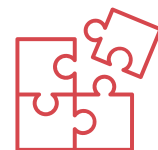


LCP selection:

- Planning and strategic policy documents targeting the entire city area
- Tackling climate change mitigation and/or adaptation
- Published as one document; no single actions

Reckien, D. et al. (2014) Climate change response in Europe: what's the reality? Analysis of adaptation and mitigation plans from 200 urban areas in 11 countries. *Climatic Change*, 122 (1-2): 331-340. doi: 10.1007/s10584-013-0989-8





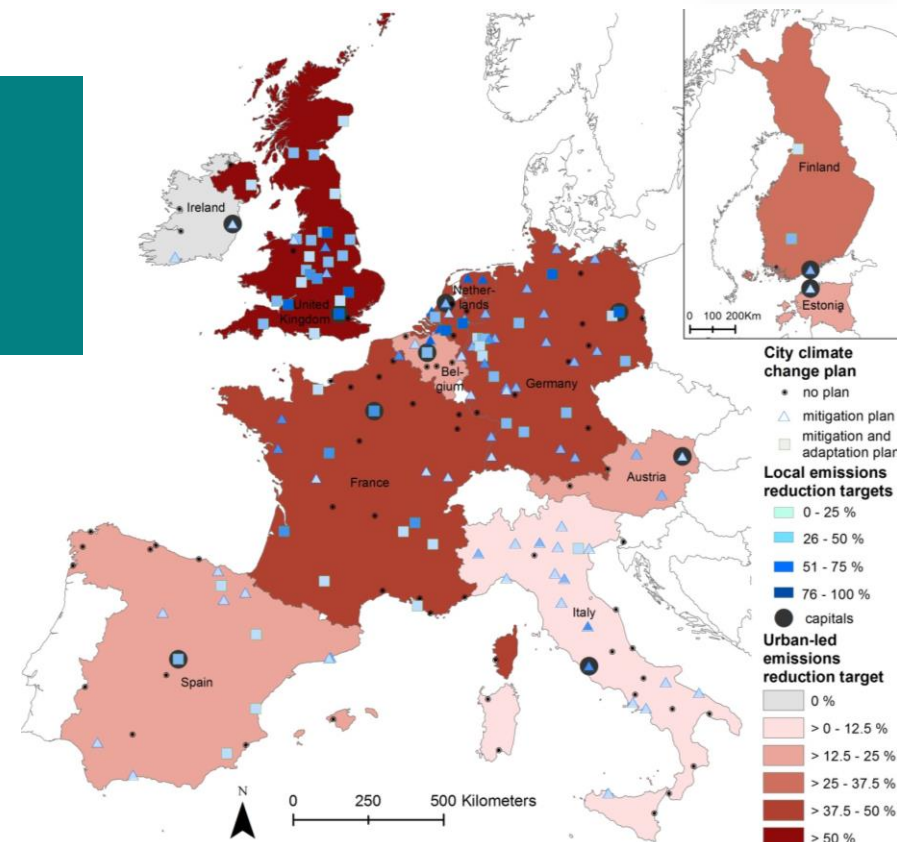
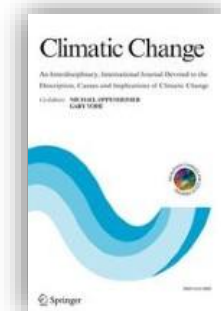
200 Urban Audit in 11 countries

Existence, content, drivers & barriers of Local Climate Plans (LCPs)

...in country	Cities [N]	... with:					
		Mitigation plan		Adaptation plan		Joint mitigation & adaptation plans	
		N	[%]	N	[%]	N	[%]
Austria	5	3	60.0	0	0.0	0	0.0
Belgium	7	3	42.3	1	14.3	0	0.0
Estonia	2	1	50.0	0	0.0	0	0.0
Finland	4	3	75.0	2	50.0	2	50.0
France	35	15	42.9	8	22.9	6	17.1
Germany	40	32	80.0	13	32.5	6	15.0
Ireland	4	2	50.0	0	0.0	0	0.0
Italy	32	18	56.3	1	3.1	0	0.0
Netherlands	15	12	80.0	3	20.0	2	13.3
Spain	26	13	50.0	5	19.2	3	11.5
United Kingdom	30	28	93.3	24	80.0	24	80.0
TOTAL	200	130	65.0	57	28.5	43	21.5

→ 65% of cities have a mitigation LCP;
 → 29% adaptation LCP;
 → 22% joint LCPs

Reckien, D., et al. (2014). Climate change response in Europe: What's the reality? Analysis of adaptation and mitigation plans from 200 urban areas in 11 countries. *Climatic Change*. Doi: [10.1007/s10584-013-0989-8](https://doi.org/10.1007/s10584-013-0989-8)

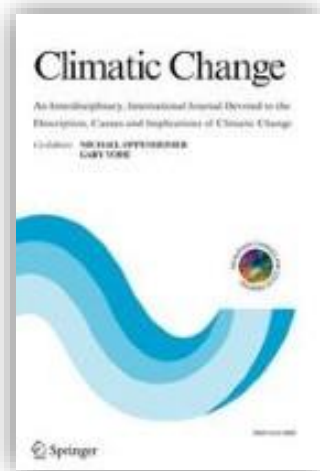


→ Adaptation plans: rather “comprehensive” and vague, not concrete

→ Mitigation plans: rather sectoral



200 Urban Audit in 11 countries



Climatic Change (2014) 122:311–340
DOI 10.1007/s10584-013-0989-8

Climate change response in Europe: what's the reality? Analysis of adaptation and mitigation plans from 200 urban areas in 11 countries

D. Reckien · J. Flacke · R. J. Dawson · O. Heidrich · M. Olazabal · A. Foley · J. J.-P. Hamaan · H. Orru · M. Salvia · S. De Gregorio Hurtado · D. Geneletti · F. Pietrapertosa

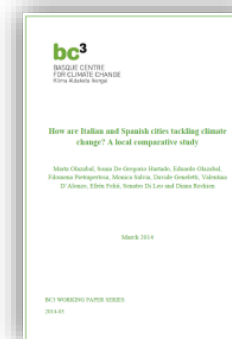
Received: 19 June 2013 / Accepted: 15 October 2013 / Published online: 23 November 2013
© Springer Science+Business Media Dordrecht 2013

Abstract Urban areas are pivotal to global adaptation and mitigation efforts. But how do cities actually perform in terms of climate change responses? This study sheds light on the state of urban climate change adaptation and mitigation planning across Europe. Europe is an excellent test case given its advanced environmental policies and high urbanization. We performed a detailed analysis of 200 large and medium-sized cities across 11 European countries and analysed the cities' climate change adaptation and mitigation plans. We

Electronic supplementary material The online version of this article (doi:10.1007/s10584-013-0989-8) contains supplementary material, which is available to authorized users.

D. Reckien (✉) · Center for Research on Environmental Decisions, Columbia University, 406 Schermerhorn Hall, MC5501,

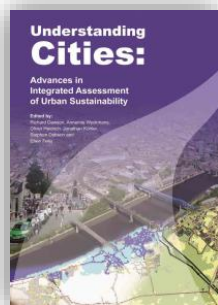
Heidrich, O., et al. (2016). National climate policies across Europe and their impacts on cities strategies. Journal of Environmental Management, 168, 36–45.



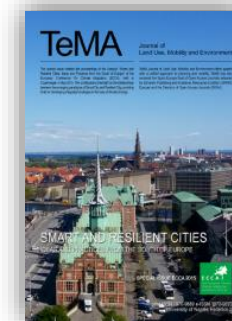
De Gregorio Hurtado, S., et al. (2014). Implications of governance structures on urban climate action: Evidence from Italy and Spain (No. 2014–02; BC3 Working Paper Series, p. 47). BC3 Basque Centre for Climate Change

Olazabal, M., et al. (2014). How are Italian and Spanish Cities tackling climate change? A local comparative study (BC3 Working Paper Series). Basque Centre for Climate Change, BC3.

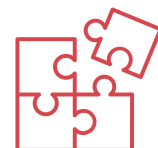
Reckien, D., et al. (2014). Climate change response in Europe: What's the reality? Analysis of adaptation and mitigation plans from 200 urban areas in 11 countries. Climatic Change, DOI: 10.1007/s10584-013-0989-8



De Gregorio Hurtado, S. et al. (2014). Multi-level climate governance and urban climate action. In R. J. Dawson, A. Wyckmans, O. Heidrich, J. Köhler, S. Dobson, & E. Feliú (Eds.), Understanding Cities: Advances in integrated assessment of urban sustainability (pp. 77–88). Centre for Earth Systems Engineering Research (CESER).



De Gregorio Hurtado, et al. (2015). Understanding how and why cities engage with climate policy. An analysis of local climate action in Spain and Italy. Tema. Journal of Land Use, Mobility and Environment, 8. 11/2015. 23-46.



885 UA core cities in EU-27+UK

Existence, framework of types of LCPs
Dedicated versus mainstreamed strategies

Typology of LCPs



Spatial level of LCP trigger

<i>Integration with or placement within the existing local policy documents</i>						
<i>Spatial dimension</i>	Comprehensive and stand-alone (A)	Main-streamed and inclusive (B)	Partial sources and sectoral impacts (C)	Operational (D)	Related (E)	Areal (F)
Autonomous (1)	A1 – Autonomous LCAPs	B – Climate action in sustainability plan, resilience plan, development/master plan, core strategy	C – LCAP addressing particular sectors (e.g. energy) or particular impacts (e.g. heat, flooding)	D – LCAP for parts of municipal operations, such as universities, schools, etc., e.g. carbon management plan in the UK	E – Plan with relevance to the climate issue, e.g. municipal emergency plan, disaster risk reduction plan, civil protection plan	F – LCAP for parts of a city/urban area.
National regulation (2)	A2 – Legally required LCAP					
Internationally induced (3)	A3 – International climate networks, such as Covenant of Mayors, Compact of Mayors, e.g. SEAP, SECAP					

Sectoral alignment or types of integration in existing local policy frameworks



Are climate change issues in European cities addressed by way of dedicated or mainstreamed LCPs?
Can the resulting patterns be related to climate policies at the European, national and regional levels?



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DEDICATED LCP

A. Comprehensive and stand-alone

Plan addressing climate change in which mitigation and/or adaptation are mentioned in the title or as a motivation in the introduction, e.g. Local Climate Mitigation and/or Adaptation Plan

A.1 Autonomously developed by the urban authority/administration

A.2 Legally required by the national regulation

A.3 Internationally induced by international urban climate networks

A1/ A2/ A3	UA Cities		Mitigation plans		Adaptation plans		Joint plans		No plans	
	N	%	N	%	N	%	N	%	N	%
A1 plans (24 countries)	612	36.6	224	36.6	69	11.3	19	3.1	372	60.8
A2 plans (4 countries)	273	63.7	174	63.7	154	56.4	125	45.8	88	32.2
A3 plans in cities w/o A1/ A2 plans (28 countries)	460	40.9	188	40.9	3	0.0	1	0.0	288	62.6
All A3 plans, i.e. in cities with or without A1/ A2 plans (28 countries)	885	37.6	333	37.6	103	11.6	10	1.1	552	62.4
All cities with A1, A2 or A3 plans (sum of lines 1-3)	885	66.2	586	66.2	226	25.5	145	16.4	288	32.5

*Denmark, France, Slovakia, UK

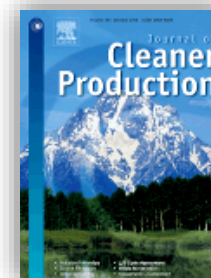
EU-28 A1 & A2 & A3:

- ~66% of cities have mitigation, ~26% adaptation, ~16% joint plans
- Large diversity across EU; most plans in Central & Northern EU

→ Difference between non/obligatory LCPs:

- ~*2 for mitigation, *5 for adaptation, but there is “threshold effect”

→ Climate networks important for information exchange

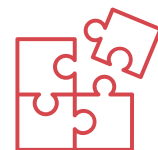


Reckien et al. (2018). How are cities planning to respond to climate change? Assessment of local climate plans from 885 cities and towns in EU-28 countries. Journal of Cleaner Production.



José María Sarriegi “Major Catastrophe Research” Award (1st edition - 2018)





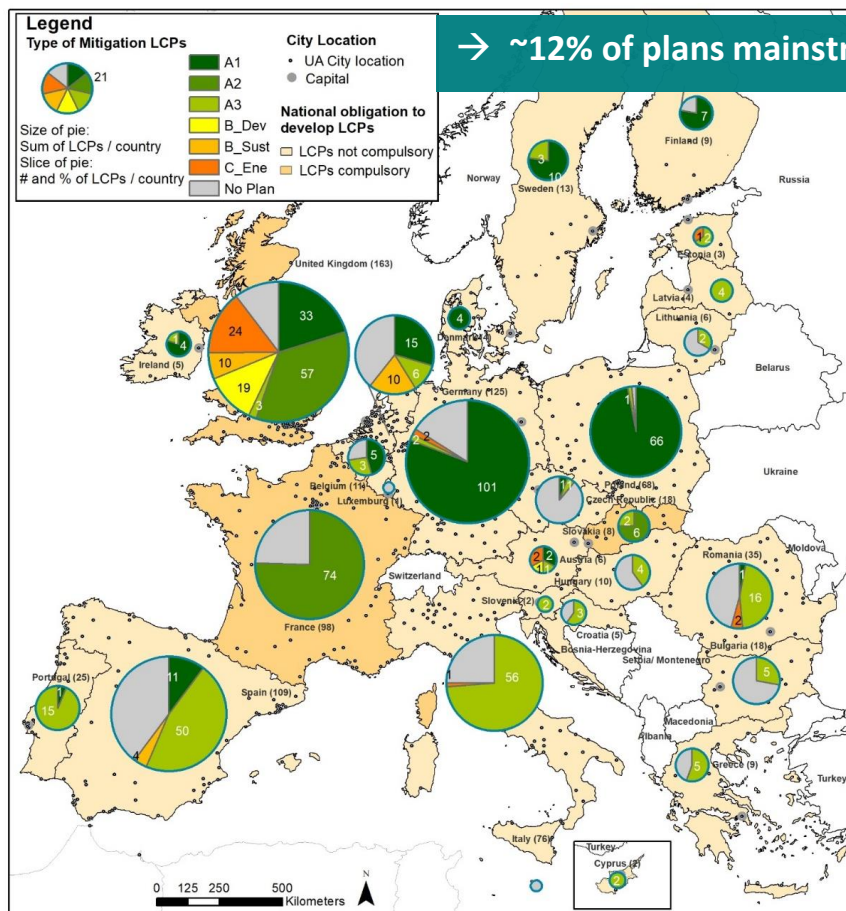
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Dedicated versus mainstreamed strategies

Reckien et al.(2019). Dedicated versus mainstreaming approaches in local climate plans in Europe. RSER doi: 10.1016/j.rser.2019.05.014

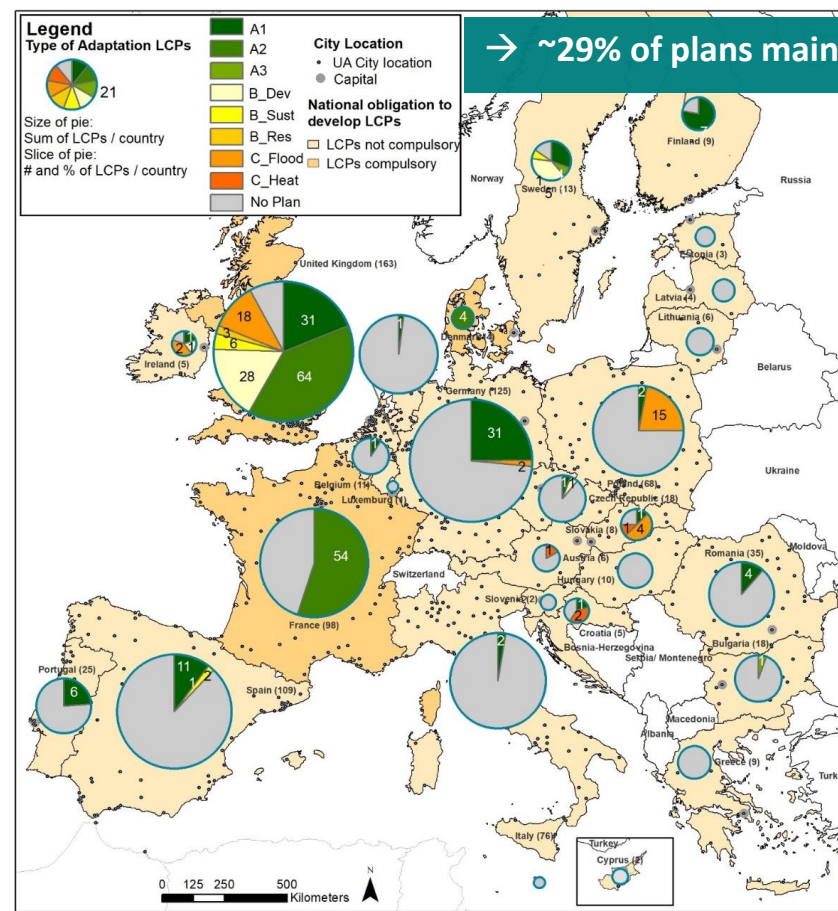
Mitigation

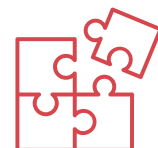
→ ~12% of plans mainstreamed



Adaptation

→ ~29% of plans mainstreamed





76 UA core cities (32 smaller sample) in Italy



- The research shows a positive trend on urban climate change action in Italy
- Italian cities are **more focused on mitigation than to adaptation**
- **Transnational networks** have a crucial role in boosting climate planning in cities
- Cities need to adopt a **more holistic approach** in dealing with climate change
- **More technical and financial resources** are necessary to boost local climate actions



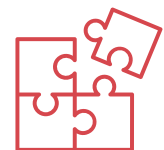
→ ~74% of cities have mitigation, ~3% adaptation, ~0% joint plans

→ 81% of the city sample has a Municipal Emergency Plan (Civil Protection) - Level 3 plan

F. Pietrapertosa, M. Salvia et al. (2019) Urban climate change mitigation and adaptation planning: Are Italian cities ready? *Cities*. Doi: [10.1016/j.cities.2018.11.009](https://doi.org/10.1016/j.cities.2018.11.009)

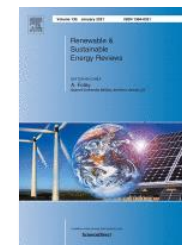


The 3rd assessment of LCPs (2018/2020)



327 UA cities in EU-27+UK

Contents analysis of mitigation plans.



Salvia, M. *et al.* (2021). [Will climate mitigation ambitions lead to carbon neutrality? An analysis of the local-level plans of 327 cities in the EU.](https://doi.org/10.1016/j.rser.2020.110253) RSER. Doi: 10.1016/j.rser.2020.110253

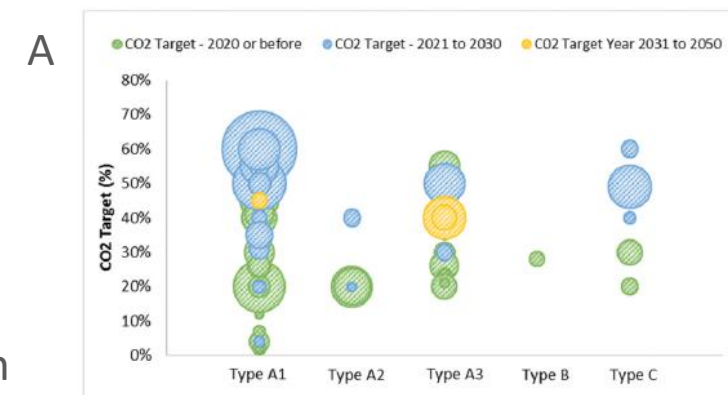
- 254 (78%) of the 327 cities have a M-LCP with targets (avg. 47% GHG reduction)
- 73 (22%) of them do not have a plan or have a plan without targets

81 cities (25% of the total sample – 327 cities) are striving for carbon neutrality:

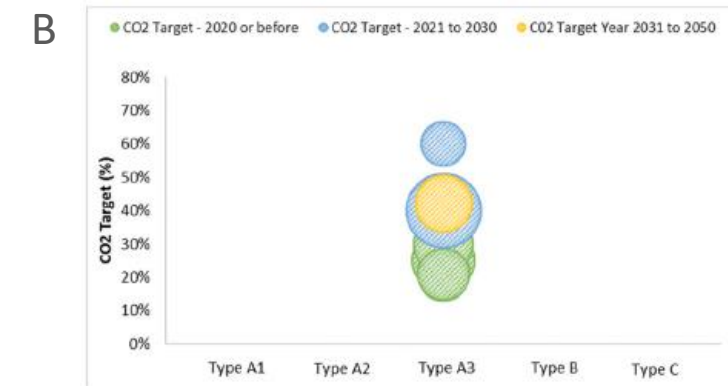
- When?
 - 59 cities (73%) by 2050 (on average by 2045)
- Where in Europe?
 - 33.3% of German cities in the sample
 - UK (13.6%), the Netherlands (11.1%) and France (9.9%)
 - All the Danish cities in the sample (100%)
- Which size of cities?
 - 60.5% of cities with 100,000 - 500,000 inhab.

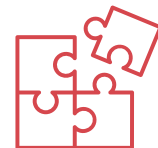


- 90% of cities striving for carbon neutrality are members of a climate network.
- Ambition is driven by city size, climate networks, M-A combination, local motivation.



Distribution of M-LCPs across their type, target (% of CO2) and timeline in Northern (A) and Southern (B) Europe





73 UA core cities and 51 regions in 9 MED countries

Contents analysis of mitigation plans.

Context

In Mediterranean Europe, regions share common characteristics in terms of capacities, resources and high sensitivity to climate change impacts

- Is there a case for a common Mediterranean mitigation approach?
- The paper investigates the main patterns of **regional and city level mitigation planning**
- It identifies convergences and divergences of their **planning practice**

Methods

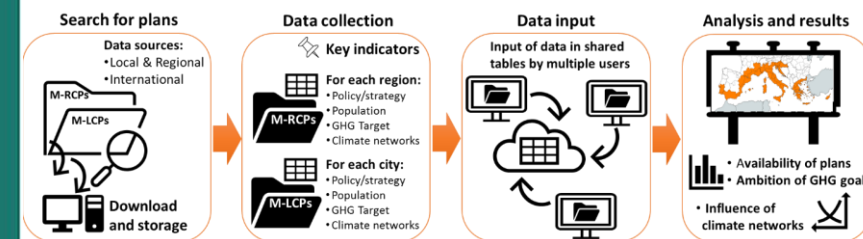
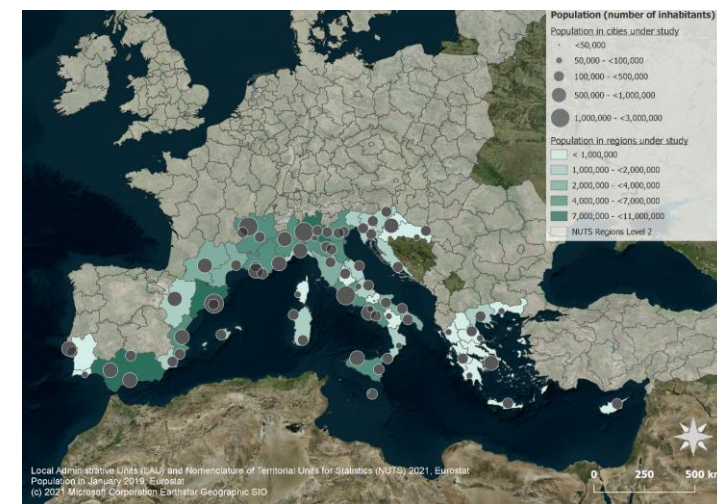
Analysis of mitigation plans of 51 regions and 73 cities in Mediterranean Europe (ME) by investigating:

- What is the **availability of local & regional mitigation plans**?
- What are the short/long-term Greenhouse Gases emission **reduction targets**?
- What is the role of **transnational climate networks**?

Results

The main findings of this research are:

- **Uneven progress**, with West-East divide and a generally modest short-term ambition
- **Larger Mediterranean (ME) regions and cities show higher climate action**
- Mitigation planning is affected by **national regulation and transnational networks**
- There is a case for **cross-border cooperation** among ME regions and cities



Salvia, M. *et al.* (2021). [Climate mitigation in the Mediterranean Europe: An assessment of regional and city-level plans](#). JEMA, doi: [10.1016/j.jenvman.2021.113146](https://doi.org/10.1016/j.jenvman.2021.113146)

4th assessment 2020-2021

The 4th assessment of LCPs (2020/2021)

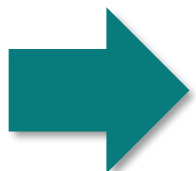


327 UA core cities in EU-27+UK

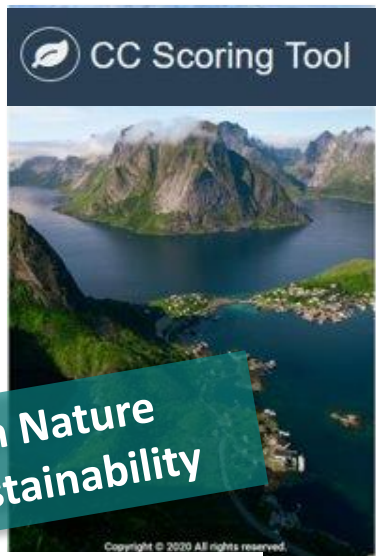
Contents analysis of adaptation plans.

Work in progress...

73 UA core cities in 9 MED countries



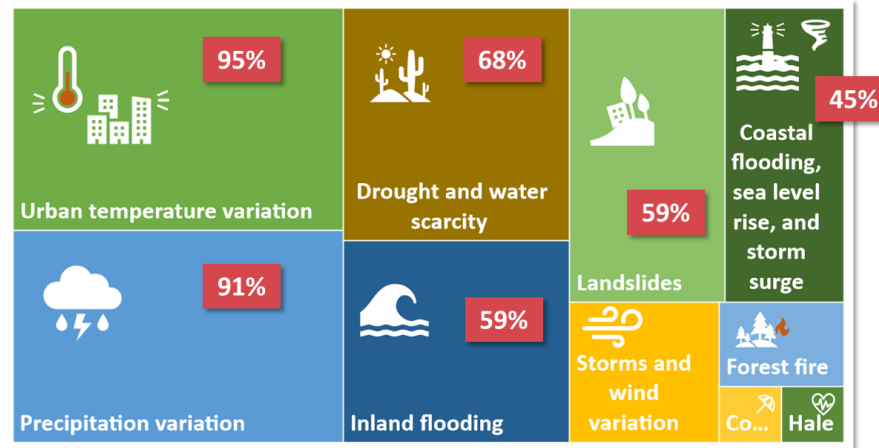
Out of 327 cities, **167 cities have an adaptation plan.**
We assess the progress in plan quality across the years 2005-2020.



Web application to assess the quality of adaptation plans based on the quality



Figure 3: Home page



30% (22 out of 73) of the cities have adopted a LCAP

In press on Nature Urban Sustainability
npj | urban sustainability

Under review



...To update this work at regular intervals to map, observe and compare the evolution of local climate planning in European countries over time.

...To provide scholars, decision-makers and stakeholders with an up-to-date dataset on LCPs and a critical analysis of current trends.



NEXT STUDIES

- **Analysis of adaptation plans across European subregions**
- **Analysis of the trend of climate planning in the last 10 years**
- **Trade-off between LCPs and the Climate Emergency Declarations**

Valutazione e monitoraggio dello stato della pianificazione climatica a scala locale:

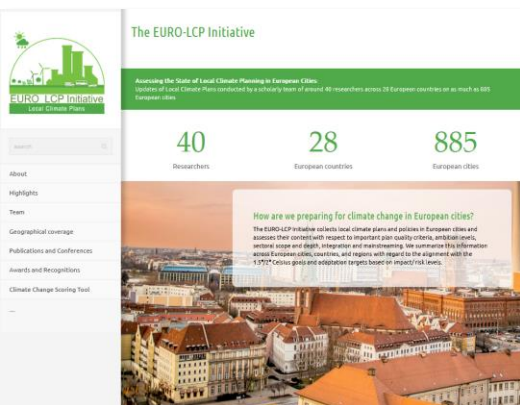
La EURO-LCP Initiative



Dr. Filomena Pietrapertosa
Institute of Methodologies for Environmental Analysis, National Research Council of Italy



Grazie per l'attenzione!



<https://www.lcp-initiative.eu/>