

# Climate ambition and carbon neutrality in 327 European cities

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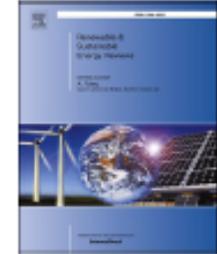


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### Will climate mitigation ambitions lead to carbon neutrality? An analysis of the local-level plans of 327 cities in the EU

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# Aim of the research

*Cities across the globe recognise their role in climate mitigation and are acting to reduce carbon emissions and move towards achieve carbon neutrality*



To investigate whether cities' climate mitigation goals are ambitious enough to meet the Paris Agreement, i.e. achieve carbon neutrality by 2050 or sooner.

*Operating objectives:*

-  To analyse ambitions according to the type of plan, city size, the combination of adaptation and mitigation aspects in a single strategy and membership of climate networks,
-  To perform a comparative assessment of these aspects across cities, European countries and regions,
-  To identify whether the climate targets of this representative sample of EU cities are ambitious enough to reach the Paris Agreement.



# Methods: The city sample



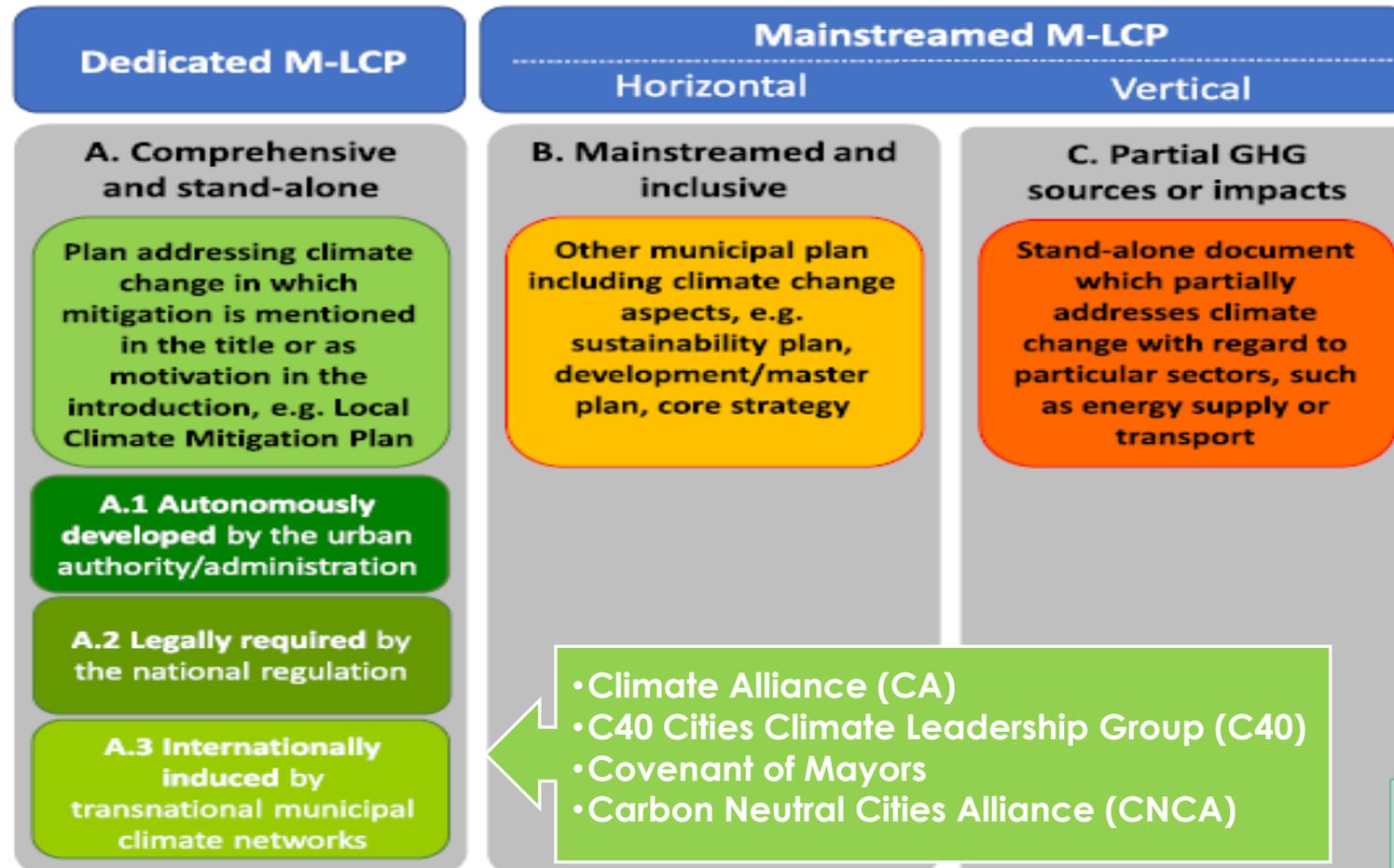
28 Countries  
327 Cities



The UA city sample is representative in size and regional distribution per country



# Methods: The local CC mitigation plans



\* M-LCP  
Local Climate change Mitigation Plan

- Climate Alliance (CA)
- C40 Cities Climate Leadership Group (C40)
- Covenant of Mayors
- Carbon Neutral Cities Alliance (CNCA)

1. Search of M-LCPs and organisation in a DB (Nov. 2018-Nov. 2019)
2. Classification of the M-LCP according to a common typology
3. Content analysis of 1 plan for each city (priority: Type A->B->C)
4. Statistical analysis (descriptive statistics and correlation analysis)

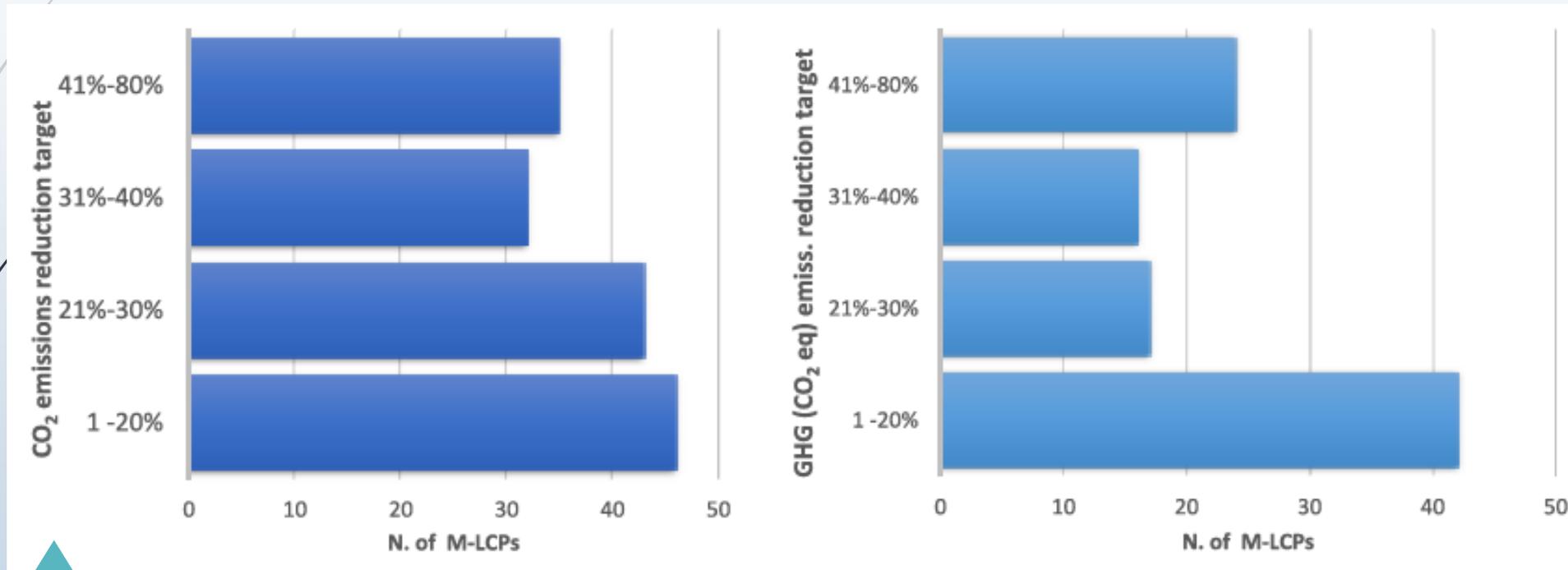
To investigate the relationships between mitigation targets and:

- urban population,
- climate membership,
- type of plan
- integration level

# Results: Emissions reduction targets

- **254** (78%) of the 327 cities have a **M-LCP**
- 73 (22%) of them do not have a plan or have a plan without targets

- **154** cities (61%) that include targets in their plans, report on **CO<sub>2</sub> emissions**
- **100** cities (39%) base their calculations on **GHG emissions / CO<sub>2</sub>eq**



Number of M-LCPs by range of CO<sub>2</sub> and GHG (CO<sub>2</sub>eq) reduction target (baseline years: 1990–2015, target years: 2020–2040): The M-LCPs that do not commit to climate neutrality have a reduction target of less or equal to 20% are: 29.5% of plans with a CO<sub>2</sub> target and 42.4% of plans with a CO<sub>2</sub>eq target.

# Results: Carbon neutrality\* targets (1/2)

## Overview of cities in our sample striving for carbon neutrality

Countries	CN cities (No.)	Share of CN cities (%)	Cities in the sample (No.)	Share of CN cities by country (%)
Austria	1	1.2%	5	20.0%
Belgium	4	4.9%	7	57.1%
Bulgaria	0		8	0.0%
Croatia	0		5	0.0%
Cyprus	0		1	0.0%
Czech Republic	0		14	0.0%
Denmark	4	4.9%	4	100.0%
Estonia	0		2	0.0%
Finland	3	3.7%	4	75.0%
France	8	9.9%	35	22.9%
Germany	27	33.3%	40	67.5%
Greece	0		9	0.0%
Hungary	1	1.2%	9	11.1%
Ireland	1	1.2%	5	20.0%
Italy	3	3.7%	32	9.4%
Latvia	0		2	0.0%
Lithuania	0		3	0.0%
Luxembourg	0		1	0.0%
Malta	0		2	0.0%
Netherlands	9	11.1%	15	60.0%
Poland	0		28	0.0%
Portugal	1	1.2%	9	11.1%
Romania	0		14	0.0%
Slovakia	0		8	0.0%
Slovenia	0		2	0.0%
Spain	2	2.5%	25	8.0%
Sweden	6	7.4%	8	75.0%
UK	11	13.6%	30	36.7%
<b>TOTAL</b>	<b>81</b>	<b>100%</b>	<b>327</b>	

\* Carbon neutrality is defined as targets for at least 80% emissions, in accordance with the Carbon Neutral Cities Alliance (CNCA) definition

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?
  - 33.3% of all carbon neutral cities in our sample are in Germany
  - 13.6% in the UK, 11.1% in the Netherlands (11.1%) and 9.9% in France
  - All the Danish cities in the sample (100%)

# Results: Carbon neutrality\* targets (2/2)

Larger cities more likely to be carbon neutral

Cities with CN targets, grouped according to city size

City size (No. of inhabitants)	Cities in the sample	CN cities		Cities with a <i>M-LCP</i>	
	(No.)	(No.)	(%)	(No.)	(%)
>1,000,000	20	9	11,1%	18	50,0%
500,000–1,000,000	45	20	24,7%	44	45,5%
100,000–500,000	206	49	60,5%	161	30,4%
50,000–100,000	51	2	2,5%	28	7,1%
<50,000	5	1	1,2%	3	33,3%
<b>TOTAL</b>	<b>327</b>	<b>81</b>	<b>100%</b>	<b>254</b>	<b>31,9%</b>

- 78% of cities have a mitigation plan with targets (avg. 47% GHG reduction)
- Only 25% of cities strive for carbon neutrality, most by 2050, avg. by 2045
- 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
- The most ambitious cities are in Northern and Western Europe. It can be observed a “Mediterranean” pattern in which the share of cities aiming for carbon neutrality ranges from zero in the Eastern Mediterranean (Cyprus, Croatia, Greece, and Malta) to 23% in France (where LCP are induced by the national legislation).
- European cities must double their ambitions to meet the aims set by the Paris Agreement (carbon neutrality by 2050)
- Further research is needed to evaluate the effectiveness of the M-LCPs and measures



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2020

2019

2018

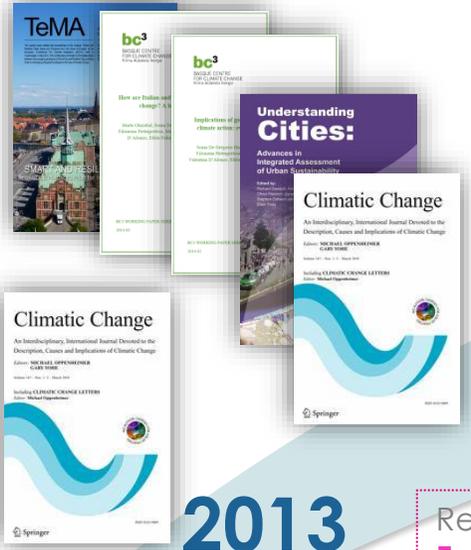
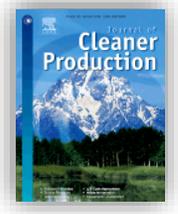
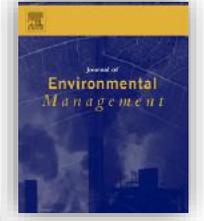
2016

2015

2014

2013

2009



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**Thank you for your attention**  
**Questions and comments?**