

# Understanding the contribution of cities to a carbon neutral society

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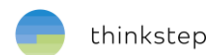


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## Introduction

### The 2 Degree Celsius Goal

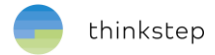


- The Paris Agreement set the specific goal of holding global warming to well below 2 degrees Celsius compared to pre-industrial levels
- There is still a dangerous “gap” between the emissions reductions necessary and the current activities to achieve the agreed target
- Most human interventions take place in urban structures. With rapid population growth and increasing energy consumption cities play an important role in the reduction of man-made greenhouse gases.



## Study approach

### Bridging the climat gap



- In order to understand the contribution of cities to a carbon neutral society we have conducted the study “bridging the climate gap”
- This study assesses municipal engagement toward global climate targets
- It contains a case study on the activities of the green Swedish city Växjö
- Conclusions are intended to give a guidance to cities for their contribution in “bridging the climate gap”.



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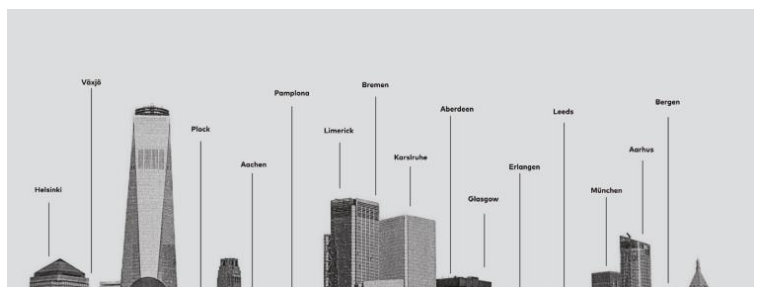
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## Study approach

### Methods and focus



- Basis of the study are empirical analysis of the activities and targets from 15 European cities by means of questionnaires & interviews
- Size of the participating cities from S (>50,000) to XXL (>1,000,000 inhabitants)
- Cities engagement in climate action in the municipal building sector has been analysed
- Critical success factors have been determined and generalized



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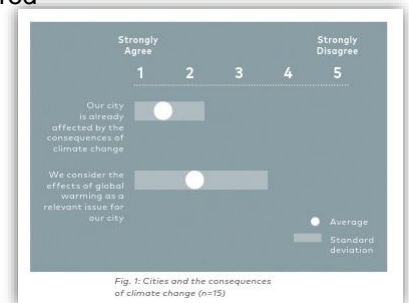
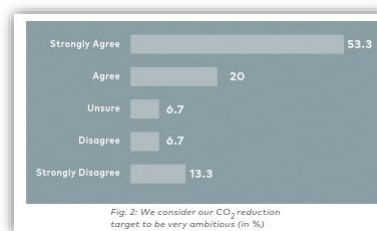
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## Empirical analysis

### Summary of results



- All cities state that they face relevant effects of climate change already today
- They consider the effects of global warming as a relevant issue for their city
- The majority of cities see major challenges in meeting the required emission reduction targets

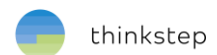


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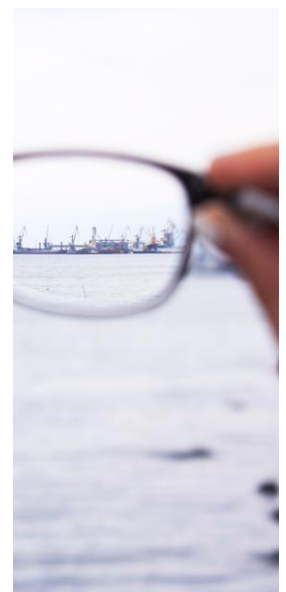
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## Empirical analysis

### Summary of results



- Emissions from fossil fuel in cities are the dominant component, concluding that some measures are a must:
  - Increase energy efficiency in the building stock
  - Optimize energy systems & distribution grids,
  - change energy sources
  - Changing citizens' behavior
- The cities environmental impact also heavily depend on the decarbonization of external energy supply
- From the survey, critical success factors have been derived

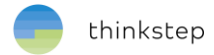


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## Empirical analysis

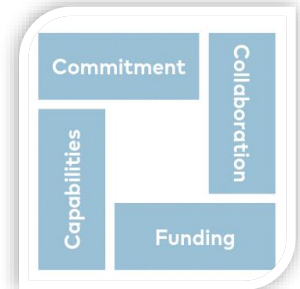
### Critical success factors for municipalities



These critical success factors reflect internal factors that can actively be worked on – in contrast to external factors such as energy supply, climatic region, or geography

#### Critical success factors:

- Commitment (a long-term vision is essential)
- Collaboration (complexity of ownership, management and divisions)
- Funding (financial resources and cost constraints hinder faster process)
- Capabilities (lack of guidance, training, specialists)

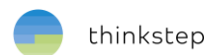


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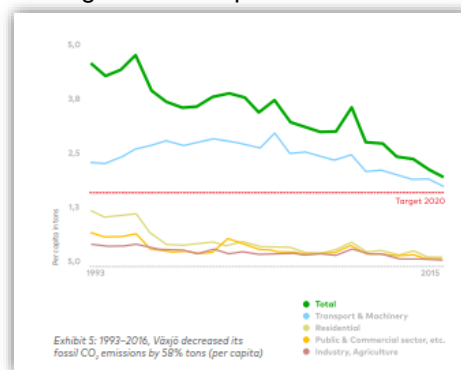
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## The City of Växjö, Sweden

### Case Study



- Växjö (population 92.000) encountered severe environmental issues in the 1960s – surrounding lakes were heavily polluted by waste water
- Since then, major environmental decisions have been taken, leading to Växjö becoming a forerunner of green development.



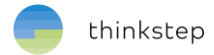
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## The City of Växjö, Sweden

### Critical Success Factors for Växjö



#### Commitment

- Target for 2030: fossil-fuel-free city
- Env. policy & monitoring of per-capita CO<sub>2</sub>-emissions since 1993

#### Collaboration

- Close collaboration with stakeholders along long-term activities
- Involvement of citizens

#### Funding

- Early mover's advantage of access to national Swedish & European funding
- Early shift to biomass-based heating payed off with Swedish CO<sub>2</sub>-tax in 1991

#### Capabilities

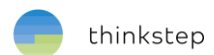
- independent energy generation by using wood from the surrounding and creating new jobs
- motivation of citizens



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## Conclusions & Outlook



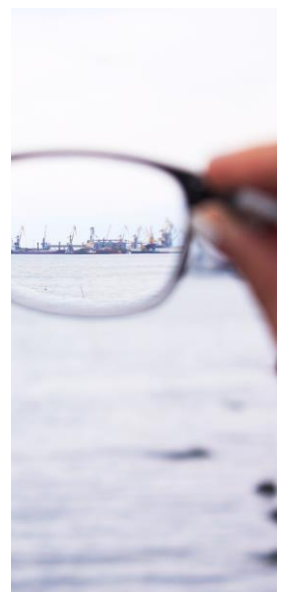
Cities will play a relevant role in mitigating climate change

Today, many cities fall short of having solid plans to engage in carbon reduction or concrete targets to work against

Helping cities does not require rocket science, but

- a concrete foundation with tangible targets,
- solid management plans,
- a good understanding of critical factors for success, and
- a deep integration of the subject into a municipality's operations

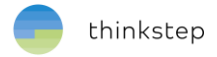
The study outlines the journey, a city administration can take to effectively become a role model for reducing carbon emissions



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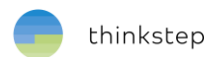
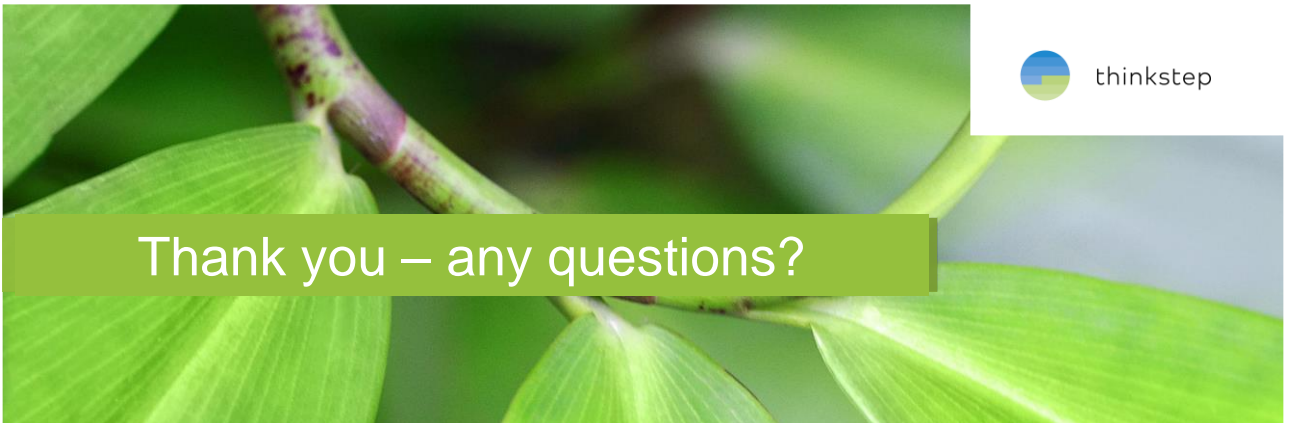
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Thank you – any questions?

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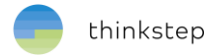
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