

## Climate action plans inventories: policies to reduce GHG emissions at the city level

The mitigation of greenhouse gas (GHG) emissions in urban areas is a keystone issue in mitigating global climate change. All urban mitigation efforts must begin and end with a careful measurement of GHG emissions by sector and area. In OECD or the more dynamic sections of the Global South, it has become a relevant tool at the service of climate change related policies, contributing to carving out specific perimeters of action.

Focusing on the inventories carried out within local action plans by big global cities in Europe and South East Asia, the CAPin GHG project seeks to provide an assessment of the design and implementation strategies of policy makers in relation to a complex science-based instrument that has far reaching consequences in terms of accelerating vital city processes such as energy transitions, transport modernization and real-estate development. The variations observed and commonalities found should point to the limits of these policy transfers and the embedded nature of these instruments, that while aimed at reducing CO2 levels, may operate along other specific sectoral logics.

In addition, the CAPin GHG project will contribute to current academic debates about persisting regional policy styles in mapping GHG emissions and addressing the climate emergency, while at the same time assessing standardizing dynamics resulting from the circulation of policy instruments and solutions through global policy communities and networks.

### Three main objectives:

1. Assess **the disconnect** between ambitious environmental policy objectives and the way they are made material through local climate plans and the selection of GHG inventories.
2. Account for **the disruptive impact resulting from the setup of new services** (e.g., distributed energy), **technologies** (e.g., H2, electric mobilities) and **stakeholders of these new services** (e.g., global platforms, development entities such as AIB) and the extent to which GHG inventories account for it.
3. Examine **evolving environmental policy capacities** (whereas national or local) in relation to setting local climate action plans and select and adjust GHG inventories.

### Main assumption:

GHG inventories operate as public policy instruments and as such, have effects of their own. Often introduced as part of local climate action plans, they contribute to assigning policy priorities, targeting sectors considered instrumental to much needed environmental change, and to the sidelining of those deemed less prominent in this endeavor.

### Comparative perspective (small-n):

In order to contribute to current debates about regional policy styles, the CAPin GHG project examines four main relevant case studies: **in Western Europe (Paris, Barcelona), and South East Asia, (Singapore, Kuala Lumpur).**

Each case contributes to the understanding of a specific dimension of GHG inventories in the context of local climate action plans. Field research is underway (until July 2023).

## Exploratory literature review

### Scope

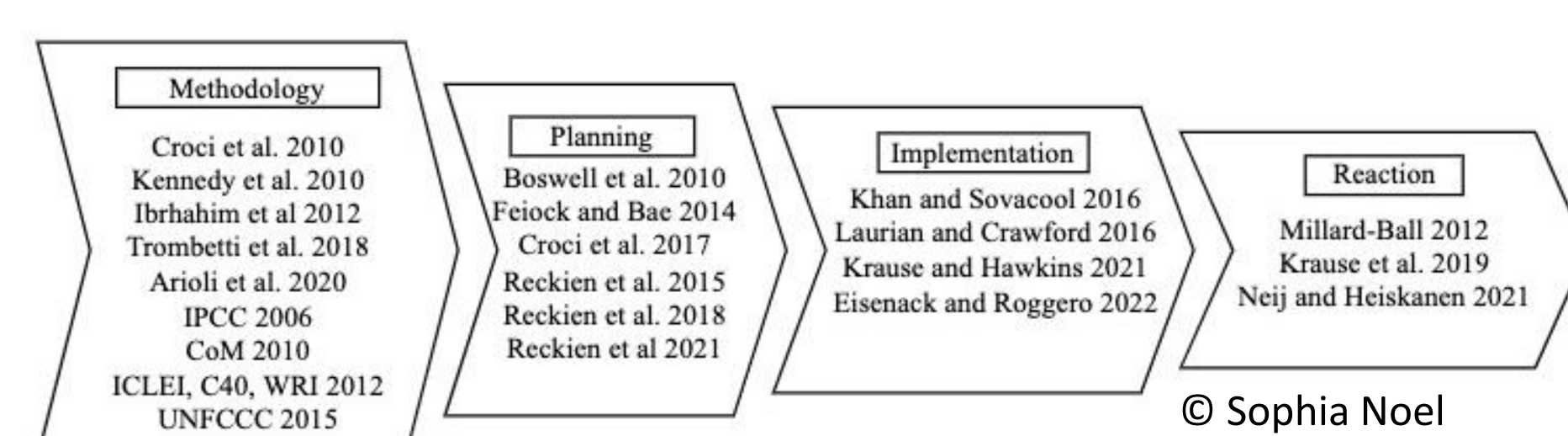
Some 50+ academic works and 30+ government reports have been reviewed. The following keywords were used:

- *GHG inventory policy cities, GHG inventory policy + (China, Barcelona, Singapore, Paris, Kuala Lumpur, Europe), GHG inventory policy + (implementation, review, efficacy), Covenant of Mayors GHG inventory.*

### Observations

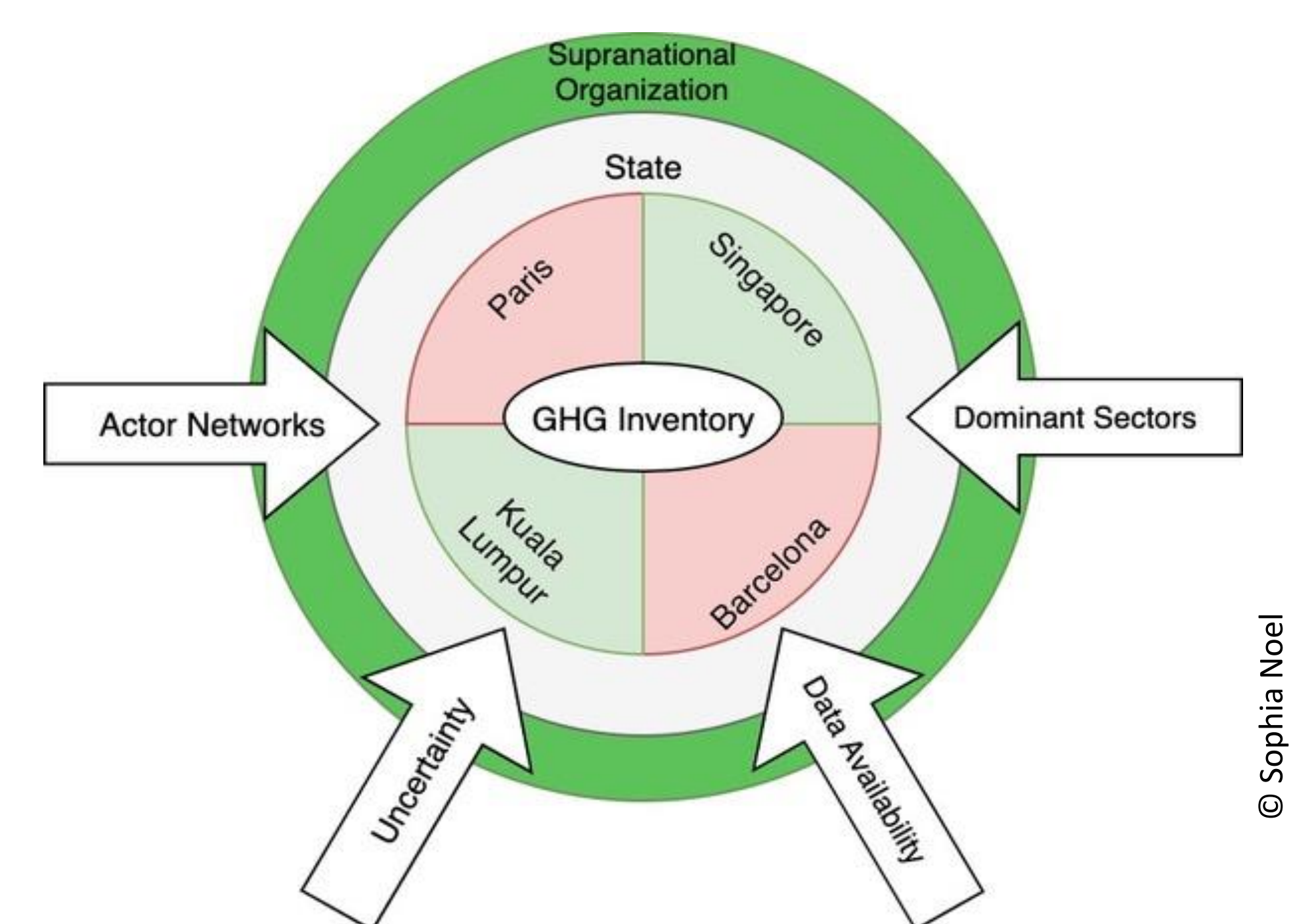
The literature on urban GHG inventory policy dynamics becomes thinner (see **figure** below) as one moves away from technical aspects towards the politics attached to it in different contexts. Policymakers' reactions to urban GHG inventory results remain underexplored. This reflects:

- the relative novelty of urban GHG inventory methodology, and the state of development of the literature devoted to the study of its uses and effects.
- the prevalence given to normative research on the benefits of planned policies, as opposed to the complex political dynamics surrounding a new policy.



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### Analytical framework



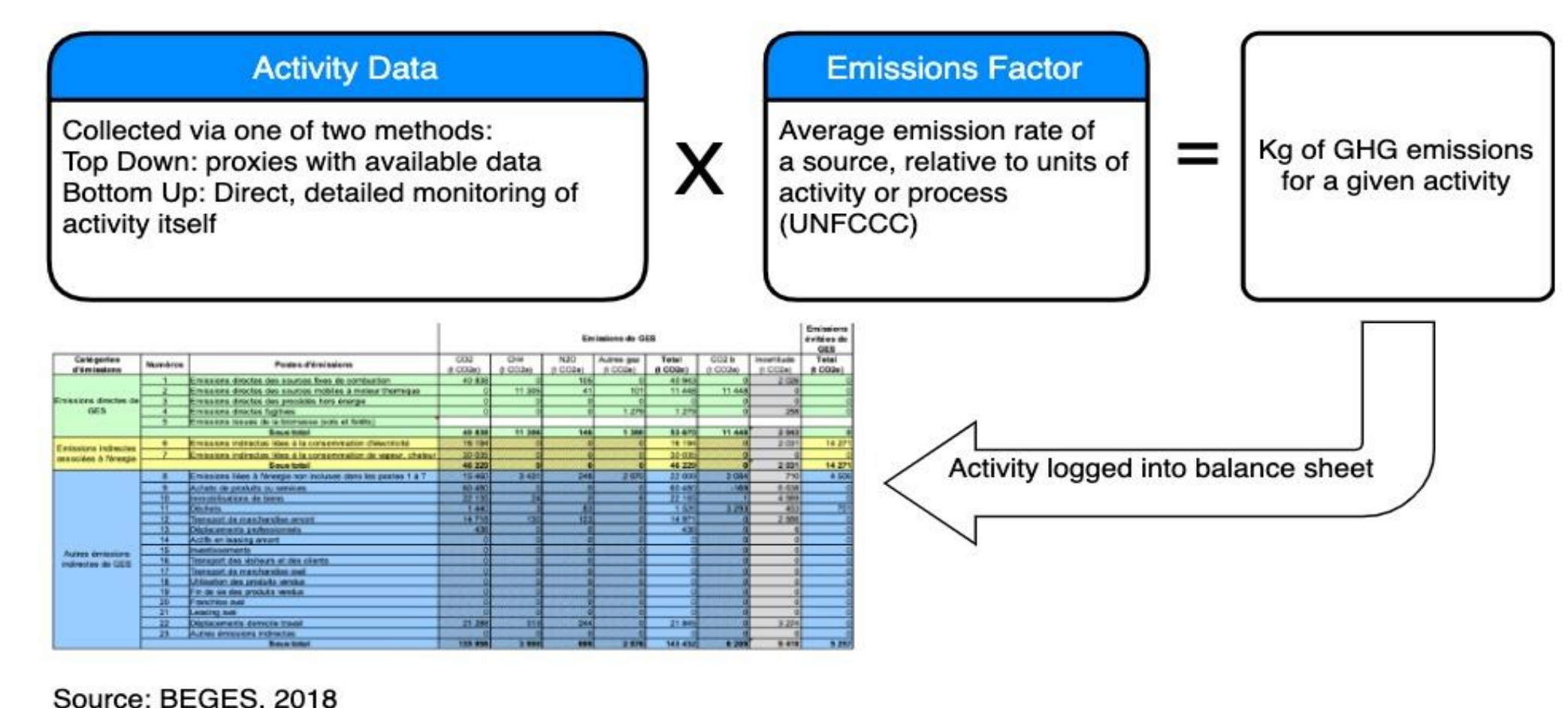
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### Key findings so far

Urban GHG inventories are the subject of research because of the immense promise of cities to be at the forefront of climate change mitigation. As a first and last step to any urban mitigation strategy, a measurement of GHG emissions must be produced. Therefore, the methods chosen, implementation and reaction to these inventories is of great interests to social scientists and climate scientists alike.

1. **Scientific dimension:** the question “why inventories” quickly becomes “why one inventory compared to others”? The review explores the scientific advantages or drawbacks of the seven dominant types of inventories Arioli et al. [2020] .

### A non-exhaustive illustration of key work at each stage of GHG inventory policy



2. **Policy dimension:** a growing share of the literature examines the the role and uses of inventories for policy development and implementation. It provides some insights about who develops inventories and, recently, **policy implementation and evaluation processes**. This confirms the wide variety of existing inventories and their uses, across policy areas, across and within countries.

### Workplan 2022-2023

- **Field research:** KL and Singapore (August 2022, April 2023), Barcelona (June 2022) and Paris (April 2023).
- **Presentation of findings:** a joint workshop in Singapore (April 2023); Two sessions at IPCC 6 in Toronto. A final conference will take place in Singapore during the Fall 2023
- **Networking activities** : Paris (July 2023), Singapore (September 2023)

## Environmental policies research group

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## Research team:

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## Acknowledgement

CAPin GHG is funded under the Université Paris Cité – NUS Call 2021.

