

Having our cake and eating it

Accurately measuring city-level GHG emissions alongside assessing the impact of mitigation measures



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Problem

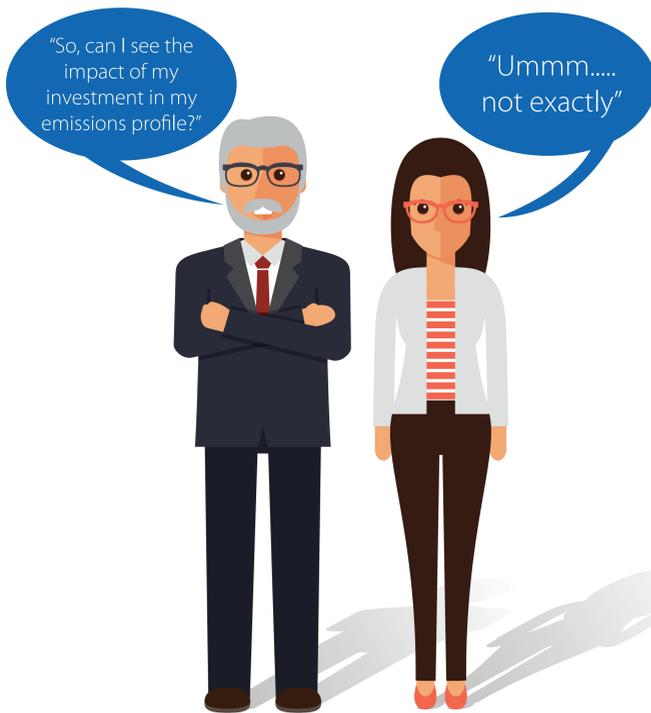
Standard emissions inventories are not designed for mitigation policy tracking

Why are cities so important for climate change action?

Today, cities are at the forefront of climate action. With large populations, key financial centres and often coastal locations, cities are vulnerable to the effects of climate change.

They also have a unique opportunity to use their devolved powers and relative policy freedoms to act quickly and efficiently, to deliver more immediate results.

Cities contribute 70% of global anthropogenic GHG emissions.



What is the problem with current city inventory practice?

The Global Protocol for Community-Scale Greenhouse Gas Inventories (GPC) is the city standard for reporting GHGs. It states that "An inventory enables cities to understand the emissions contribution of different activities in the community. It allows cities to determine where to best direct mitigation efforts, create a strategy to reduce GHG emissions, and **track their progress.**"

It is this last part which is proving difficult for many cities – and countries. Inventories are often built using the best available data, or the data which is specified as necessary in emissions inventory guidance.

Generally, data and methods used in inventories mean it is not possible to connect emissions compiled in the inventory with GHG mitigation policies. Therefore, emissions inventories are not policy sensitive.

Solution

City and policy specific inventories

Why are cities uniquely placed to produce inventories which work for them?

Cities are dynamic and flexible communities in an excellent position to learn from and use the good practice developed at the national level. They are able to be less focused on compliance reporting as is the case at the national level and can shape this knowledge to focus on city-specific needs.

Steps to a more policy sensitive inventory:

1. Conduct a policy sensitivity assessment.
2. Identify gaps and problems.
3. Use the assessment to focus inventory improvement program.
4. Identify new methods, data sets and data requirements which might be additional to the GPC requirements, but focused on reflecting policies.
5. Produce an intelligent and dynamic emissions inventory which works for your city government.

Outcomes

1. An inventory which can quantitatively track progress of policies in GHG emissions.
2. A direct link between policy action and city level GHG emissions trends – including projections.
3. Reduced need to develop wider indicators to assess policy.
4. Happier policy makers.

Case study – City transport plan

Mitigation	Desired outcome	Difficulties in inventory tracking	Source of data to assess impact
Improvement of infrastructure for sustainable transport. 	Car drivers switch to walking or cycling, lower congestion, reduce emissions.	Walking and cycling will never be visible directly in an inventory.	Survey of transport users. Tracking of car journey reductions.
Introduce a cleaner bus fleet. 	Reduction of emissions from public transport.	City inventories often scale emissions based on national bus fleet information.	Mitigation implementation includes requirement for city bus operators to report fleet information (e.g. age, fuel consumption, type of vehicle).
Introduce electric vehicle charging network. 	Increased number of electric vehicles, decreased fuel consumption, lower emissions.	City inventories often scale emissions based on national vehicle fleet information.	Smart charging meters to record and report information. City vehicle fleet surveys and automatic vehicle recognition data to improve inventory data on vehicle and fuel types.
Improve train/tram service. 	Car drivers switch to rail, lower congestion, reduce emissions.	Reduced car use can be tracked, switch to rail is difficult to observe.	Rail companies to record and report city-specific data (e.g. ticket sales, type of train, number of people, average journey length).

Where do we come in?

- Ricardo Energy & Environment is an internationally renowned consultancy with world-leading energy and environmental expertise.
- We have long-standing experience with compilation of national GHG inventories (including the compilation of the UK national GHG inventory for over 20 years).
- Our team of inventory experts cover energy, transport, industrial processes and product use (IPPU), waste and agriculture sectors. We contribute to the development of inventory guidance and are regularly involved in UNFCCC review processes.
- We also have considerable experience in providing tailored capacity building to government experts who are responsible for inventories and Monitoring, Reporting and Verification (MRV) tasks.



Ross is Ricardo's Business Area Manager for Air Pollutant Emissions Inventories. He has 14 years' experience providing scientific support to the development of policies across climate change and air quality. He brings an in-depth knowledge of how scientific analysis and advice is used in the development of policy at the local, national, European and international levels. He is a qualified United Nations Framework Convention on Climate Change (UNFCCC) Expert Reviewer.

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