THE GLOBAL STOCKTAKE
CLIMATE DATATHON

PROMPT OWNER

Global Covenant of Mayors for Climate & Energy (GCoM)

PROMPT TOPIC

Data for city climate mitigation inventories and adaptation assessments

TOPIC BACKGROUND

Enabling city climate action - taken from the [Decision-making and Tools White Paper](#) (GCoM, 2021)

The Paris Agreement explicitly refers to the role of cities as key drivers of climate action, complementing national governments. Their position at the intersection of several societal challenges presents opportunities to test and develop multiple-win solutions. At the same time, massive demographic shifts, technological transformation, budgetary constraints, and the COVID-19 pandemic are remaking the fabric of cities.

This atmosphere fosters uncertainty, placing ever-greater pressure on city staff to answer increasingly complex challenges and make better and faster decisions in both the short- and long-term. To achieve the drastic emissions reduction and resilience measures needed to avoid the devastating impacts of climate change, local leaders need to implement integrated, cross-sectoral climate policy - enabled by the right data, tools, strategies, and partnerships.

As a hub of city and local government action, the Global Covenant of Mayors for Climate & Energy (GCoM) unites city leaders, networks, and practitioners from across the world and uses coordinated climate data to inform action planning, implementation, policy development, research and innovation, and investment strategies at local, regional and global level. Paving a pathway for local governments to implement action at-scale, more than 10,000 cities have made commitments to be part of this solution - each committing to mitigate and adapt to climate change, as well as facilitate access to energy. In collaboration with partners, GCoM helps cities bridge the knowledge gap, enhance access to information, build partnerships with data and climate service providers, and access financial institutions and organizations that can provide relevant tools and information to facilitate their efforts.

Despite the need to get data and tools into the hands of local governments however, widespread use is thwarted by complexity, lack of awareness, and a high technical capacity threshold. Many cities acting on climate may lack the capacity to leverage tools for activities like the creation of a greenhouse gas (GHG) emissions inventory or a risk and vulnerability assessment (RVA); potentially fewer still have access to a library of tools that meets their needs at each step of the policy process.

In many cases - especially for cities and local governments where capacity and resourcing for climate action is limited - GHG inventories and RVAs need only be "good enough": a level of quantity and quality that meets the basic climate action planning needs of a city with satisfactory accuracy in order to move towards evidence-based action.

MAIN PROMPT QUESTION/CHALLENGE

What are the third-party datasets that can improve the quantity and quality of city-level data to generate 'good enough' GHG emissions inventories and/or climate risk and vulnerability assessments - and how can we integrate them?

SUPPLEMENTARY QUESTIONS

Given any available third-party dataset(s), what model(s) can be used to transform their values into city-level data points that can be used for GHG emissions inventories and/or risk and vulnerability assessments?

FURTHER DESCRIPTION AND DATASETS

'Third-party' datasets can be loosely defined as those which are not collected or provided by the local government itself - whether due to a lack of availability and/or capacity to do so. Examples of third-party datasets include:

- Downscaled proxy data sourced from national-level inventories, including those available on the Data Portal for Cities and the Snapshot tool
- Satellite and other data collected from geospatial observations, including NASA's Global Daily Downscaled Projections (NEX-GDDP) as tested in this pilot focused on RVA generation
- Proprietary telecommunications and mobile-powered data, including some of the key data made available via Google's Environmental Insights Explorer
- Others available on - and beyond - this resource library

Additionally, the final form of data transformations from any third-party dataset must be made available in outputs that are directly aligned with the GCoM Common Reporting Framework, a global reporting standard used by more than 11,700 cities and local governments worldwide. This Framework helps ensure that data collected across mitigation and adaptation are aligned with the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. This unified framework allows cities globally to report data in a standardized fashion and showcase achievements while unambiguously tracking progress – thus advocating for better multilevel governance of climate and energy issues and for improved technical and financial support.

The above dimensions are by no means exhaustive and are meant to serve only as guiding questions or potential areas of investigation.

The appendix below contains a sample structure for both a city-level greenhouse gas emissions inventory and climate risk and vulnerability assessment, in line with the GCoM Common Reporting Framework. For any terms or phrases that may not be familiar, please consult the document itself, which contains the definitions and links to guidance necessary.

Should you have any questions, please don't hesitate to reach out to the GCoM Global Secretariat at info@globalcovenantofmayors.org.