DEVELOPMENT BANK
OF LATIN AMERICA

CITIES FOOTPRINT PROJECT

Strategic Outcomes and Methodological Guide

Executive Summary

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EXECUTIVE SUMMARY

The world's urban population is growing exponentially, it is expected that by 2050 the population will reach 9,500 million of which 6,000 million will live in cities (UN-HABITAT and UNDESA). It occurs also in Latin America and the Caribbean, but at a higher rate; in 1950, 4 out of 10 inhabitants of this region lived in cities, today 7 out of 10 people live in urban areas, and it is estimated that by 2050, 9 out of 10 people in Latin America will live in urban areas.

This phenomenon of urban overconcentration brings challenges such as lack of developable areas, vehicle congestion, power shortages, lack of access to potable water, increased pollution, increased waste generation, poor food quality, among others. This problem of climate change scenarios makes cities spaces that are more vulnerable.

Thus cities exert increasing pressure on the environment and contribute to climate change, but on the other hand, cities play an important role in solving many global problems, for example through the implementation of measurements such as improving energy efficiency in the transport and construction sector, as well as in water supply systems and solid waste management.

Many cities in the region are being affected by the impacts of climate change, with serious consequences, especially in the poorest and peri-urban areas. The greenhouse gases (GHG) from sectors such as industry, transport, wastewater treatment and solid waste, contribute significantly to the problem, since 70% of global emissions are generated in cities. Other proven effect of climate change shows that the availability of water resources in cities like La Paz, Quito and Lima is shrinking due to the melting of Andean glaciers caused by global warming. According to projections, by 2025 climate change could contribute to the increased number of people with limited access to water resources in the Andean region, that could reach 70% of the population, a situation that will be exacerbated by the increasing rate of urban migration and the growing demand for water.

One of the priority issues identified in the regional environmental agenda of the Development Bank of Latin America (CAF) is related exactly to the role of cities in climate change issues, through direct implementation of policies from the level of local Municipal Governments, as the key players. In this regard the publication of "Cities Footprint Project: Strategic Outcomes and Methodological Guide", developed as part of the agenda on Climate Change and Cities of CAF arose from the need to support the Municipal Governments and decision makers in the transition of their cities to reach a low carbon development and resilience to the effects of climate change.

The main objective that CAF seeks to achieve through the "Cities Footprint Project", is to support local governments and decision makers in the development and implementation of municipal strategies in order to mitigate and adapt to climate change, through the

measurement and reduction of the Carbon Footprint and Water Footprint of its cities (as territories) and also its own institutions.

Between 2012 and 2015, three cities in Latin America, La Paz in Bolivia, Lima in Peru, and Quito in Ecuador, participated in the "Cities Footprint Project", supported by CAF and CDKN - Climate and Development Knowledge Network, the provision of the Futuro Latinoamericano Foundation and implementation by the consulting firm Environmental Services SA (Servicios Ambientales S.A). Currently, under the same scheme, the Project is being implemented in three other cities: Fortaleza in Brazil, Guayaquil in Ecuador and Santa Cruz de la Sierra in Bolivia. During the initial phase of the Project, the Carbonfeel Network and Water Footprint Network (WFN) were part of the team as expert advisors in measuring Carbon Footprint (CF) and Water Footprint (WF), respectively.

Source: Own elaboration

When formulating this document, four more cities are in the process of joining this initiative: Cali in Colombia, Loja in Ecuador, Tarija in Bolivia and Recife in Brazil. For the next Conference of the Parties (COP 21), ten cities will be part of this initiative with regional scope.

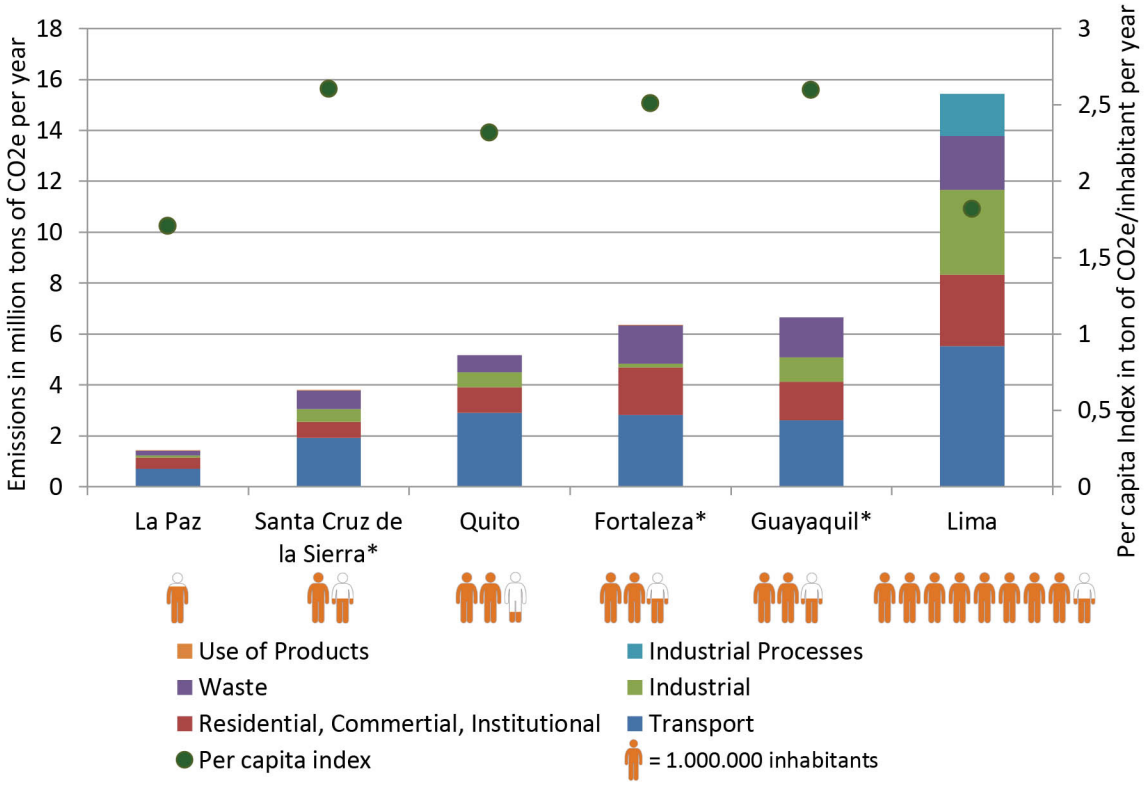
The results of this successful experience leave important lessons that can serve other cities in order to guide their development towards a low carbon and climate-resilient model. Thus, the first part of this paper aims to present the main results derived through the "Cities Footprint Project", which are presented below:

ACHIEVEMENTS	EXPERIENCE OBTAINED AND RECOMMENDATIONS	FUTURE CHALLENGES
• Positive impact on high-level decision makers. • Inclusion of the Footprint indicators in the strategic planning of Municipal Governments and definition of reduction targets. • Green Financing opportunities in cities. • Local capacity building in Municipal Governments. • Strengthening the process of awareness and participation in climate change issues. • International positioning of the Project and integration of networks and alliances of cities. • Generating demand in other cities resulting from the outcomes in beneficiary cities. • Comparability of the status between cities, benchmarking and best practices.	• The Project must be based on local demand. • It is necessary to obtain the political willingness at the highest level. • The continued and complete transfer of skills and tools to Municipal Governments is fundamental to achieve the sustainability of the Project. • A project with regional scope, different stakeholders, with different sources of funding requires a horizontal governance and adaptive management. • Implementation of a system of centralized data management within Municipal Governments to facilitate the measurements of Footprints. • It is essential to communicate how the Project will contribute to the municipal plans and implementation policies related to environment and development issues in general. • Importance of pilot projects to translate the results into practical action, create synergies between stakeholders and prepare foundation for the development of public policies.	• Ensure the sustainability of the Project. • Achieve the institutionalization of measuring and monitoring of the Footprints in Municipal Governments. • Scale of the subnational to the national level. • Moving from a diagnostic phase to a phase of implementation of actions. • Guarantee and mass replication of pilot projects. • Securing funding for implementation of the Project in other cities. • Strengthen synergies between Municipal Governments and other stakeholders. • Keep the connection and exchange of experiences among cities participating in the Project.

Source: Own elaboration

The following graphics are presented in order to visualize the main results of the measurements of the Carbon Footprint and Water Footprint of the six cities, which are part of the Project.

Results of the Carbon Footprint per sector, per capita and population rates in the six cities

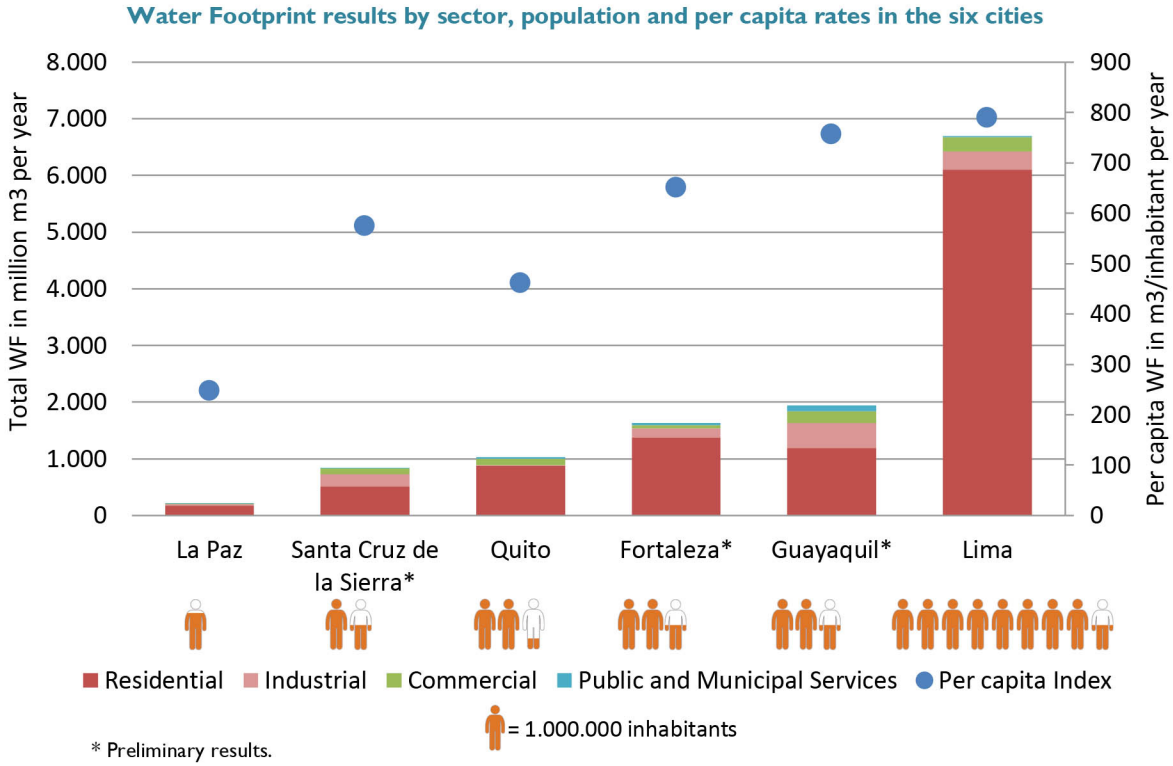


* Preliminary results.

Source: Own elaboration based on the results for each city.

It can be observed that the total Carbon Footprint of each city is mainly proportional to the number of population, but it also shows that the transport sector, in all cases, is the main source of emission (average 46%), therefore these six cities could address this issue together in order to analyse and implement the most appropriate actions.

The results in per capita terms represent a different picture, for example the city of Lima has the biggest rate of Carbon Footprint among six cities, however according to the per capita indicator, the city is situated on the fifth place, considering that it has a population density of 3,209 inhabitants/km^2, unlike the rest of the cities that on average have a population density exceeding 668 inhabitants/km^2.



* Preliminary results.

Source: Own elaboration based on the results for each city.

The results of measuring the Water Footprint of six cities in Latin America show that the residential sector is the most important in all the cities that were part of the Project (mainly by the contribution of the Grey Water Footprint, it means that wastewater is generated and is not treated); according to World Bank data, approximately 70% of sewage in Latin America returns to the rivers without being treated. It can also be noted that in cities where the industry has a significant contribution to the economy, a greater Water Footprint is generated. If these results are discussed in per capita terms, it shows that Guayaquil is the city that has the highest Water Footprint index among the six cities, followed by Santa Cruz de la Sierra and Lima. In Guayaquil this can be caused by the contribution of the industrial sector, which is the highest compared to other cities.

Finally, the learning process and improvement in the application of the tools developed under the Project, has allowed the systematization of methodologies in detail, which are described in the second part of the document "Cities Footprint Project: Strategic Outcomes and Methodological Guide". The objective is to facilitate the measurement of Footprints in other cities in the region, through a better understanding of the technical and methodological aspects that this Project entails.

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