

## 1st Latin American Forum on Green Urban Infrastructure

In its first year, the forum was held in São Paulo. Its aim was to promote debate on the importance of green infrastructure in Latin American cities; experts from the region presented success stories, and discussed possible cooperation in this regard.

The meeting was held during the 2014 TeCobi Expo, and at the centre of debate was the importance of green roofs for the welfare of cities. Among those attending were representatives from the private sector, members of the public, experts and students. Some of the most important contributions are presented below.



Mr. **Luis Alberto Suárez Correa**, Ingecontrol S.A.'s (Colombia) Commercial Director of the Sustainability Department gave a lecture on *"The state of green infrastructure in Latin America."* He addressed problems of fresh water pollution and the decline of air quality and biodiversity. In addition, Mr. Correa presented Bogotá as a case study of the need to allow the ecological structure to penetrate the city. Urban spaces have vast areas

of hard surfaces that absorb solar radiation and reflect this heat back into the atmosphere. Traditional urban infrastructure causes the heat island effect, i.e., the temperature increase in urban areas, in relation to the surroundings, which is responsible for one third of global warming. To address this situation there is a planned project to build 750 m<sup>2</sup> of green areas in the center of Bogotá, allowing

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40% of rainwater to be absorbed by plants or evaporate.

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According to Mr. Correa, on the subject of urban green infrastructure, some challenges are shared regionally, due to the

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lack of technology, lack of maintenance or care for the finished projects, lack of laws or incentives for builders and public and private bodies.

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Then **Mrs. Maria Teresa Nogales**, from the Alternatives Foundation of Bolivia lectured on *"green roofs and urban agriculture."* The Alternatives Foundation is a Bolivian nonprofit organization dedicated to generating sustainable mechanisms to ensure food security in Bolivia's cities.

Ms. Nogales began her presentation with the following data: by the year 2050, it is estimated that 70% of the world's 9 billion people will live in urban centers. In Latin America this figure is even higher - an estimated 90% of the region's inhabitants will be urban dwellers by then. These figures highlight how essential it is to maintain certain levels of balance - between institutions and individuals, between nature and person, between community and self. This alerts us to the importance of ensuring the vitality of our

cities, which depends largely on the ability to deliver and ensure quality of life, infrastructure, balance and environmental sustainability.

Some inspiring examples were cited, like the case of Vancouver (Canada), a city that is generating 90% of its energy from renewable sources (i.e. hydro systems); or Glasgow / Scotland, a city that is investing in generating solar energy on a large scale. To speak of sustainable cities is to speak of providing a better and more efficient use of the power grid, water, transport and housing - these are the cities that generate less pollution and process or reuse waste. In this regard, two aspects were analyzed: green roofs and urban agriculture.

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Green roofs involve having plants on the roofs of buildings as a strategy to replace the living / green floor that was destroyed during construction. Green roofs may be inaccessible spaces - that serve as a habitat reserved for flora and fauna - and could also be spaces for human interaction, production, education and recreation. In addition, it is possible to include within the benefits of green roofs, the ability to generate fresh food for human consumption.

Currently the population projections estimate that by 2050 the world will be inhabited by nine billion people and it will necessary to double the current food production. In this context, urban agriculture can generate a percentage of the food consumed while also improving the availability of fresh and nutritious nourishment. At the same time, urban agriculture offers an interesting alternative for the reduction of the carbon footprint in the food production chain. Food travels

less distance and therefore uses less petroleum and generates less pollution.

Mrs. Nogales concluded by presenting three fundamental goals that public and private actors should focus on:

1. The dissemination of information, particularly information that supports the need to adopt more sustainable practices and lifestyles.
2. The development and adoption of local public policies - at the municipal level - that generate the necessary mechanisms to ensure sustainability and wellbeing.
3. Local governments and private companies can, through economic incentives, adopt and support efforts to consolidate this vision of sustainable green cities of the XXI century.



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Later, the lawyer **Renan Machado Guimarães Eschiletti**, expert in Environmental Law and the Executive Secretary of Brazil's Green Technology Association (ATVerdeBrasil) spoke about "Public Policy on Urban Green Infrastructure: A Brazilian and Latin American Necessity".

In his lecture, Mr. Guimarães presented the challenges posed by the lack of public policy to guide the development of legislation in Brazil. As a result, a few laws that address environmental issues do get processed, but because they are applied in an uncoordinated way do not achieve their goals of revolutionizing the environmental paradigm. This problem persists at the regional level, which requires a further dissemination of the topic in society and its incorporation into various levels of government in a coordinated manner.

Another important contribution was made by Mrs. **Alexandra Maciel Albuquerque**, Infrastructure Analyst at the Brazilian Ministry of Planning, Budget and Management, currently employed at the

Ministry of Environment. She spoke about the "Climate Fund and the opportunity to support Green Infrastructure public policy."

This presentation was of great interest to actors seeking financial support for environmental projects in Brazil and attracted the attention of representatives of other Latin American countries as a model of public policy to be implemented by their respective governments.

Other contributions were made by Dr. **Perola Brocanelli**, a leading academic in the field of urban green infrastructure, who highlighted the importance of promoting techniques of green roofs and vertical gardens that use less water for their maintenance. Among other things, she spoke of the need for public policies to achieve the objective in a coordinated manner.

On behalf of the City of Sao Paulo's Environment Department, Prof. **Dr. Sergio Forini** highlighted green infrastructural measures being undertaken in the state capital, as part of the preparation of the Comprehensive Solid Waste Management

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Plan, the creation of cultural areas, as well as public and communal gardens. He took the opportunity to announce that two thousand composters will be distributed among the residents of the city this year, and twenty thousand in the next, in order to encourage the reuse of organic waste.

The agronomist **Juan Manuel Feijó**, co-founder of Ecotelhado Green Infrastructure Solutions introduced the integrated Ecosewer, the goal of which is to treat and reuse all the water used by buildings for non-potable purposes such for the irrigation of green roofs and vertical gardens that make up the system. The issue has generated great interest among the public, with the development of a range of technical issues.

Then **Gabriel Iwamoto** spoke about ProjeTEEE, a web access software that allows everyone to check what techniques and technologies to implement in their buildings in order to be more energy efficient and thermally comfortable.

Finally, the architect **Maria José de Mello**, a member of the Arktektus office, closed the forum with a presentation on the incredible case of Erich Walter Heine, a sustainable school in Rio de Janeiro, where the results of the implementation of green infrastructure can be seen. It has come to be regarded as a symbol of sustainability. The school highlights the environmental and economic benefits of using ecoroofs, ecowindows, ecopavements and other green infrastructure technologies as well as the social benefits, such as the quality of education for the students who live in close quarters with nature, and the success of their learning.

The next forum will probably be in 2015, and the location is yet to be decided.