

# From Mexico to Chile – How “Green” Are Latin American Cities?

The Latin American Green City Index, published at the World Mayors Summit on Climate in Mexico City, evaluates the environmental sustainability of 17 major cities in Latin America.

By Karen Stelzner

Since December 2009, we know which city is the greenest in the European Green City Index: Copenhagen. But how about Latin America? The recently published Latin American Green City Index, evaluating 17 major metropolises in Latin America in terms of their urban environmental sustainability, provides the answer. Curitiba in Brazil is at the top of the Index, being the only city to achieve a rank well above average. No other Latin American city in the Index addresses its environmental challenges in such a holistic way with integrated long-term planning as Curitiba does.

This is the second time after the European Green City Index that Siemens has conducted a study of this kind in cooperation with its independent research partner, the Economist Intelligence Unit. “The Latin American Green City Index aims to make cities aware of their responsibility and to help them further improve their environmental performance with a long-term vision for environmental sustainability,” says Stefan Denig, project head at Siemens.

The Latin American metropolises were compared in eight environmental categories: energy and CO<sub>2</sub>, land use and buildings, transport, waste, water, sanitation, air quality, and environmental governance. By clustering the 17 cities in five performance bands, ranging from well above average to well below average, the environmental strengths and weaknesses of each city can be better understood. In order to improve their performance, the study especially highlights best practices and outstanding green initiatives that allow cities to learn from one another.

The unique research project – as far as we are aware, no other study of this scope has been conducted for Latin America – reveals some very interesting findings: Five of the six top cities – rated above average or well above average overall – are in Brazil. Their outstanding performance is largely attributable to their strong environmental policies. São Paulo, for example, has one of the most robust climate change action plans in the Index and



“The Latin American Green City Index shows that holistic infrastructure planning is the key to tackling environmental challenges in cities successfully.”

Latin American Green City Index

Photos: Siemens

## Overall Results

The order of the cities within the performance bands has no bearing on the cities' results.

well above average	Curitiba
above average	Belo Horizonte Bogotá Brasília Rio de Janeiro São Paulo
average	Medellín Mexico City Monterrey Porto Alegre Puebla Quito Santiago
below average	Buenos Aires Montevideo
well below average	Guadalajara Lima



has committed itself to reducing CO<sub>2</sub> and other greenhouse gas emissions by 30 percent compared to 2005 levels by 2012. Belo Horizonte performs well due to its eco-buildings, water and air quality policies, while Curitiba demonstrates the most comprehensive waste policies.

Another interesting finding: In contrast to Europe, the environmental performance of the Latin American cities does not improve with higher income. The best-performing city is not necessarily the wealthiest one, which demonstrates that good environmental performance is not simply a matter of money.

Furthermore, the performance of a city often varies substantially from category to category, suggesting that cities have been concentrating on the most pressing environmental issues instead of engaging in long-term integrated planning.

### Latin America Is Strong on Renewable Energy

In Latin America, renewable energy plays a crucial role: Nine of 17 cities derive more than 80 percent of their electrical energy from renewable sources, mostly hydropower. São Paulo, for example, relies entirely on this form of electricity. However, since hydropower is very abundant, energy efficiency is not yet high on the agenda of many cities. Methane recovered from landfills also is of great importance for many cities when it comes to environmentally friendly energy generation. Released into the atmosphere, methane adds to greenhouse gases; however, when captured and burnt, it can be converted into clean energy, which is already done by 4 of the 17 cities. Eleven more cities have concrete plans or have already initiated waste-to-energy projects. São Paulo, for example, has installed one of the largest methane harvesting sites in the world with a capacity of 46 MW, cutting carbon emissions by about 11 million tons through 2012.

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But other forms of renewable energy, such as solar or wind, are also gaining importance. Belo Horizonte is a leader in solar energy in Brazil, with about 12 times more solar collectors per person than the country as a whole. The city will also equip its new football stadium for the upcoming FIFA World Cup in 2014 with solar panels that generate enough energy for its own operations. Mexico, on the other hand, is investing in wind power. In 2009, Siemens was awarded the first wind park contract in Latin America. The Los Vergeles installation will consist of 70 wind turbines providing renewable power for public buildings, water utilities, public lighting systems and 200,000 households throughout the state. This will make it the largest wind farm in Mexico. Uruguay is also planning to install wind farms and has overseen a few pilot projects in the past.

Other cities have improved their carbon footprint by using environmentally friendly fuel for public transport or cutting energy consumption by more efficient lighting. In Lima (Peru), the entire fleet of buses running on the city's Metropolitan bus corridor operates exclusively on natural gas, leading to a reduction of 185,000 tons of CO<sub>2</sub> emissions annually. And Mexico has initiated a national “Sustain-

able Light” plan to replace more than 45 million incandescent lightbulbs in 11 million Mexican homes with energy-saving bulbs by 2012. The initiative will save an estimated 2.8 million tons of greenhouse gas emissions annually.

Today, 81 percent of the population in Latin America live in cities. And the numbers are expected to rise even more in the future. Especially medium-sized cities are expected to grow further: By 2030, about 86 percent of the Latinos will live in cities, on a par with Western Europe. The rapid growth in population and size over the last decades has resulted in urban sprawl, immense pressure on infrastructure (especially transport) and environmental pollution. However, as all cities in the Index demonstrate, there are many green initiatives that can already make a difference.

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#### Further Information

[www.siemens.com/greencityindex](http://www.siemens.com/greencityindex).