

## Certification standards for fighting climate change: the “Sustainable BH” Seal

Belo Horizonte’s municipal Action Plan for Greenhouse Gas Emissions Reduction (APGHGER) has established a Greenhouse Gas emissions reduction target of 20 percent by 2030. One of the most successful aspects of the APGHGER has been a city-wide Certification Program in Environmental Sustainability, which encourages companies to implement environmentally conscious technologies and practices.

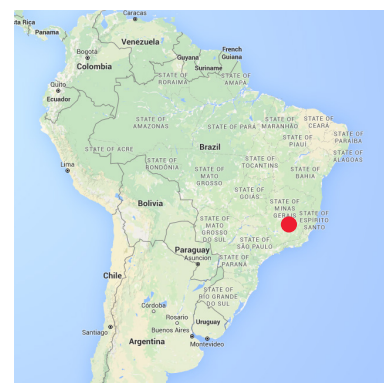
### Summary

In its 2012 Strategic Plan, the City of Belo Horizonte committed to cutting its greenhouse gas (GHG) emission 20 percent by 2030 (with the baseline for measurement set at 2007 levels). This target represented a considerable challenge, as the city’s GHG emissions grew larger in the period between 2000 and 2013.

To increase the likelihood of reaching their ambitious target, the Belo Horizonte City Council instituted the “Sustainable BH” Seal, a voluntary environmental certification program that recognizes environmentally high-performing projects which will help the city reduce its GHG emissions.

The Seal is the first of its kind in Brazil; an environmental certification scheme designed by a local government and focused on enhancing project performance. There are no restrictions on what sort of technologies can be used in a project in order for it to be certified, and this has gone a long way to stimulating innovation within Belo Horizonte. To assist companies that might be interested in obtaining the certification, the Belo Horizonte City Council has created a simulator capable of testing different combinations of technologies. This simulator provides an economic incentive for innovation by helping companies optimize the cost/benefit ratio of implementing environmentally high-performing improvements.

In the three years since it has been introduced, the Sustainable BH Seal has certified 50 projects including: hotels; residential and commercial buildings; restaurants; schools; a football stadium which was used in the 2014 World Cup; a landfill; and a municipal vehicle fleet. According to estimates by the Municipal Committee on Climate Change and Eco-efficiency (MCCCE), the potential release of 690,000 tons of CO<sub>2</sub>eq and the consumption of 160,000 MWh of energy and of 160 000 m<sup>3</sup> of water have been avoided on account of Sustainable BH certified projects (these values were calculated relative to baseline values for buildings and fleets).



### Facts and Figures

Belo Horizonte City Council;  
Minas Gerais, Brazil

**Population / Total Area**  
2,491,109 (2014 estimate) / 331,401 km<sup>2</sup>

**Municipal Budget**  
R\$ 8,807 million (2013)

**GHG inventory available since:**  
(2000 - 2013)

**GHG emissions indicator**  
4.4 million tons CO<sub>2</sub>eq (2013)  
1.58 tCO<sub>2</sub>eq per capita

Belo Horizonte has been a member of ICLEI since 1993.

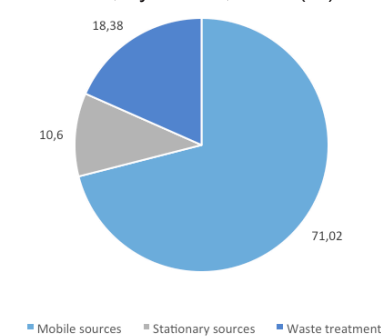
## Introduction: the advantages of environmental certification in municipal GHG reduction programs

Mitigating the effects of climate change via the reduction of GHG emissions is a global challenge, and particularly so for cities, which are both sources and victims of climate change. Over the past several decades, cities all over the world have been working to reduce the emissions created by both public and private activity. However, a major challenge for local governments is to engage the private sector in emission reduction initiatives without using compulsory or punitive legislation. Innovative methods are essential to eliminate barriers to cooperation between the public and private sectors, which can accelerate the achievement of significant results.

Certification schemes and instruments are widespread in the private sector, and interaction with these instruments is often seen as a first step for private actors looking to improve their social and environmental responsibility. Moreover, environmental performance certifications, supported by technology simulators, have shown considerable potential as instruments which can promote results-based changes in cities. This is because they are attractive to all parties: the industrial sector can promote the performance of its innovative products, companies can demonstrate their environmental commitment, and cities can achieve their municipal climate targets.

Certification schemes have proven to be viable, both as compulsory and as voluntary instruments. In the case of cities, voluntary agreements have a greater chance of achieving success, particularly if incentives are provided to industrial and private actors in the form of tax-rebates or differentiation during public procurement processes. Local governments, which operate with different legislative realities than private sector actors, cannot be expected to replicate corporate certification schemes wholesale. However, tailored municipal certification schemes, such as “Sustainable BH”, are an innovative step that is well within the grasp of local governments worldwide.

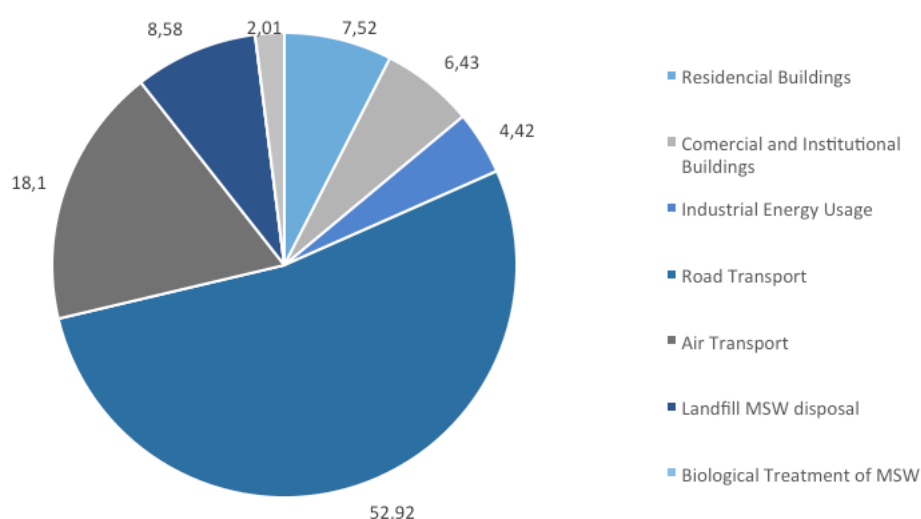
Graphic 1 – Emissions of Greenhouse Gases in Belo Horizonte, by Sector, 2013 (%)



## Belo Horizonte: the dreamt up capital

Belo Horizonte has been the capital of the state of Minas Gerais since it was founded in 1897. The city was designed as a grid system of single hectare blocks, with each block separated by wooded avenues, and the entire grid circumscribed by a ring road. Soon after its foundation, Belo Horizonte became known as the Garden City because of its lush urban green spaces and mild climate.

It has grown in prominence since it was first founded to house 200,000 inhabitants,



Graphic 2 - Emissions of Greenhouse Gases in Belo Horizonte, by sub-Sector, 2013 (%)

ICLEI Case Study - No. 185, Belo Horizonte, Brasil, 2016

and has recently been selected by the McKinsey Global Institute as one of the 600 most important cities in the world. Presently, the Belo Horizonte metropolitan area has 5.4 million inhabitants and a diversified economy which generates a GDP of USD 79 billion (2010).

This growth has also changed the physical character of the city: urban sprawl, as well as extractive and industrial activities, has taken over what was left of the remaining natural areas within the city. It is for these reasons that the Belo Horizonte City Council and the Municipal Secretariat for the Environment (MSE) have been implementing urban sustainability initiatives which focus on reducing GHG emissions, protecting green areas, and revitalizing watersheds for more than a decade.

These local environmental initiatives have been very successful; Belo Horizonte has excelled on national and international stages for its consistently innovative policies and its successful reconciliation of its historic Garden City image with that of a burgeoning urban area pursuing sustainable development. To these ends, Belo Horizonte has established itself as a pioneering city which is tackling climate change with innovation and spirit.

## Environmental Performance Certification of Projects: the Sustainable BH Seal

In 2012 the Sustainable BH Seal was launched as an environmental certification to stimulate sustainable development in projects. The Seal is one of the main tools used by the Belo Horizonte City Council to mitigate GHG emissions in the municipality.



Figure 1: The Seals by category: Gold, Silver and Bronze

## Institutional Framework to Support the Sustainable BH Seal

In 2006, the Municipal Committee on Climate Change and Eco-efficiency (MCCCE) was created and tasked with proposing and supporting the actions undertaken towards climate change mitigation and adaptation by local public authorities.

In 2009, the first GHG emissions inventory for Belo Horizonte was published. The inventory covered the period of 2000-2007 and indicated priority areas for local government intervention. The inventory has subsequently been updated to incorporate the period of 2007-2013, and the results of the second inventory have been disseminated via two publications, released in 2013 and 2015.

2009 also marked the year that the Environmental Sustainability Certification Program was introduced. This Program was designed to encourage sustainable practices in public and private enterprises, and directly promoted the selection of environmentally friendly building materials, efficient use of water and energy, and appropriate waste management. In addition to these achievements, the program has also been the basis for the Sustainable BH Seal scheme.

In 2011, Municipal Law 10.175 was approved, establishing the Municipal Policy for Climate Change Mitigation, which has served as the basis for the Action Plan for Greenhouse Gas Emissions Reduction (APGHGER). Launched in 2014, APGHGER contains 42 measures to enable Belo Horizonte to reach the goal of reducing its GHG emissions by 20 percent in 2030.

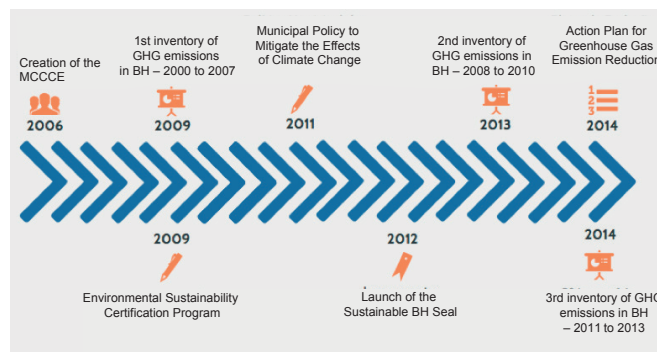


Figure 2 – Timeline for GHG management by the City Council of Belo Horizonte



It is within this institutional arrangement that the Seal was created as a tool to contribute to the APGHGER, thereby bringing the private sector into the GHG emissions reduction commitment made by the municipality.

## Details of the Sustainable BH Seal and the issuing procedures

The Sustainable BH Seal contrasts with traditional command and control mechanisms. The intention of Belo Horizonte City Council was to develop an appealing policy that encourages locally based private stakeholders to adopt sustainable practices, with the added benefit from both increased operational efficiency and enhanced public image. The option of a certification scheme is one that the private sector is traditionally familiar with, and the Sustainable BH Seal also benefitted from the fact that it offered entrepreneurs the freedom define their own strategies and innovate.

Companies seeking certification must differentiate their performance against the established market standard. This means reaching a minimum of 30 percent and 25 percent reductions in water and energy consumption respectively; preventing or offsetting 80 percent of CO<sub>2</sub> emissions; and reusing 30 percent of waste and diverting 70 percent of the remaining waste from landfills. Accomplishments such as utilizing alternative energy sources and incorporating bioclimatic architecture generate bonuses that help enterprises achieve the necessary standards for certification.

The main components of the certification process defined by Belo Horizonte City Council are:

**1. Preliminary Assessment:** this is the first step of the certification process. The project characteristics are analyzed to determine how it performs in regard to water, energy, emissions, and waste.

**2. Adaptations in the project:** implementation of the necessary adjustments to improve project performance and meet the certification requirements. Such adjustments range from the type of material used for insulation and roofing to the choice of electrical and hydraulic equipment that will be installed.

**3. Performance simulations on the Program website:** the company/entrepreneur can compare different design options and specifications, defining the best options to achieve the performance levels required by the certification scheme.

**4. Submission of proposal to the MSE:** the proposal is then submitted to the MSE which validates the project and indicates which Seal to will be awarded (bronze, silver or gold) providing it is certified.

**5. Performance audits:** to verify if the simulated targets were achieved in order to make the project eligible. Independent audits are critical to the credibility of the program. The Sustainable BH Seal methodology establishes that the following steps must take place: (1) a compliance audit to ensure that the project possesses the elements specified in the project profile; and (2) regular performance audits, which verify that the expected results were achieved.



Photo: PBH - Breno Pataro

The stadium Estádio Mineirão certified by the Sustainable BH Seal

**Table 1: Other actions and related initiatives in the city**

Type of action	List actions	Actors involved
Policy / Action plan	Strategic Plan Belo Horizonte 2030 Action Plan for Greenhouse Gas Emissions Reduction (APGHGER)	• Belo Horizonte City Council
Regulation	DN 66/2009 Municipal Law/By-law 10.175	• Belo Horizonte City Council
Governance / Organizational	Creation of the Municipal Committee on Climate Change and Eco-efficiency	• Belo Horizonte City Council • Municipal Secretariat for the Environment
Capacity building	Seminars Workshops	• Belo Horizonte City Council • Municipal Secretariat for the Environment
Stakeholder engagement	Presentations Sector events	• Belo Horizonte City Council • Municipal Secretariat for the Environment • Sinduscon-MG • Dom Cabral Foundation
Technical and technological measures	GHG Emissions Inventory for Belo Horizonte Creation of the Simulator Creation of the Handbook Conduction of performance and conformity audits	• Belo Horizonte City Council • Municipal Secretariat for the Environment • Prodabel • Bureau Veritas

To facilitate the registration and adherence to the Program, BH City Council created a specific website ([cesa.pbh.gov.br](http://cesa.pbh.gov.br)) containing:

- Laws that established the program;
- Handbook for certification;
- Performance Simulator;
- Certificated Enterprises, and
- Qualified consultants to support entrepreneurs.

## Results

The initial market acceptance of the Seal was slow. In 2012, only twelve projects were certified, and that number dropped to seven certifications in 2013. The following year, however, the results began to change after a construction company opted to certify all of its new municipal Early Childhood Education Units (ECEUs) under the Sustainable BH Seal. This achievement saw the number of certifications increase to twenty-four in 2014.

As of December 2015, fifty certificates have been issued. The variety of certified projects – which include a football stadium, a landfill which produces bio-gas, commercial and residential buildings, hotels, schools, and a vehicle fleet – demonstrates the broad scope of the Seal and the diversity of ways which it can stimulate sustainability.

The Belo Horizonte City Council certification aims to contribute to the reduction of GHG emissions generated within the municipality. Energy production from methane gas in the BR 040 landfill, certified with the Gold Seal, will prevent the emission of four million tons of CO<sub>2</sub>eq in 15 years. These reductions will contribute to the local target, as shown in the 2011-2013 GHG emissions inventory of Belo Horizonte.

The MCCCE has performed calculations to estimate the results achieved by the program, which show that the following figures have been prevented:

- Emissions of 690 tons of CO<sub>2</sub>eq;
- Consumption of 160 000 m<sup>3</sup> of water; and
- Consumption of 160,000 MWh of energy .

The Sustainable BH Seal offered an important contribution to these achievements by giving a legal and viable alternative for City Councils to implement an incentive mechanism for entrepreneurs to reduce their GHG emissions.

## Lessons learned

The city of Belo Horizonte encountered several initial challenges to the implementation of the certification, which can be understood as pertaining to institutional unfamiliarity, stakeholder engagement, and cultural resistance.

**1.** Overcoming internal institutional challenges was necessary in order for the program to be implemented in the first place, and then to subsequently gain legitimacy and credibility with local stakeholders. Among the challenges that the Belo Horizonte City Council faced were: the prioritization of Sustainability Policy within the City Council itself, the assembly of a team of appropriate technical staff to carry out the initiative, and contracting a Certification Institute.

**2.** The second set of challenges related to stakeholder engagement. A voluntary certification instrument needs to use a range of tools to engage local stakeholders and encourage their participation. Ideally, this can lead to the creation of a culture in the buildings and construction industry which prioritizes the objectives behind the Sustainable BH Seal: resource efficiency and reduced GHG emissions. The purpose of engagement should therefore not only be to disseminate information about the certification scheme, but also to create support for the concepts that underpin it. Therefore developers, construction companies and technical consultants should be engaged.

**3.** The last set of challenges was cultural resistance, and can be linked to both the general lack of available information on sustainability policies, as well as to resistance by engineers and architects. The sustainability certification helped Belo

Horizonte City Council encourage behavioral change from developers and buyers. Instead of evaluating joint projects in order to define the environmental constraints, the city has now begun to receive projects with the social and environmental aspects highlighted – following the certification methodology.

The institutional context of Belo Horizonte led to a number of barriers to wider spread of certifications within the city. Initially, the current legislation for fiscal responsibility prevented the local government from foregoing the revenues that would have been created with “business-as-usual” activity without proper proof of equivalency from the increase in other sources of revenue. This legislative barrier made it impossible to associate the Sustainable BH Seal with financial benefits such as tax cuts for

Photo: PBH - Vander Bras



The Mayor of Belo Horizonte, Marcio Lacerda handing over the certificate to the Itaipu Municipal Unit of Early Childhood Education



companies that obtained the certification. Because it was not possible to grant tax benefits, there was the need to assess other potential incentives and instruments which could benefit companies and entrepreneurs trying to incorporate sustainability within their projects, such as acceleration within the project approval process or granting of environmental or housing permits.

Several events to generate awareness of the Sustainable BH Seal took place throughout the city. Yet despite the recognition of the validity of this innovative initiative, entrepreneurs reported that benefits generated by the certification were unclear. Some believed that sustainable business development would not be feasible because it would bring a significant increase in costs. Thus, it is essential to clearly present the benefits which companies and entrepreneurs will experience through the adoption of a certification scheme.

The team within the Belo Horizonte City Council has acknowledged that some items are critical to the success of such an initiative, including:

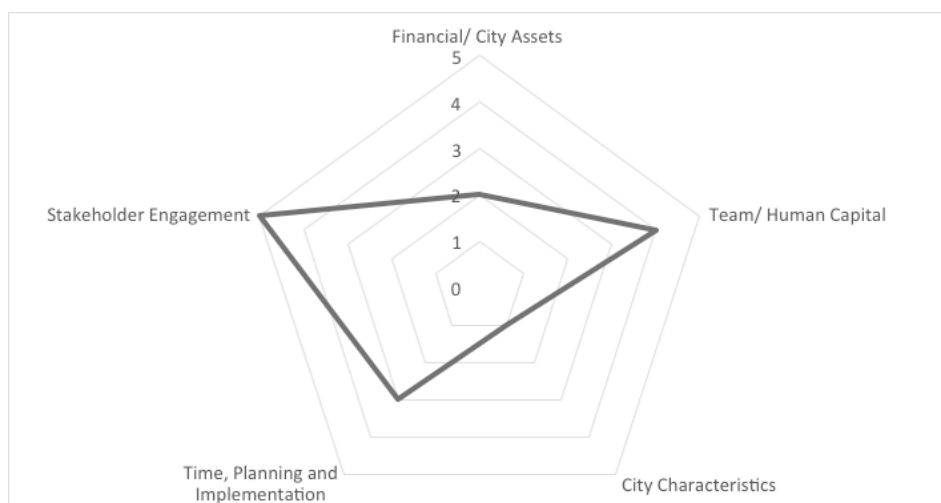
- **Political will and institutional support:** through the provision of technical and financial resources and support for innovative policies.
- **A qualified and motivated team:** qualified professionals for program implementation, communicating with stakeholders in order to present the direct and indirect benefits of the initiative, and guaranteeing the continuous improvement of the initiative.
- **Dissemination of success stories:** demonstration of environmental, economic and social benefits generated from projects for the community, encouraging the participation of new members in the program.

The team responsible for the Sustainable BH Seal has not yet had considerable interaction with local industry. However, it is believed that the certification has the potential to use large industrial suppliers to support the dissemination of the certification scheme, thus increasing the number of sustainable buildings and environmentally sound technologies. If it is proven that sustainable options can reduce industrial operational costs, approval of the certification could spread quickly among local industry.

## Replication

The Municipalities of Salvador and Recife (please consult references) have already created their own certification systems based on the initiative by Belo Horizonte.

The structure of a certification program for projects depends on three key elements:



### The Urban-LEDS Project

An Urban Low Emissions Development Strategy (Urban LEDS) defines a pathway to transition a city to a low emission, green and inclusive urban economy, through its integration into existing city development plans and processes.

The Urban-LEDS project (March 2012 - March 2016), funded by the European Union, was jointly implemented by UN-Habitat and ICLEI. It supported local governments in emerging economy countries (Brazil, India, Indonesia, South Africa) and in Europe to transition to urban low emission development using ICLEI's GreenClimateCities methodology, comprehensive process guidance, to integrate low emission strategies into all sectors of urban planning and development.

For more information, please visit: <http://urbanleds.iclei.org/>

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(1) Identifying the main producers of GHG in the municipality. This helps with the definition of the main characteristics that the certification should have to help the municipality reduce its emissions.

(2) A qualified team capable of creating adequate methodologies to evaluate the system and certified projects, to guide those interested in the certification.

(3) Proper engagement of target audiences for the certification. This is the most important element, since, as an incentivizing instrument, without stakeholder acceptance and recognition of the advantages associated with the certification, the program will not reach the expected results.

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**PREFEITURA  
BELO HORIZONTE**



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They represent solely the views of the authors and cannot in any circumstances be regarded as the official position of the European Union.

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