



VIÑA DEL MAR CHILE

MITIGATING METHANE AND BLACK CARBON FROM THE MUNICIPAL SOLID WASTE SECTOR

Viña del Mar is known as the “Garden City” for its many parks, gardens, and green spaces. Its major economic sectors include tourism and higher education. In 2013, it joined the Climate and Clean Air Coalition Municipal Solid Waste Initiative (Waste Initiative) to obtain assistance using environmentally friendly waste management practices such as waste minimization, waste separation, and clean energy generation. Through this partnership, the city is pursuing several actions with a range of environmental, economic, and public health benefits, including improved air quality and reduced emissions of short-lived climate pollutants (SLCPs), primarily methane and black carbon.

CHALLENGES AND OBJECTIVES

Viña del Mar has high waste collection rates, with residential waste collection near 100%. However, the city still faces a number of waste management challenges. Most of the city’s waste goes to a landfill in the neighbouring city of Valparaíso; transporting and disposing waste costs Viña del Mar more than \$1.3 million (US) per month. The city does not have programs focused on waste minimization or reduction, a small fraction of waste is separated at the source, and only 7–10% of the waste is recycled.

Through its involvement with the Waste Initiative, the city sought to develop a sustainable solid waste management plan that would maintain its status as a top tourist destination, help it become an environmental leader, and meet national commitments under the United Nations Framework Convention on Climate Change. In addition, the national government selected the city as a pilot for implementing waste management measures to reduce SLCP emissions and promote replication of successful activities around the country.

ACHIEVEMENTS TO DATE

Viña del Mar partnered with the Center for Clean Air Policy to implement Waste Initiative activities. This partnership sought to maximize collaboration, knowledge exchange, and capacity building that would foster near-term policy changes among local, regional, and national levels of government. Early on, the city also collaborated with Sweden’s Environmental Protection Agency to learn about sustainable municipal solid waste management policies and best practices. Through this collaboration, Viña del Mar developed a work plan for improving

CITY FACTS

Population:
≈ 330,000
Waste Generation Rate:
≈ 1.1 kg/person/day
Waste Collection Rate:
≈ 99%

The **Climate and Clean Air Coalition Municipal Solid Waste Initiative** unites national and local governments, international organizations, and other partners to reduce emissions of short-lived climate pollutants, such as methane and black carbon, from the municipal solid waste sector.



solid waste management. This plan included four core objectives: (1) reduce emissions of SLCPs by improving waste management, (2) reduce landfill waste disposal, (3) increase waste recovery, and (4) minimize waste generation.

To achieve these objectives the city has implemented a number of activities, several of which are ongoing.

Sustainable Solid Waste Management Plan: This plan includes a tiered strategy for managing waste; identified activities in the short-, medium-, and long-term; and specified waste management compliance goals. During the plan's development, the city conducted a number of scoping studies, including an assessment of current waste management practices in the city, and an analysis of alternative practices. Projects identified in the plan include construction of an organic waste treatment plant and creation of an associated organic waste collection program (details below), construction of a central recycling sorting facility that could manage many types of recyclable materials including appliances and batteries (details below), retrofits of the city's waste collection fleet vehicles, installation of recycling containers throughout the city, and execution of an education and awareness program.

Food waste separation and collection: This activity will divert organic waste from the landfill and, with proper treatment, reduce methane emissions. Viña del Mar identified large-scale organic waste generators (e.g., restaurants, grocery stores, open markets, hotels, public buildings), determined collection routes, developed an educational campaign, and is working to create a sustainability certification program that offers reduced collection fees for certified entities.

Organic waste treatment plant: Viña del Mar plans to use organic waste from large-scale organic waste generators as feedstock for an anaerobic digestion project that will generate biogas. The city is investigating two options for biogas use: 1) production of combined heat and power, and 2) production of natural gas for clean fuel vehicles. During the second half of 2017 the city will finalize a business model for the project, including implementation and financing details. Some financial support will come from the Government of Canada to meet national commitments under the United Nations Framework Convention on Climate Change. Construction is expected to begin in 2019.

Recyclable sorting facility: The city is taking action to further minimize waste headed to the landfill by improving separation of recyclable materials from the waste stream. This activity will engage collection companies to expand into new areas of the city, install collection points at strategic sites around the city, strengthen education campaigns, and build a central recycling sorting facility. The site is already selected and architecture plans are developed. The project involves a plan for promoting and



“We needed a guide and this collaboration allowed us to move forward in a structured way, based on a sustainable development strategy.”

Virginia Reginato, Mayor of Viña del Mar



regulating collaboration among informal recyclers, the municipality, and private sector actors to ensure long-term sustainability.

Engage other municipalities and industries:

The city is partnering with Concón and other localities and industries to maximize the collection and diversion of organic food waste. Together, the entities will generate sufficient waste to attract the private sector to invest, build, and operate the city's planned organic waste treatment plant.

ONGOING ACTIVITIES

Project partners are close to finalizing construction, operation, and financing plans for the organic waste treatment plant. Additionally, the project team is collaborating with regional and national authorities to analyse and define necessary policy changes that could facilitate similar actions in additional cities, such as developing effective solid waste management plans, and implementing waste management activities that improve local environmental performance and tackle climate change. The city hopes its work will be replicated in other cities around the country and region.

ABOUT THE COALITION

The Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants (Coalition) is a voluntary global partnership of governments, intergovernmental organizations, business, scientific institutions and civil society committed to catalysing concrete, substantial action to reduce SLCPs (including methane, black carbon and many hydrofluorocarbons). The Coalition works through collaborative initiatives to raise awareness, mobilise resources, and lead transformative actions in key emitting sectors.

MORE INFORMATION

www.waste.ccacoalition.org
www.waste.ccacoalition.org/participant/vina-del-mar-chile

 ccac_secretariat@unep.org

 [@CCACoalition](https://twitter.com/CCACoalition)

 facebook.com/ccacoalition