

APPENDIX A

The State of Colima is considered one of the most important economic actors in the Western Mexico due to its port, the Port of Manzanillo. It has a territory of 5,433 km² and a population of 711,235 inhabitants; of which 89% live in urban areas and 11% in rural areas, with a schooling higher than the national average of 9.5 years (little more than secondary school completed).

Colima contributes 0.6% of the national GDP. Although more than 69% of the economic activity of Colima belongs to the tertiary sector (trade, transportation, real estate and other services), the agricultural sector leads the national production of lime and coconut products. Colima's mining sector occupies the second place among the eight mining states in the country.

In environmental matters, Colima seeks to position itself at the forefront with initiatives such as the project "Renewable Energies in the Public Sector", with improvement of energy efficiency in public buildings and the promotion of conservation areas such as carbon sinks, which allow Colima to do its contribution to Mexico's climate change efforts.

According to the inventory of greenhouse gas emissions, 57,063.64 Gg of CO₂e were generated in 2010, resulting in per capita emissions of 80.2 tons, of which the energy sector generates 19.544 Gg of CO₂e. The high emissions are due to the fact that the state has a thermoelectric plant that supplies ten states of the region. In addition, there are the emissions from the change of land use with a deforestation rate of 1.2% that exceeds the national average (0.71%), the transportation sector with an index of 1.8 people per car, following the agricultural, industrial and waste management.

The emissions reduction targets, based on the 2010 emissions of Colima and in alignment with the National Climate Change Strategy, have established the following:

- 30% reduction by the year 2030.
- 50% reduction by the year 2050.

By signing the Under2MOU, the state of Colima is committing to work towards the more ambitious goals defined by the Under2 Coalition, which are to reduce GHG emissions by 80 to 95 percent, or below 2 annual metric tons per capita, by 2050.

Derived from the results of the inventory, the State Program of Action on Climate Change (PEACC), are targetted mitigation strategies addressing those sectors that have a direct influence on emissions such as:

- **Energy:** Colima has a potential of 6 KWh/m² of solar radiation and is seeking a transition towards the use of renewable energy is sought. It is also promoting the implementation of an energy efficiency program. Overall, the goal is to make Colima a leader in the use of clean energy.
- **Urban planning:** increase the controlled and efficient use of the territory by reducing urban sprawl and promoting the evolution to public transport systems that are clean, low emissions, safe, accessible and comfortable by strengthening interconnectivity.
- **Transportation:** Improvement of regulation with the publication of the law of sustainable mobility. Implementation of a secure, efficient, inclusive and sustainable regional transportation system. Promotion of non-motorized mobility through the improvement of cycling and pedestrian infrastructure and road education. Modernization of vehicle fleet with an eventual transition to electric cars. Increase the public transportation routes.
- **Infrastructure.** Foster the optimization of the operations of the Port of Manzanillo and implement measures to minimize Greenhouse Gas (GHG) emissions in the port area and port activities and services.
- **Biodiversity and forests:** Implementation of a strategy of reduction of emissions by deforestation and degradation of soils, increase carbon storage by promoting the increase of areas of conservation of low and medium forest and promotion of conservation of biodiversity.
- **Agricultural sector:** Promote agricultural and forestry production schemes with potential for mitigation through carbon capture practices, livestock waste management and reduction of emissions derived from the inadequate use of fire.
- **Waste:** Promote the integral management of solid waste through projects of maximum value added of materials and energy, use of organic waste, capture of methane in landfills, as well as waste water treatment.
- **Financial instruments:** Promotion of regional carbon trading schemes, green taxes and environmental funds to finance projects geared towards low carbon development.

The third part of the state territory is very vulnerable to global warming; 35% of this area is predominantly used for agriculture, 1.6% for livestock and 2.8% for human settlements. Climate change has diverse effects like the reduction of the rain and humidity of the ground or the increase of extreme temperatures and intensity of rains, loss of harvests, increases pollution, greater presence of natural phenomena (like the hurricanes), among others.

Based on a study of the perception of climate change conducted in Colima, concepts of heat, cold, pollution and rain are associated to climate change, but there is a lack of



understanding of these effects (PEACC 2010), as well as a notable misinformation about how to deal with it, how to reduce vulnerability or implement adaptation measures.

In order to reduce vulnerability and increase the resilience of their systems, Colima must in turn drive the following initiatives:

- Conduct studies to communicate the risks to society and to raise awareness among stakeholders, to educate and inform about Climate Change and its consequences.
- Promote the analysis of vulnerability to climate change by zones, economic activities and population groups.