



# LARNACA

POPULATION (2015): 84 900 (URBAN)

2020 MUNICIPALITY TARGET: -25.3% CO<sub>2</sub> 2030: -40% CO<sub>2</sub>

BASELINE 2009

SCOPES: 1, 2

## Managing natural resources while sustaining territorial attractiveness

### Climate policy governance and integration

Larnaca is concerned with the protection of its natural and cultural heritage, which concentrates its potential for tourism. The natural and strategic geography of Larnaca accounts for its attractiveness: with its international airport, major seaport, and marina, the city constitutes the country's economic force.

The Larnaca Greater Urban Area, covering 6 municipalities, displays its environmental concerns by initiating programmes focused on the sensible use of natural resources and energy efficiency. The strategic plan for sustainable development [LARNACA 2040](#) outlines its objectives from 2014 onwards to reinforce the city as an energy hub, strategic gateway, tourist destination, and opportunity multiplier.

Its [Sustainable Energy Action Plan \(SEAP\)](#) outlines 23 [local measures](#) to achieve this goal. Larnaca also [contributed](#) to national objectives by participating in the National Scheme for Energy Saving in Street Lighting, aiming to achieve 44% of energy savings by 2021. The national scheme was not renewed, and the matter became the responsibility of the local authority which began working with Energy Authority Cyprus to replace close to 8,000 current street lighting lamps with LED light bulbs, enabling over 2,300 MW of energy savings per year.

### Climate policy tracking

Although the 2008 economic crisis accounts for an atrophied economy that partially explains reductions in both energy consumption and GHG emissions, data shows important reductions that imply policy commitments and coordination. Indeed, Larnaca reduced its global emissions by 28.7% from 2009 to 2014 (from 390 to 278 MtCO<sub>2</sub>e). Over this period, Larnaca's overall energy consumption fell by more than 25%, from almost 1 GWh for 2009 to 723,504 MWh for 2014. This decrease is largely due to the reduction of fossil fuel use.

### Energy – Efficiency through behaviour change

Larnaca strives for energy autonomy. Hence, the municipality considers in its strategic plan [LARNACA 2040](#) energy savings and the shift towards renewable energy sources as pivotal. Larnaca Municipality participated in the [FIESTA project](#) (funded by Intelligent Energy Europe), saving almost 60 MWh of energy and reducing emissions by 51tCO<sub>2</sub> through efficient heating/cooling systems and behaviour change.

However, local energy production remains limited, and while local renewable energy production represents less than 0.1% of it, it recently jumped five-fold from 148 to 739 MWh/year from 2009 to 2014. 2 photovoltaic parks of 150 kW each opened between 2014 and 2016. Compliance with 2020 objectives appears to be attainable for the city of Larnaca if its economic recovery has not resulted in energy consumption or GHG emissions increases.

### Mobility – Reversing cars' and bikes' modal shares

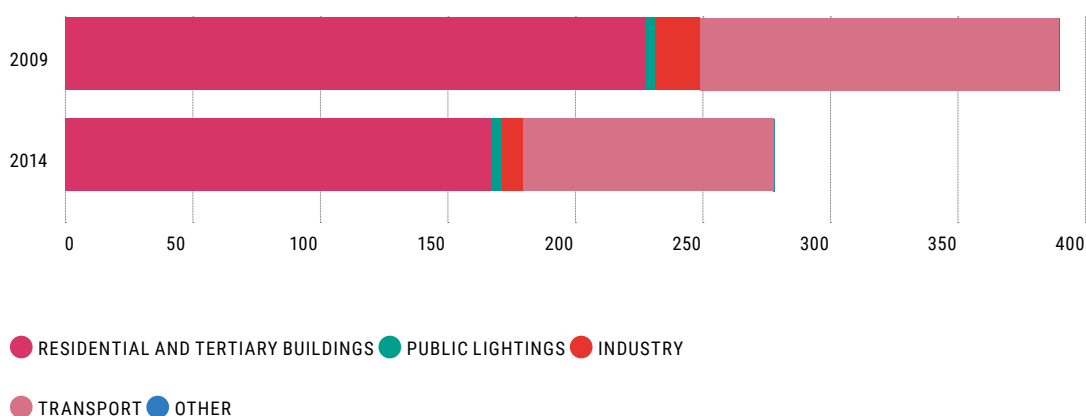
Larnaca's Greater Urban Area Sustainable Urban Mobility Plan "[SUMP FOR LARNACA](#)" in 2018, strives to improve urban liveability through the promotion of non-motorized mobility options. [As of 2019](#), an estimated 76% of households own 2 or more vehicles, and 32% at least 3 private cars mostly used for commutes. In contrast, barely over a third of households own a bicycle. To bolster their use, the city plans to add 43 km of [bike lanes](#) to the existing 25 km.

As part of Larnaca's [SEAP](#) efforts, low CO<sub>2</sub>-emissions vehicles benefit from low taxes and subsidies, all electric vehicles park freely, and infrastructure has been renovated and improved: 2 electric car charging points, one-way roads, etc. Larnaca participates in the [European Mobility Week](#) since 2002, when it was first introduced as Car Free Day, and has received 5 distinctions for efforts in awareness-raising and sustainable mobility.

Beyond city bounds, Larnaca's [infrastructure network](#) is integrated within its regional context with 17 regional lines (and 8 regional night lines) exist. The Larnaca International Airport reduced its CO<sub>2</sub>

## GHG EMISSIONS OF LARNACA PER SECTOR (IN KTCO<sub>2</sub>E/YEAR)

Source: [Larnaca Progress](#) retrieved from *Covenant of Mayors for Climate & Energy (2018)*



emissions and its [energy consumption by 32%](#), thus attaining Level 3 “Optimisation” of the [Airport Carbon Accreditation](#).

### Natural resources – Managing resources to sustain sustainable tourism

A number of environmental protection projects have been deployed: the initiative “[Larnaca puts an end to plastic straws](#)”, a [beach clean-up](#) in the context of a green international marathon, or the installation of [underground bins](#) along beach areas are among the most mediated. Larnaca’s strategy is not only to solve the aesthetic issue of traditional bins, but also to ensure that the 64 collection points installed before September 2019 are located strategically to improve the rate of recycled waste. The €1.5 million project (cofinanced by Larnaca City and the Ministry of Environment) includes the renovation of the city’s lorries, as well as equipment for local business. Every 3 months, results of recycling are monitored based on the weighed amount of gathered material.

Mindful of environmental preservation while striving to preserve touristic attractiveness, Larnaca is shifting towards more sustainable alternatives, such as [agrotourism](#). ANETEL, the Larnaca District Development Agency, developed the [ALTER ECO](#) project (2016-2019) to enhance the local sustainable development of tourism by promoting the Mediterranean identity. The [Environmental Information Centre of Larnaka Mountainous Area](#) was also created to preserve and protect the environment through awareness, as was the Observation Kiosk of the [Larnaca Salt Lake](#) (one of Larnaca’s remarkable sites). Additionally, Larnaca citizens call for the [relocation of petroleum and LPG facilities](#), which would free a large part of the city’s beachfront.

Larnaca is also taking the lead regarding research, by hosting the new [Cyprus Marine and Maritime Institute \(CMMI\)](#) which focuses its research on the

blue economy, and on a set of missions related to climate and environment (plastics-free oceans, a zero emissions ship, a monitoring system of the land-ocean interface, etc.).

## ADAPTATION

### COUNTERING THE IMMEDIATE EFFECTS OF CLIMATE CHANGE

Parts of Larnaca are located 2 metres above sea level, making the region the [most vulnerable part of the island to coastal erosion and flooding](#), aggravated by damaging human activities (urbanisation, beach mining). 23m of beach have been lost in the past few years (1m/year), as per 2013 estimates.

Sea level rise causes safety threats for infrastructure while increasing the demand for costly coastal defences, such as breakwaters: 6 parallel ones were built from 2009 to 2018, and 16 others are under construction. These are financed by the national government, which is responsible for maintaining beach fronts. Experts, however, are concerned over the perturbations these breakwaters may cause to natural currents by creating stagnant waters. They recommend switching construction materials from the island’s rocks to construction waste to build artificial rocks. In parallel, the Water Development Department is implementing [various other measures](#): protection dams, surface water routes, flood prevention technologies, etc.

Cyprus is very [prone to droughts](#): water restrictions were imposed, yet Larnaca remains undersupplied (70%). Combined with the unsatisfactory storage of water in dams, a Sea Water Desalination Plant ([SWRO](#)) was needed to supply Larnaca and its surroundings with drinking water.