

# NS-126 - Santiago Transport Green Zone (STGZ)

## Chile

### NAMA Seeking Support for Implementation

#### A Overview

A.1 Party

Chile

A.2 Title of Mitigation Action

Santiago Transport Green Zone (STGZ)

A.3 Description of mitigation action

The STGZ is comprised of four specific initiatives to promote low carbon emission transport modes that would be implemented within a defined area in downtown of Santiago, Chile. The initiatives include: 1) Promotion of zero and low emission vehicles in taxi fleets, municipality fleet and charging stations; 2) Incorporation of zero and low emission buses into the public transportation system in Santiago; 3) Promotion of non-motorized vehicle use, including the implementation of 6 km of new bicycle lanes, a pilot program for a bicycle sharing system, 1 connectivity solution for two existing bicycle lanes and bike signs in two areas within the STGZ 4) Traffic re-design and traffic management which new pedestrian and semi-pedestrian streets, exclusive lanes for ZLEV buses and bicycle parking.

These four initiatives are integrated in one single area which has been defined in conjunction with the Municipality of Santiago. It's geographic perimeter includes the Historic Triangle of the city center of Santiago which covers about two square kilometers. Many historic sites of the city can be found inside the STGZ, including the Main Square "Plaza de Armas", Santiago's Cathedral, the Government Palace "La Moneda", the Municipal Theatre, Santiago's Central Market and the Parque Forestal central park, among others.

The selected zone is a very popular, touristic and commercial area, which ensures high impact and high visibility for all the STGZ initiatives. One of the main conclusions of the multistakeholder process to develop the STGZ is that it must be considered as a pilot project with a vast potential for redefining the urban transportation model with a new focus on integrated and sustainable transport. The implementation of the STGZ would also provide new ways of reducing GHG emissions and local pollutants. It is highly replicable in other cities, with the capability to expand from its original zone-definition towards a larger area within each city.

A.4 Sector

- |   |   |
|---|---|
| <input type="checkbox"/> Energy supply                        | <input checked="" type="checkbox"/> Transport and its |
| <input type="checkbox"/> Residential and Commercial buildings | Infrastructure  |
| <input type="checkbox"/> Agriculture                          | <input type="checkbox"/> Industry                     |
| <input type="checkbox"/> Waste management                     | <input type="checkbox"/> Forestry                     |

Other

A.5 Technology

- |  |  |
|--|--|
| <input type="checkbox"/> Bioenergy         | <input type="checkbox"/> Cleaner Fuels     |
| <input type="checkbox"/> Energy Efficiency | <input type="checkbox"/> Geothermal energy |

A.6 Type of action	<input type="checkbox"/> Hydropower <input type="checkbox"/> Wind energy <input type="checkbox"/> Carbon Capture and Storage <input type="checkbox"/> Land fill gas collection	<input type="checkbox"/> Solar energy <input type="checkbox"/> Ocean energy <input type="checkbox"/> Low till / No till
	<input checked="" type="checkbox"/> Other <input type="text" value="Zero and low emission vehicles"/>	
A.7 Greenhouse gases covered by the action	<input type="checkbox"/> National/ Sectoral goal <input type="checkbox"/> Strategy <input checked="" type="checkbox"/> National/Sectoral policy or program	<input type="checkbox"/> Project: Investment in machinery <input type="checkbox"/> Project: Investment in infrastructure <input type="checkbox"/> Project: Other
	<input type="checkbox"/> Other <input type="text"/>	
A.7 Greenhouse gases covered by the action	<input checked="" type="checkbox"/> CO2 <input type="checkbox"/> N2O <input type="checkbox"/> PFCs	<input type="checkbox"/> CH4 <input type="checkbox"/> HFCs <input type="checkbox"/> SF6
	<input type="checkbox"/> Other <input type="text"/>	

### B National Implementing Entity

B.1.0	Name	Ilustre Municipalidad de Santiago
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B.1.6	Address	
B.1.7	Phone	+562 228271298 / +569 68316842
B.1.8	Email	arisso@munistgo.cl
B.1.9	Contact Person 3	
B.1.10	Address	
B.1.11	Phone	
B.1.12	Email	
B.1.13	Comments	

### C Expected timeframe for the implementation of the mitigation action

C.1	Number of years for completion	2
C.2	Expected start year of implementation	2015

### D Currency

D.1	Used Currency	<input type="text" value="AED"/> Conversion to USD: 1
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### E Cost

E.1.1	Estimated full cost of implementation	17600000
E.1.2	Comments on full cost of implementation	The full cost includes 50 zero and low light vehicles, 21 electric charging points, 5 hybrid buses, 5 electric buses, 6 km of new bicycle lanes, 1 connectivity solution to connect two existing bicycle lanes, 1 pilot of automatic public bicycle system with 13 station and 130 bicycles, 6 new pedestrian blocks, 22 new semi-pedestrian blocks, 150 bicycle parking, 4 automatic biker counters, 4 automatic pedestrian counters, hiring of 5 professional for implementation support and follow up
E.2.1	Estimated incremental cost of implementation	2700000

E.2.2 Comments on estimated incremental cost of implementation  
 The incremental cost includes the capital cost difference between conventional light vehicle and full electric and plug in car. Also considers the difference in monthly cost of conventional diesel bus leasing and hybrid and electric bus. Finally, includes the cost of 21 electric charging points.

F Support required for the implementation the mitigation action

F.1.1 Amount of Financial support 9600000

F.1.2 Type of required Financial support

<input checked="" type="checkbox"/> Grant	<input type="checkbox"/> Guarantee
<input type="checkbox"/> Loan (sovereign)	<input type="checkbox"/> Equity
<input type="checkbox"/> Loan (Private)	<input type="checkbox"/> Carbon finance
<input type="checkbox"/> Concessional loan	
<input type="checkbox"/> Other	<input type="text"/>

F.1.3 Comments on Financial support  
 The Municipality of Santiago is seeking financial support for the Santiago Green Zone to finance the incremental costs of zero and low emissions vehicles and buses compared with the cost of traditional vehicles. Support is also being requested for co-financing infrastructure related to electric charging points, new bicycle lanes, 1 connectivity solution to connect two existing bicycle lanes, bicycle parking and construction of new pedestrian areas in the Green Zone area. Also for hiring of 5 professional for implementation support and follow up

F.2.1 Amount of Technological support 0

F.2.2 Comments on Technological support  
 No technology support has been quantified due to this first stage of using ZLEV technologies has the providers commitment in train and give all the technical support and after sale services

F.3.1 Amount of capacity building support

F.3.2 Type of required capacity building support

<input type="checkbox"/> Individual level
<input checked="" type="checkbox"/> Institutional level
<input type="checkbox"/> Systemic level
<input type="checkbox"/> Other
<input type="text"/>

F.3.3 Comments on Capacity Building support  
 The Municipality of Santiago would require additional human resources in order to lead properly the NAMA STGZ during the implementation process and MRV process. Also, high administrative work is expected in order to backup all the expenses and inform to the international donors.

F.4 Financial support for implementation required

F.5 Technological support for implementation required

F.6 Capacity Building support for implementation required

G Estimated emission reductions

G.1 Amount 1.43

G.2 Unit

G.3 Additional information (e.g. if available, information on the methodological approach followed)  
 G.2 value represents a escalating scenario evaluated in 10 years which includes 15% of taxi fleet in Santiago (3,525 units replaced) and 15% of Transantiago bus fleet (975 units replaced), both in full electric technology. This reduction potential could be greater if more percentage of the fleet is replaced. The STGZ itself only considers two

square kilometers of intervention in Santiago, and would reduce 13,000 tCO<sub>2</sub> over 10 years

## H Other indicators

### H.1 Other indicators of implementation

- Number of ZLEV implemented in Municipal Fleet
- Distance travelled by the ZLEV Municipal Fleet (km/year)
- Electricity consumed by the ZLEV Municipal Fleet (kWh/year)
- Number of ZLEV implemented in taxi Fleet
- Distance travelled by the ZLEV taxi Fleet (km/year)
- Electricity consumed by the ZLEV taxi Fleet (kWh/year)
- Number of electric charging points installed
- Utilization rate of electric charging points (kWh/year)
- Number of ZLEV implemented in Bus Fleet
- Distance travelled by the ZLEV Bus Fleet (km/year)
- Electricity consumed by the ZLEV Bus Fleet (kWh/year)
- New bicycled lanes implemented (km/year)
- Bicycle demand in new bicycle lanes (bikers/year)
- Utilization rate per bicycles from public bicycle system (trips/bicycle/year)
- Average distance Travelled by bicycle (km/year)
- Modal shift from passenger private cars to bicycles (%/year)

## I Other relevant information

### I.1 Other relevant information including co-benefits for local sustainable development

- ZLEV capacity buildings:
  - Students graduated from ZLEV careers/year
  - Students approved from ZLEV specific lessons/year
  - Credits given to taxi and bus operators to buy ZLEV vehicles (\$USD/year)
- Sedentary Index variation (% of population), statistics from Ministry of Sports
- Obesity Index variation (% of population), statistics from Ministry of Health
- Profits variation (\$USD/year), related to commercial shops placed in the new pedestrian and semi-pedestrian streets

## J Relevant National Policies strategies, plans and programmes and/or other mitigation action

### J.1 Relevant National Policies

The Municipality of Santiago has two master plans that interact with the STGZ: 1) for promoting mobility through sustainable transport modes within the commune and 2) for making streets projects in order to improve public space for pedestrian.

The Ministry of Transport has bided at the end of 2013, 50 electric taxis permit in the Metropolitan Region of Santiago where 19 had been awarded. This was defined by the Ministry of Transport as a pilot and regarding to results, it would be more permits in the future. Four of these 19 electric taxis will be part of the STGZ, in addition of the 50 ZLEV light vehicles considered in the Initiative 1.

The Metropolitan Public Transport Directory (DTPM, spanish acronym), Ministry of Transport, is developing the study "*Design of a Program for Technological Improvement of Buses in the Public Transport System of Santiago*" financed by the UK Embassy in Santiago. The project purpose is to ease the inclusion and accelerate the investment in low and zero emission bus technologies in the fleet renewal projected from 2015 to 2022 (over 5,000 units) and make the Santiago Public Transport System cleaner and more efficient in the future 2018 cocession bid process

### J.2 Link to other NAMAs

#### K Attachments

- K Attachments
- K.1 Attachment description
- K.2 File

Title	Description
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#### L Support received

- L.1 Outside the Registry
  - Prosperity Fund, UK Embassy in Santiago 84,820.00 USD 2011
  - Inter-American Development Bank 30,890.00 USD 2014
- L.2 Within the Registry

Support provided	SupportType	Amount	Comment	Date
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