

SUSTAINABLE ENERGY ACTION PLAN OF PINEDA DE MAR

It joined the Covenant of Mayors the 25 of September of 2008

Inhabitants	25.931	inhab.
Seasonal population	29.719	inhab.
Total surface area	10,35	Km ²
Urban soil	3,08	Km ²
Per capita waste generation	2,06	kg/inhab.day
Per capita water consumption	168	litres/inhab.day
Per capita energy consumption	16.035	kWh/inhab.
Classification	Urban	

Sustainable Energy Action Plan of Pineda de Mar

The Sustainable Energy Action Plan adjusts to the “Covenant of Mayors” of the European Union and follows the methodology established by the Sustainability and Climate Change Technical Office.

The Covenant of Mayors commits its members to fulfill the comunitary objectives of reducing the greenhouse effect gas emissions by means of actions that are related to the energetic efficiency and the renewable energy sources.

Editor team:

ADEDMA, consulting company

Marta Gómez Pons, Senior Forest Engineer and Agricultural Technical Engineer / Project coordinator

Josep Lluís Moreno, Chemistry Engineer / Project coordinator

Cecilia Lo Tartaro, Senior Environmental Chemistry Technician / Project Technician

Marc Permanyer , Industrial Technical Engineer specialized in Industrial Chemistry / Project Technician

Maria Crespo Abril, Senior Environmental Chemistry Technician / Project Technician

Adrià Vergés Negra, Senior Environmental Chemistry Technician / Project Technician

Cristina Mejía Álvarez, Chemistry Engineer / Project Technician

Vanessa Castrillejo González, Batchelor in Biology / Project Technician

Pineda de Mar Town Council; responsables of SEAP

Xavier Amor i Martín, Mayor

Mònica Palacin i Paris, Environmental Advisor

Barcelona Council; Employment Department

Maria Llorens Baucells, Environmental Department Technician

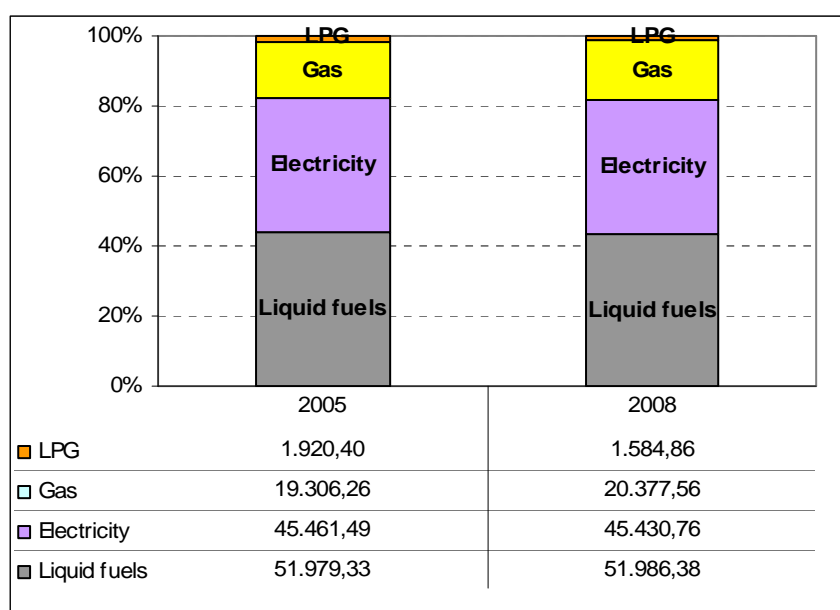
Index

1	ANALYSING THE EMISSIONS	3
1.1	THE TOWN'S GENERAL DEVELOPMENT CONSIDERING ALL THE SECTORS	3
1.1.1	<i>Emission rate per sources</i>	<i>3</i>
1.1.2	<i>The town's total CO₂ emissions.....</i>	<i>3</i>
1.2	SEAP GENERAL DEVELOPMENT	4
1.2.1	<i>Emission rate per sources</i>	<i>4</i>
1.2.2	<i>SEAP area total emissions</i>	<i>4</i>
1.2.3	<i>SEAP area emissions per sectors</i>	<i>4</i>
1.2.4	<i>Energetic supplying level: local energy production in %</i>	<i>5</i>
1.3	CO ₂ EMISSIONS OF THE TOWN COUNCIL	6
1.3.1	<i>Emissions of the Town Council concerning the entire town</i>	<i>6</i>
1.3.2	<i>Emissions of the Town Council per sources.....</i>	<i>6</i>
1.3.3	<i>Emissions of the Town Council per sectors.....</i>	<i>7</i>
1.3.4	<i>Facilities which consume most , in percentage</i>	<i>7</i>
2	ACTION PLAN	8
2.1	ACTION AREAS SELECTION.....	8
2.2	KEY ELEMENTS OF THE SUSTAINABLE ENERGY ACTION PLAN.....	9

1 Analysing the emissions

1.1 The town's general development considering all the sectors

1.1.1 Emission rate per sources



Source: Catalan Energy Institute

1.1.2 The town's total CO₂ emissions

	2005	2008
tCO ₂ eq. total	132.880	132.973
tCO ₂ eq. /registered inhab.	6,63	6,63
tCO ₂ eq. /total ETCA inhab.	4,69	4,47

Source: Catalan Energy Institute, The General Administration of Mines and Energy, Catalan Waste Company, Catalan Water Company, SOREA, Maresme Regional Council and the Statistical Institute of Catalunya

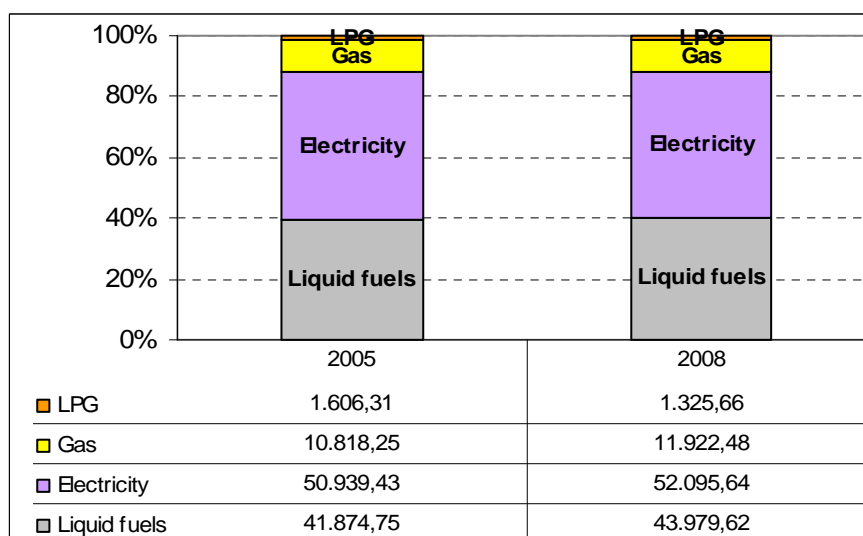
The total CO₂ emission of Pineda de Mar corresponds to:

The emissions of energetic consumption of all the sectors (primary, industry, services, domestic and transportation) + the emissions of waste treatment (the waste transport is included in the transportation sector) + the emissions of water's treatment (desalination, purification, pumping are included in the service sector therefore this sector includes the Town Council's emissions) – the emissions saved by the photovoltaic solar energy production existing in the town¹.

¹ They do not charge the CO₂ emissions saved by solar thermal energy and by biomass, therefore these are already charged in a fuel reduction program (gas, oil, electricity, etc)

1.2 SEAP general development

1.2.1 Emission rate per sources



Source: Catalan Energy Institute

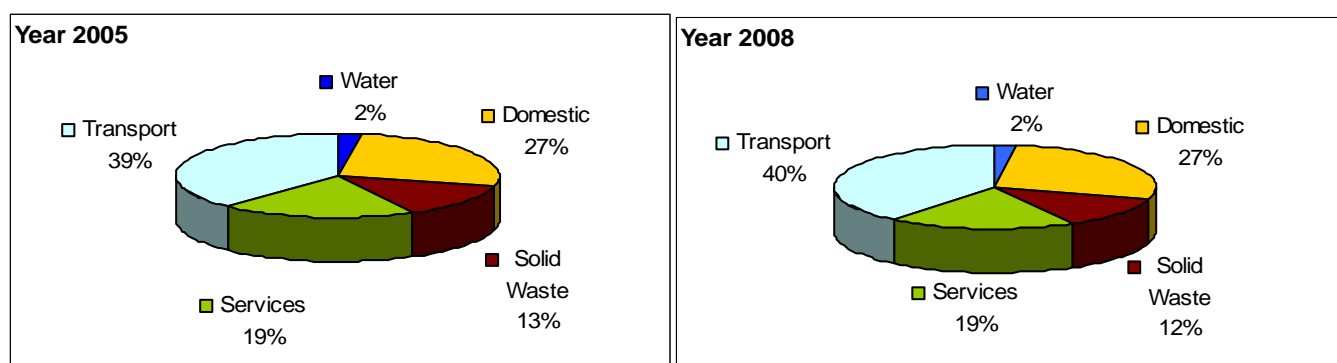
1.2.2 SEAP area total emissions

	2005	2008
tCO ₂ eq. total	105.239	109.323
tCO ₂ eq. /registered inhab.	5,25	5,45
tCO ₂ eq. /total ETCA inhab.	3,72	3,68
Decrease percentage	0%	3,88%

Source: Catalan Energy Institute, The General Administration of Mines and Energy, Catalan Waste Company, Catalan Water Company, SOREA, Maresme Regional Council and the Statistical Institute of Catalunya.

The total CO₂ emissions of SEAP area corresponds to the town's total CO₂ emissions excluding those of the industry and the primary sector.

1.2.3 SEAP area emissions per sectors



Source: Catalan Energy Institute, The General Administration of Mines and Energy, Catalan Waste Company, Ecoembes, Catalan Water Company, SOREA, Maresme Regional Council and the Statistical Institute of Catalunya.

1.2.4 Energetic supplying level: local energy production in %

2005	2008
0 %	0,03%

Source: A private study based on the data provided by the General Administration of Mines and Energy

1.3 Emissions of the Town Council

1.3.1 Emissions of the Town Council concerning the entire town

	2005	2008
tCO ₂ eq. total	2.252	2.575
tCO ₂ eq. /registered inhab.	0,091	0,099
tCO ₂ eq. / total ETCA inhab.	0,080	0,087
% of the district's total	1,66	1,91

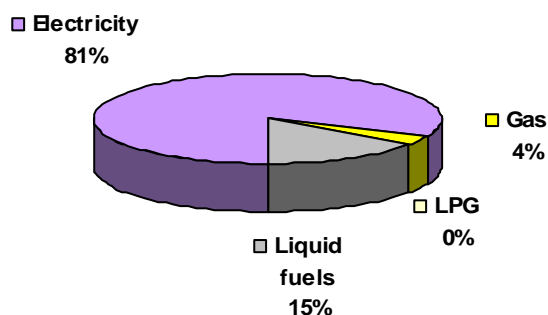
Source: a private study based on the data provided by the Pineda de Mar Town Council and the Maresme Regional Council.

1.3.2 Emissions of the Town Council per sources

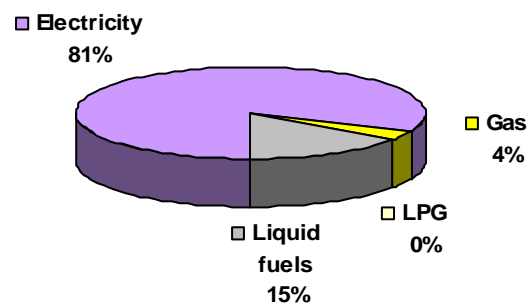
	2005	2008
Electricity	1.827	2.095
Gas	85	91
LPG	-	-
Liquid fuels	340	390

Source: a private study based on the data provided by the Pineda de Mar Town Council and the Maresme Regional Council.

Year 2005



Year 2008

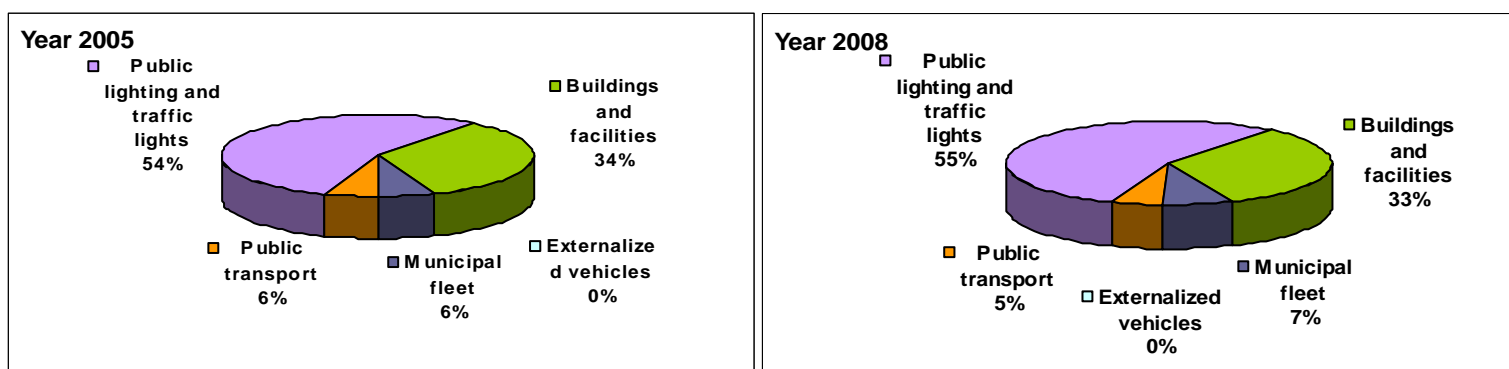


Source: a private study based on the data provided by the Pineda de Mar Town Council and the Maresme Regional Council.

1.3.3 Emissions of the Town Council per sectors

	2005	2007
Lighting and traffic lights	1.239	1.423
Municipal facilities	758	847
Municipal vehicle fleet	129	180
Surplus vehicle fleet	-	-
Public transport	126	126

Source: a private study based on the data provided by the Pineda de Mar Town Council and the Maresme Regional Council.



Source: a private study based on the data provided by the Pineda de Mar Town Council and the Maresme Regional Council.

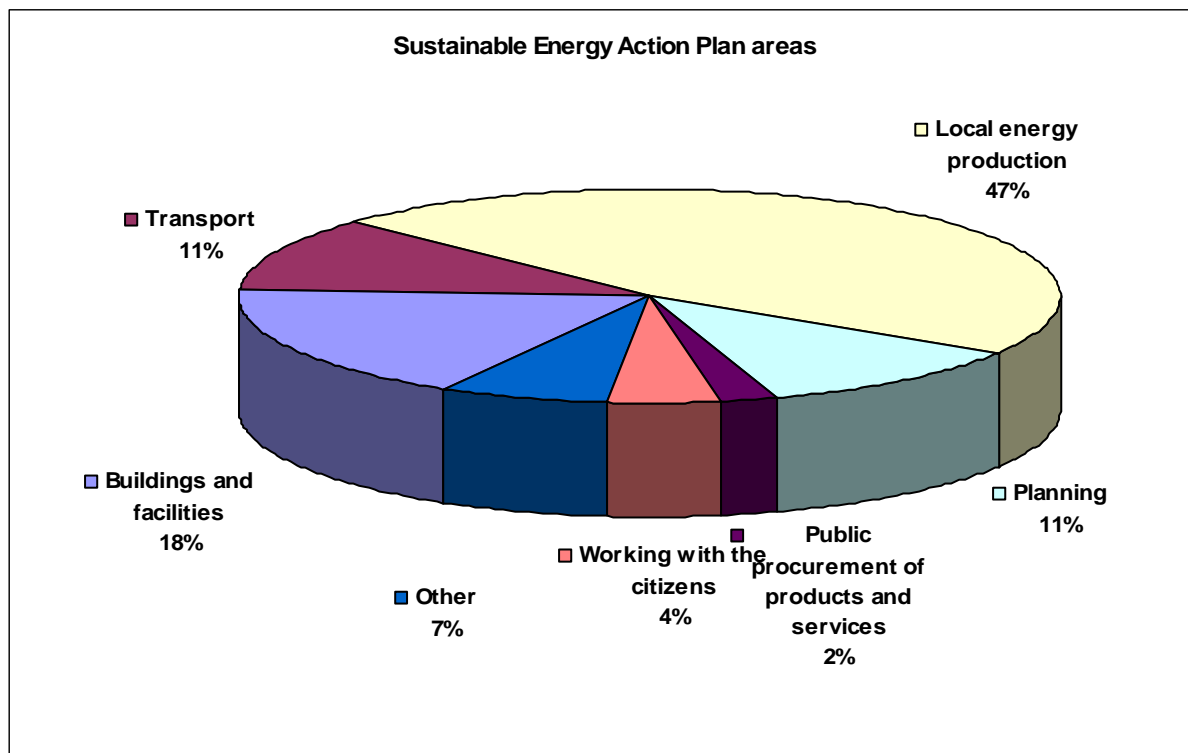
1.3.4 Facilities which consume most, in percentage

Facilities	2005	2008
Sports facilities	12	12
Education (nursery schools, junior schools, etc)	32	35
Other (markets, cemeteries...)	18	14
Administration and municipal offices	22	20
Socio cultural centres, civic centres and libraries	11	15
Water pumping	5	4

Source: a private study based on the data provided by the Pineda de Mar Town Council and the Maresme Regional Council.

2 Action Plan

2.1 Action areas selection



Source: a private study based on the data provided by the Pineda de Mar Town Council.

Total tones the Town Council commits itself to reduce	21.048
Total tones / registered inhabitants the Town Council commits itself to reduce	1,05
Total tones / ETCA inhabitants the Town Council commits itself to reduce	0,74
Reduced tones between 2005 and 2008 by policies developed by the Town Council	0
Measures number included in the Action Plan	45

2.2 Key elements of the Sustainable Energy Action Plan

Areas	Energy saving target per sector(GWh)	CO ₂ reduction target sector(tones)	Actions / measures	Responsible department / sector	Implementation (start / end time)	Estimated costs	Expected CO ₂ reduction/ measure
Facilities and services							
Municipal Buildings	2,6	1.258,5					
Municipal infrastructure			Replacing lighting, radiator temperature regulator valves and oil boilers	Culture, education and science, Economical promotion, sports and culture, Government and social welfare	2010-2015	58.104	100,5
Public lighting and traffic lights			Using LEDs	Thoroughfare and maintenance	2010-2015	6.419 (traffic lights only)	1.158,1
Service sector ²							
Domestic sector							
Transportation							
Municipal fleet	48,8	12.638,9	Using more efficient vehicles	Thoroughfare and maintenance	2010-2020	Non quantifiable	53,9
Public transport							
Private and commercial transport			Using more efficient vehicles	Private org.	2015-2020	Non quantifiable	12.585

² Service sector (Catalan Energy Institute data): not to take into account the facilities, infrastructure and public lighting consumption
Sustainable Energy Action Plan of Pineda de Mar town

Areas	Energy saving target per sector(GWh)	CO ₂ reduction target sector(tones)	Actions / measures	Responsible department / sector	Implementation (start / end time)	Estimated costs	Expected CO ₂ reduction/ measure
Local energy production							
Renewable energy sources	5,9	2.858,6	Installing photovoltaic panels	Environment	2010-2015	19.861.710	2.858,6
Domestic HVAC							
Planning							
Urban strategic plan	0,1	101,3	Solar regulation, solar thermal installing promotion, sustainable building regulation	Municipality, environment, thoroughfare and maintenance and urbanism	2010-2020	Non quantifiable	Non quantifiable
Mobility			Bike rental system, increasing the pedestrian and cycle ways network	Thoroughfare and maintenance	2015-2020	300.000	101,3
Standards for refurbishment and new development			Building tanks to harvest the rainwater	Thoroughfare and maintenance	2015-2020	36.000 (project)	Non quantifiable

Areas	Energy saving target per sector(GWh)	CO ₂ reduction target sector(tones)	Actions / measures	Responsible department / sector	Implementation (start / end time)	Estimated costs	Expected CO ₂ reduction/ measure
Goods and services public purchase							
Efficient energy requirements	Non quantifiable	Non quantifiable	Buying green	Treasury Department	2015-2020	Non quantifiable	Non quantifiable
Renewable energy requirements							
Working with the citizens							
Advising services	Non quantifiable	1.849					
Incentives and financial support			Installing water saving mechanisms	Environment	2015-2020	Non quantifiable	Non quantifiable
Making the citizenship aware via local network							
Training and education			Making the citizenship and the businessmen aware and creating the Technological Hall	Environment	2010-2015	14.600	1.849
Other	Non quantifiable	2.341,7	Improving the water distribution network and the Urban Solid Waste management	Environment and Thoroughfare and maintenance	2015-2020	39.000	2.341,7