

## Sustainable Energy Action Plan of Canet de Mar

28th of may of 209

Population	<b>12.429</b>	inh.
Seasonal population	<b>436<sup>1</sup></b>	inh.
Total surface area	<b>5,6</b>	Km <sup>2</sup>
Urban land	<b>1,25</b>	Km <sup>2</sup>
Urban waste production	<b>1,29</b>	kg/cap.day
Water consumption	<b>171,97</b>	litres/cap.day
Energy consumption	<b>12.120</b>	kWh/cap.
Type of municipality	<b>Touristic</b>	

## Índex

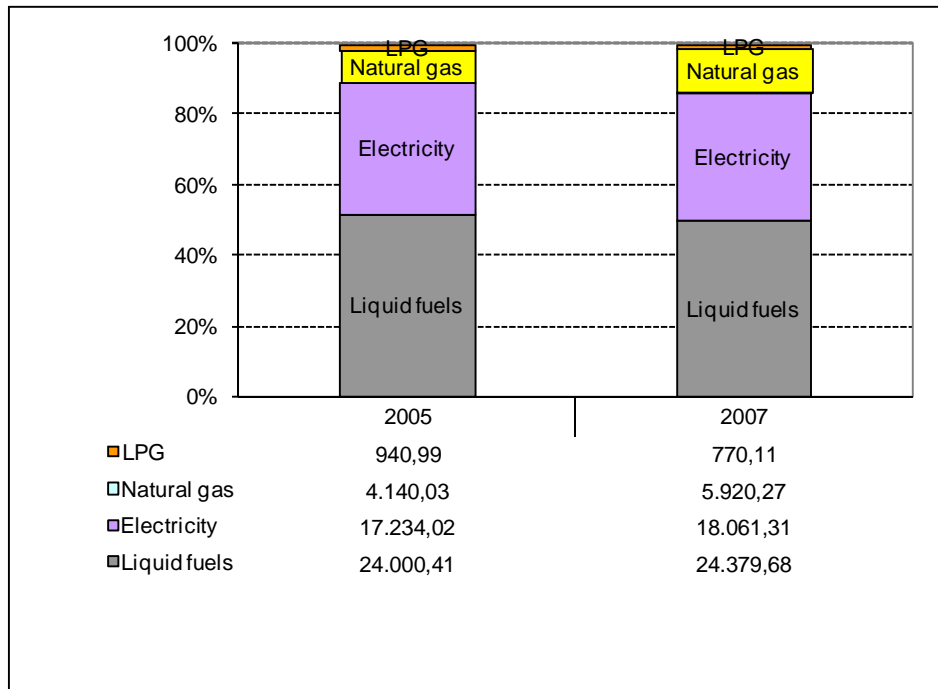
<sup>1</sup> Data referent to the year 2003

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# 1 Emission assessment

## 1.1 General evolution of the municipality considering all sectors

### 1.1.1 Emissions per sources



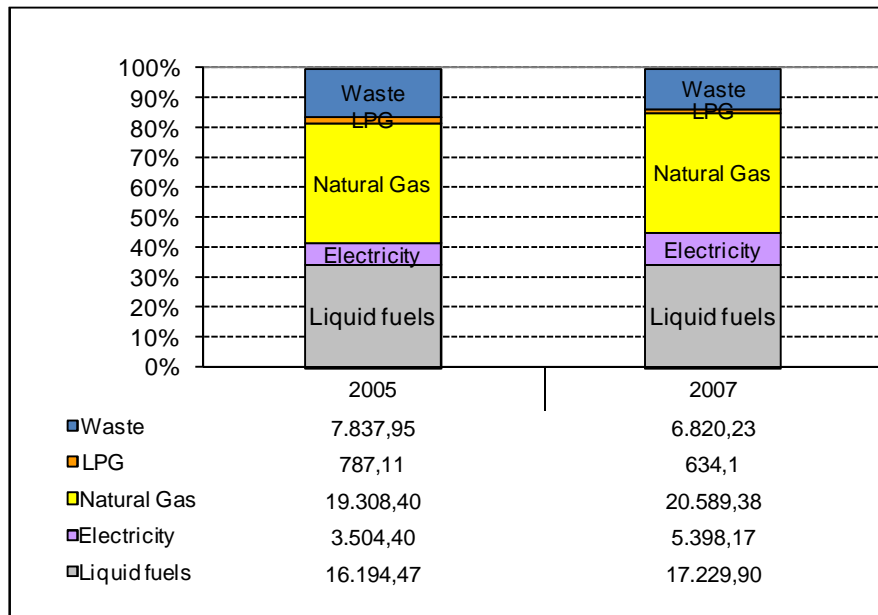
Source: ICAEN (Catalan Institute of Energy)  
LPG: Liquefied Petroleum Gas

### 1.1.2 Municipality's total emissions

	2005	2007
Total tCO <sub>2</sub> eq.	54.153,40	55.951,60
tCO <sub>2</sub> eq. /cap.	4,36	4,24

## 1.2 General emission evolution in SEAP categories

### 1.2.1 Emissions per sources



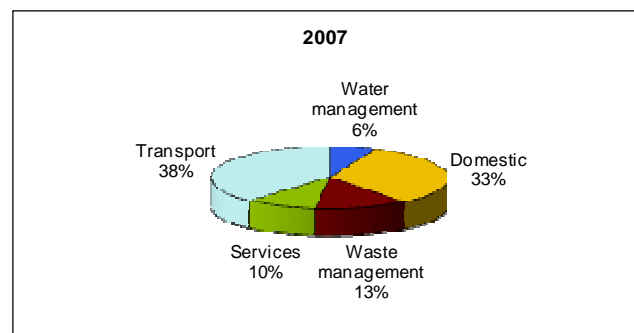
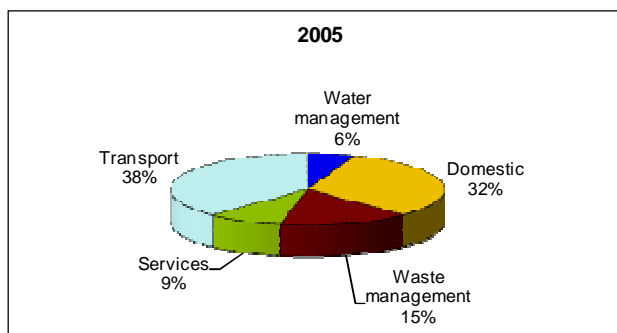
Source: ICAEN

### 1.2.2 Total SEAP emissions

	2005	2007
Total tCO <sub>2</sub> eq.	47.632,31	50.671,61
tCO <sub>2</sub> eq. /cap.	3,83	3,84
Reduction percentage		

Source: ICAEN

### 1.2.3 SEAP emissions per sectors



Source: ICAEN

### 1.2.4 Local energy production less than 20 MW (%)

		2005	2007
Private sector	Renewable sources	-	-
	Other	-	-
Municipal public sector	Renewable sources	0,020%	0,018%
	Other	-	-
Other	Renewable sources	-	-
	Other	0,959%	0,786%

Source: ICAEN & Town council

### 1.2.5 Town council emissions

### 1.2.6 Town council emissions

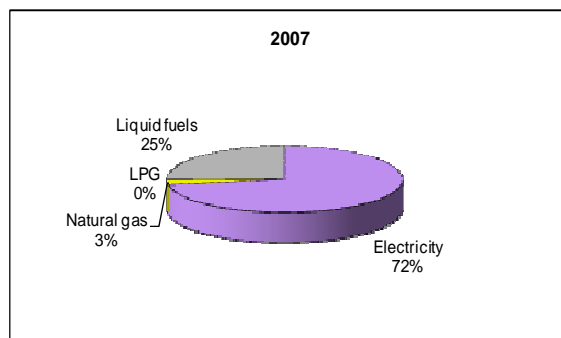
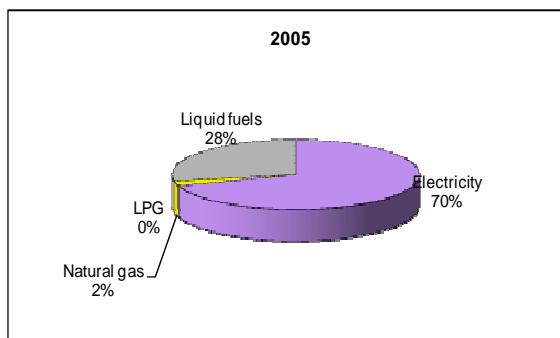
	2005	2007
Total tCO <sub>2</sub> eq.	1.509,50	1.609,68
tCO <sub>2</sub> eq. /cap.	0,1214	0,1221
% of the total municipality's emissions	2,78	2,88

Source: Town Council

### 1.2.7 Town council emissions per sources

	2005	2007
Electricity	1.050,28	1.161,14
Natural gas	35,11	41,6
Liquefied Petroleum Gas (LPG)	0,00	0,00
Liquid fuels	424,12	406,94

Source: Town Council

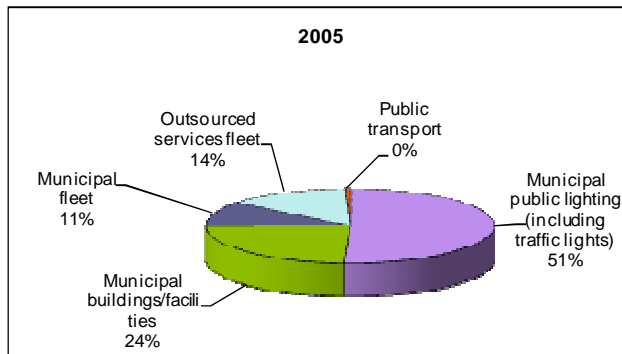


Source: Town Council

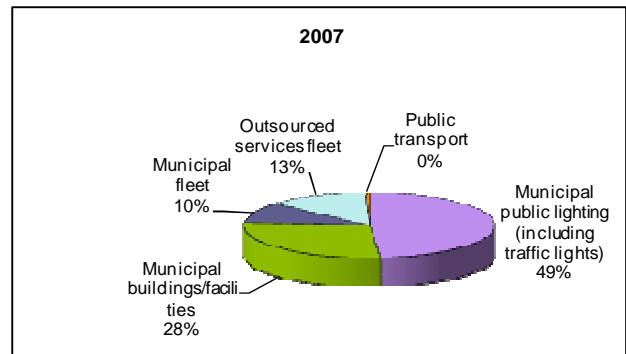
### 1.2.8 Town council emissions per sectors

	2005	2007
Municipal public lighting (including traffic lights)	764,42	783,49
Municipal buildings/facilities	362,32	443,42
Municipal fleet	165,35	165,35
Outsourced services fleet	209,23	209,23
Public transport	8,22	8,22

Source: Town Council



Source: Town Council



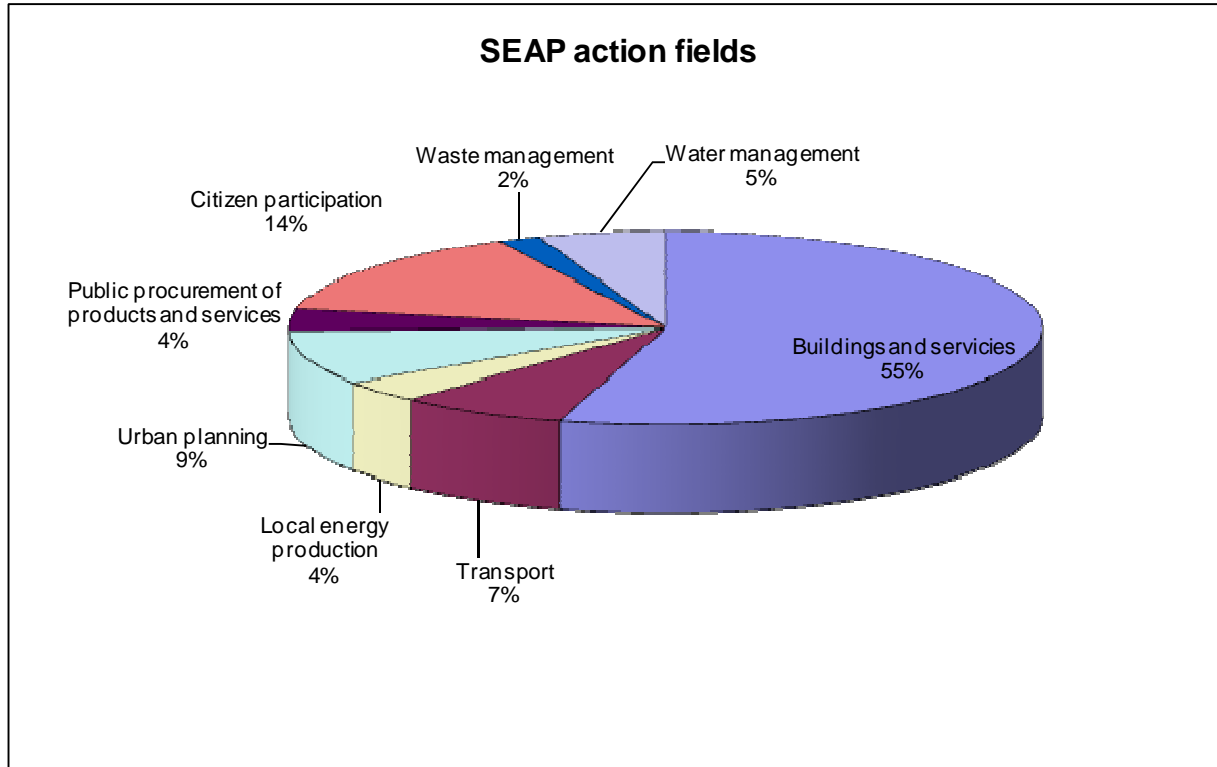
### 1.2.9 Highest consumers of municipal buildings/facilities (%)

Highest	Buildings/facilities	2005	2007
	Educational Centres	34,3%	51,0%
	Others	20,4%	13,6%
	Sports Centres	18,1%	12,9%
	Administration	17,5%	11,1%
lowest	Cultural Centres	9,6%	11,4%

Source: Town Council

## 2 Action plan

### 2.1 Selection of action fields<sup>2</sup>



Source: Own source

<b>SEAP emissions reduction target (tones) (*)</b>	<b>9.693,21</b>
<b>SEAP emissions reduction target (tones/capita)</b>	<b>0,779</b>
<b>Emissions reduction between 2005 and 2007 implementing municipal policies(**)</b>	<b>-</b>
<b>Number of actions of the SEAP</b>	<b>55</b>

(\*)

there are 8 actions that haven't been quantified, but they will contribute to emission reduction therefore the final reduction will exceed the established target (20%)

<sup>2</sup> % of the number of actions for each SEAP action field

## 2.2 Key elements of the SEAP

SECTORS & optional fields of action	Energy saving target per sector [MWh] in 2020	CO <sub>2</sub> reduction target per sector [t] in 2020	Actions/measures per field of action	Responsible department, person	Implementation [start & end time]	Estimated costs per action/measure	Expected CO <sub>2</sub> reduction per measure [t/a]
<b>BUILDINGS, EQUIPMENTS/FACILITIES AND INDUSTRIES:</b>	3,72	1.446,83					
Municipal buildings, equipments/facilities			Replacing lamps for others higher efficiency	Public planification	2013-2015	8.130	3,47
Tertiary (non municipal) buildings, equipments			Installation high efficiency fluorescent	Public planification	2013-2015		
Residential buildings			Replacing conventional ballasts for electronic ones	Public planification	2016-2020	46.000	11,55
Municipal public lighting (including traffic lights)			Improvement of the control of the lighting	Public planification	2016-2020	1500	0,58
Optional additional field(s) of action - please specify:			Installation automatic stop devices in lighting	Public planification	2010-2012	4.530	1,4
			Replacement of the diesel boilers wit natural gas boiler or old gas boilers for efficiency ones	Public planification	2016-2020	15.000	5,84



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			Improvement heating control (with thermostats and thermostatic valves)	Public planification	2013-2015	4.000	1,87
			insulation of hot water pipes in units without heating	Public planification	2013-2015	100	0,21
			Reduction thermal's losses with the replacement of simple crystal enclosures for double one	Public planification	2016-2020	1.800	0,12
			Installation solar energy systems for obtaining hot water	Public planification	2016-2020	49.300	5,28
			Reduction thermal's losses in the buildings access	Public planification	2013-2015	100	0,49
			Regulation the temperature of municipal buildings to 21°C in winter and 25°C in summer	Public planification	2010-2012	-	2,35

SECTORS & optional fields of action	Energy saving target per sector [MWh] in 2020	CO <sub>2</sub> reduction target per sector [t] in 2020	Actions/measures per field of action	Responsible department, person	Implementation [start & end time]	Estimated costs per action/measure	Expected CO <sub>2</sub> reduction per measure [t/a]
			Reducing the number of computer towers through sharing them	IT department	2010-2012	6.000	1,65
			Authomatic turn off of the computers	IT department	2013-2015	3.000	0,84
			Implementation of a system power management in municipal buildings	Public planification	2013-2015	25.800	9,32
			Designation of energetic responsables in municipal buildings	Public planification	2010-2012	4000	2,36
			Implementation of a municipal system power management and design a energetic manager	Public planification	2010-2012	27700	9,13
			Performing periodic audits to the municipal buildings	Public planification	2016-2020	10.000	2,4
			Preparation of a manual of best practices in the municipal buildings	Environment Department	2013-2015		1,52

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			Train in the adoption of environmental criteria in decision making and projects development and actions in the different areas of the City Administration	Environment Department	2010-2012		3,04
			Do a awareness campaign for the council workers with the energetic results of the different buidings	Public planification	2013-2015	1000	1,52
			Replacing mercury vapor lamps for Sodium vapor ones	Public planification	2016-2020	246.700	165,63
			Installation of astronomic clocks	Public planification	2010-2012	3.100	4,49
			Installing double standard ballast	Public planification	2016-2020	93.000	38,33
			Replacement of Chistmas lights for more efficent ones	Public planification	2016-2020	-	3,06

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			Replacement of the optical properties of LED technology for traffic lights	Public planification	2013-2015	30000	9,84
			Replacing domestic appliances and for efficient ones	Environment Department	2016-2020	-	1115,62
			Stimulate energetic manager in service companies	Environment Department	2013-0215	-	39,88
<b>TRANSPORT:</b>							
Municipal fleet and outsourced services fleet			Renovation municipal fleet vehicles for another vehicles with less emissions	Environment Department	2016-2020	-	4,86
Public transport	0,71	5.804,06	Promote the use of public transport instead of private one	Environment Department	2013-2015		358,98
			Development efficient driving's courses	Environment Department	2010-2012	-	7,91

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Private and commercial transport			Replacing vehicles for the improvement of the energetic efficiency of the private and commercial vehicles	Environment Department	2016-2020	-	5.432,31
<b>LOCAL ELECTRICITY PRODUCTION:</b>							
PVs			Electricity generation from sunlight by installing a cover on department		2013-2015	2875000	278,35
	0,97	882,05	Create an inventory of the renewal energy existing systems in private sector		2013-2015	603,7	
<b>LAND USE PLANNING:</b>							
Strategic urban planning	3,55	1.018,03	Incorporate criteria of sustainability in the urban development planning	Environment Department	2010-2012	-	-

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Transport / mobility planning			Introduction bioclimatic architecture criteria in new buildings	Environment Department	2010-2012	-	-
Optional additional field(s) of action - please specify:			Promote the bicycle use	Environment Department	2016-2020		30,83
			Continue introducing the points of the School ways Plan	Environment Department	2010-2012		89,75
			Promote urban mobility by food	Environment Department	2010-2012		897,45
<b>PUBLIC PROCUREMENT OF PRODUCTS AND SERVICES:</b>							
Energy efficiency requirements/standards	0,19	72,61	Incorporating green purchasing criteria	Environment Department	2010-2012		3,08
Renewable energy requirements/standards			Prioritizing the purchase of green energy by the City Council	Environment Department	2013-2015	-	69,53
Optional additional field(s) of action - please specify:							

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<b>WORKING WITH THE CITIZENS AND STAKEHOLDERS (CITIZEN PARTICIPATION)</b>							
Advisory services			Distribution of energy savings associated with the implementation of renewable energy	Environment Department	2012-2015	13.000	8,43
Financial support and grants			Development a communication campaign of PAES	Environment Department	2012-2015	15.000	8,43
			Development a campaign for services and home for the reduce of their energetic consumption	Environment Department	2010-2012		84,32
Awareness raising and local networking			Development a campaign to promote the sustainable mobility	Environment Department	2013-2015		0,54
Training and education			Promote a car sharing agency for the town	Environment Department	2016-2020	-	-
	0,33	101,72	Promote the	Environment	2010-2012		

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Optional additional field(s) of action - please specify:			participation of schools in the european energy competition	Department			
<b>OTHER SECTOR(S) - Please specify:</b>							
Waste management			Improve the waste collection	Environment Department	2010-2012	20000	165,25
			Development a campaign to advice the activities and companies in the town to reduce the water consumption	Environment Department	2013-2015		21,94
Other actions. Please specify:			Development a campaign to the citizens and distribute water reduction systems	Environment Department	2013-2015	20000	179,25
			Continue with the installation of saving water systems in municipal buildings	Environment Department	2010-2012		6,47
	0,53	372,91					
<b>TOTAL</b>	<b>10,00</b>	<b>9.693,35</b>					



