

employment and environment  
in Andalusia 2006



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# Introduction

The **Andalusia Employment and Environment Statistics**, released by the Directorate General for Environmental Planning and Information of the Regional Ministry of the Environment, is a part of a broad and ambitious line of research begun in 1999 examining the relationship between the economy, society and the environment. **Andalusia's 2004-2010 Environment Plan** provided a clear impetus to this project, to the extent that this activity is currently included in the **Fourth Andalusian Statistics Plan 2007-2010**.

## Overall and specific objectives

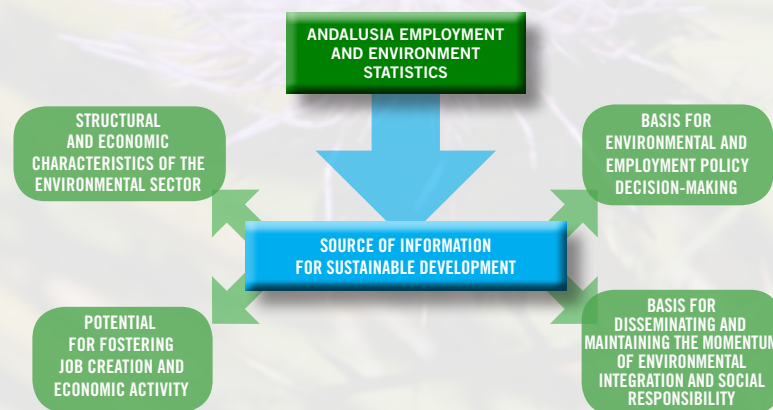
The *Andalusia Employment and Environment Statistics* project seeks to develop an ad hoc methodology to enable systematic and periodic monitoring of environment-related job creation processes, turnover, expenditure and investment in Andalusia. The specific objectives pursued are:

→ Advancing knowledge on main **structural and economic characteristics** of activities producing environmental goods and services, and spreading the principles of clean production and sustainable development.

→ Assessing the **environmental sector's potential** for new activities and job creation as drivers of economic activity and social cohesion in Andalusia.

→ Providing **environmental and employment policy decision-making** tools to competent agencies at local, regional and national level, and to the main social and economic players involved in environmental activities.

→ Disseminating the outcome of initiatives supporting **environmental integration and social responsibility**, with a view to facilitating the decoupling of economic growth from environmental pressure by strengthening synergies among environmental protection, innovation and job creation.



## Methodology 2006

A broad definition of environmental activities is assumed based on not only the supply (production of environmental goods and services), but also on the demand (internal environmental protection activities at non-environmental industries).

The statistics, which are compiled **every two years**, cover the whole of Andalusia.

The vast range of public and private stakeholders, economic activities and variables make a **multi-method strategy advisable** by simultaneously applying various integrative data collection and analysis techniques.

### Environmental protection industry:

It consists of activities which produce goods and services used to measure, prevent, limit or correct environmental damage to water, air and soil, as well as problems related to waste, noise and ecosystems. Cleaner technologies, processes, products and services that reduce environmental risk and minimise pollution and resource use are also considered as being a part of the environmental protection industry.

(OECD/EUROSTAT, 1999)



### ANDALUSIA EMPLOYMENT AND ENVIRONMENT STATISTICS METHODOLOGY 2006

#### DIRECT COLLECTION OF STATISTICAL DATA

- Survey sampling conducted by mail questionnaire and statistical estimation analysis

- Five standardised questionnaires
- 2,708 business establishments surveyed

- Collection of specific information by the Andalusian and Central Governments

#### INDIRECT COLLECTION OF STATISTICAL DATA

- Processing and calculation of ratios based on official statistical information on organic farming and environmental training at universities.



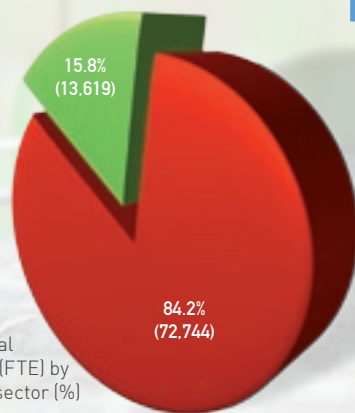


# Main aggregated results

## Environmental employment

- The **staff employed** on environmental activities in 2006 in Andalusia totalled **106,077**, or 3.4% of total employment (jobs) in our region. This amount is equivalent to **86,363 full-time jobs**.
- The policy areas that generate more environmental employment are **Sustainable agriculture, livestock and fisheries** (30.5% of total full-time equivalent jobs - FTE), and **Waste management, recycling and remediation of soil** (25%), followed by **Water resources management** (12%) and **Management of protected areas and sustainable forestry activities** (9%).

**Chart 00.1.**  
Environmental  
employment (FTE) by  
institutional sector (%)



- Business Sector
- General Government Sector

**Table 00.1.**

Employed staff and full-time equivalent by environmental policy area

Environmental policy area	Staff Employed		Full-time Equivalent	
	staff	%	FTE	%
<b>(A) Supply of Environmental Goods and Services</b>				
(01) Environmental management of the atmosphere	1,694	<b>1.6</b>	1,325.0	<b>1.5</b>
(02) Sustainable management of water resources	11,650	<b>11.0</b>	10,320.4	<b>11.9</b>
(03) Waste management, recycling and remediation of soil, surface water and groundwater	23,140	<b>21.8</b>	21,322.3	<b>24.7</b>
(04) Sustainable energy management	2,480	<b>2.3</b>	2,073.0	<b>2.4</b>
(05) Sustainable agriculture, livestock and fisheries	30,290	<b>28.6</b>	26,378.7	<b>30.5</b>
(06) Management of protected areas and sustainable forestry activities	11,296	<b>10.6</b>	8,018.7	<b>9.3</b>
(07) Eco-tourism	9,817	<b>9.3</b>	6,047.5	<b>7.0</b>
(08) Environmental education and awareness	5,306	<b>5.0</b>	3,427.7	<b>4.0</b>
(09) Environmental research and development	1,841	<b>1.7</b>	1,695.2	<b>2.0</b>
(10) Other not classifiable environmental services	4,206	<b>4.0</b>	3,957.1	<b>4.6</b>
<b>(B) Demand of Environmental goods and services</b>				
(11) Internal environmental protection activities at non-environmental industries	4,357	<b>4.1</b>	1,797.3	<b>2.1</b>
<b>TOTAL Environmental activities</b>	<b>106,077</b>	<b>100.0</b>	<b>86,362.9</b>	<b>100.0</b>

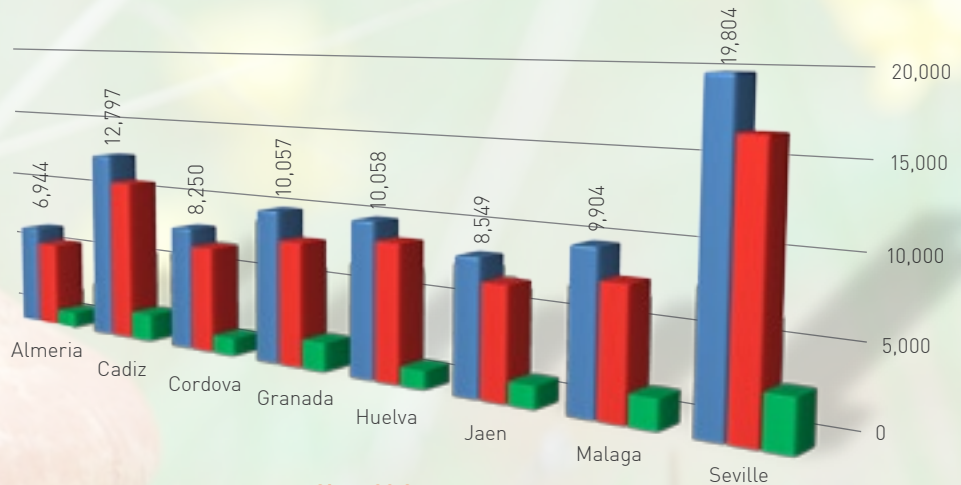
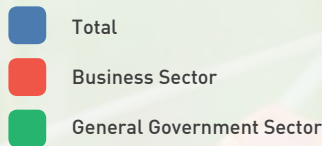
- The central, regional and local **governments'** independent agencies and bodies account for **16% of total full-time equivalent (FTE) environmental employment**, whereas the remaining **84%** is contributed by **public and private enterprises**.

(\*) The **Business Sector** covers all public or private business, as well as for-profit foundations or associations; the **General Government Sector** comprises central, regional and local government agencies, including independent bodies, commonwealths and/or consortiums, as well as Andalusian public universities.

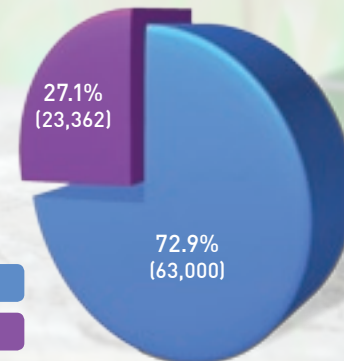


- In terms of **distribution by provinces**, Seville has created more environmental jobs (23% of total FTE jobs), followed by Cadiz (15%) as a distant second. Next in line are Granada, Huelva and Malaga, all with a relative weight of 12% in the regional total, followed by Jaen and Cordova with approximately 10%, and Almeria with 8% of total estimated environmental jobs.

**Chart 00.2.**  
FTE environmental  
employment by province



**Chart 00.3.**  
Gender-sensitive indicators.  
Environmental jobs (FTE) by gender  
and Gender Representation Index.



**GRI\*: 0.37**

- There is a serious **gender imbalance in the distribution of environmental employment**, with female participation hovering slightly above a quarter of the total (27%). The Gender Representation Index (GRI) is accordingly **0.37**, attesting to high male over-representation in environmental jobs (73%).

[\*] **Gender Representation Index (GRI)** = women/men, measured as full-time equivalent employment. Gender balance is considered to have been achieved when GRI is between 0.67 and 1.50, where a GRI of 1 corresponds to equal sharing between men and women.



# Main aggregated results

## Turnover of environmental business

- The overall turnover of the Andalusian environmental market is estimated at **5,734.3 million euros**, an average of 925.6 thousand euros per establishment. This amount represents 4.2% of GDP<sub>pm</sub> in Andalusia in 2006.

**Table 00.2.**

Environmental turnover, total and average amount per policy area

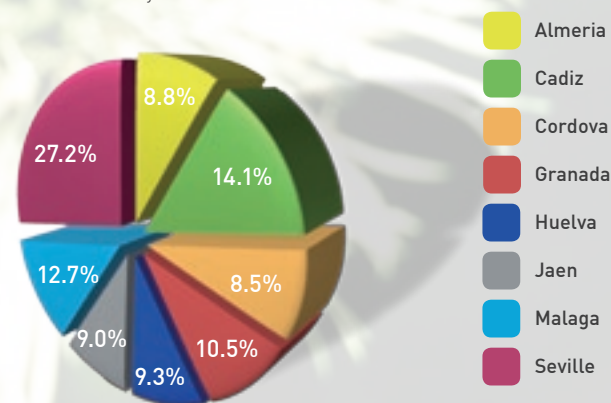
Environmental policy area	Total amount		Average(*)
	Thousand euros	%	Thousand €/ establishment
(01) Environmental management of the atmosphere	88,853.9	1.5	928.2
(02) Sustainable water resources management	1,113,818.7	19.4	2,395.1
(03) Waste management, recycling and remediation of soil, surface water and groundwater	1,625,763.9	28.4	1,207.6
(04) Sustainable energy management	315,255.2	5.5	1,222.4
(05) Sustainable agriculture, livestock and fisheries	1,229,274.0	21.4	849.6
(06) Management of protected areas and sustainable forestry activities	332,038.7	5.8	2,027.1
(07) Eco-tourism	400,492.2	7.0	207.7
(08) Environmental education and awareness	44,571.9	0.8	199.9
(09) Environmental research and development	302,983.7	5.3	6,586.6
(10) Other services: Environmental consulting and engineering services across multiple areas	281,245.0	4.9	570.5
<b>Total Production of Environmental Goods and Services</b>	<b>5,734,297.2</b>	<b>100.0</b>	<b>925.6</b>

(\*) The average turnover for area (05) Sustainable agriculture, livestock and fisheries corresponds exclusively to the production and marketing of organic products.

- The policy areas with the highest environmental turnover are **Waste management, recycling and remediation of soil** (28% of total environmental turnover), followed by **Sustainable agriculture, livestock and fisheries** and **Water resources management**, each with a relative weight of about one-fifth of the total.

**Chart 00.4.**

Environmental turnover by province



- In terms of **distribution** of environmental turnover **by province**, Seville stands out with 27% of the total, with Cadiz (14%), Malaga (13%) and Granada (11%) also excelling.



# Environmental expenditure

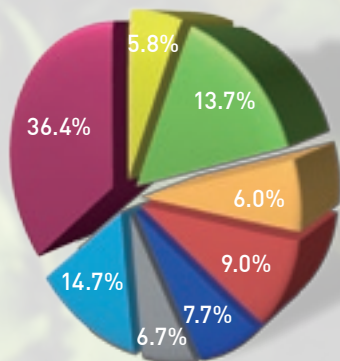
- Cleared environmental expenditure from the General Government is estimated at **1,989.4 million euros**, or 1.5% of GDP<sub>pm</sub> for Andalusia in 2006, of which **17%** corresponds to **staff expenditure** and **45%** to **real investments**.

- The policy areas with higher environmental expenditure levels are **Water resources management**, accounting for a third of the total, followed by **Management of protected areas and sustainable forestry activities** and **Waste management, recycling and remediation of soil** (23% each).

**Table 00.3.** Environmental expenditure by player, policy area and budget chapter

	Total expenditure		Staff expenditure		Real investments	
	Thousand euros	%	Thousand euros	%	Thousand euros	%
<b>GENERAL GOVERNMENT</b>	<b>1,989,401.1</b>	<b>100.0</b>	<b>338,999.0</b>	<b>100.0</b>	<b>885,796.6</b>	<b>100.0</b>
(01) Environmental management of the atmosphere	45,257.9	2.3	7,294.8	2.1	25,518.0	2.9
(02) Sustainable water resources management	665,017.1	33.4	59,859.1	17.7	435,899.1	49.2
(03) Waste management, recycling and remediation of soil, surface water and groundwater	458,323.9	23.0	62,382.7	18.4	73,704.4	8.3
(04) Sustainable energy management	27,166.0	1.4	1,113.5	0.3	10,216.5	1.1
(05) Sustainable agriculture, livestock and fisheries	37,461.9	1.9	7,492.7	2.2	4,031.7	0.5
(06) Management of protected areas and sustainable forestry activities	459,893.7	23.1	45,488.3	13.4	270,383.0	30.5
(07) Eco-tourism	11,425.3	0.6	2,071.3	0.6	4,331.3	0.5
(08) Environmental education and awareness	153,793.8	7.7	70,385.0	20.8	34,312.5	3.9
(09) Environmental research and development	22,069.5	1.1	13,487.2	4.0	5,628.3	0.6
(10) Other environmental services: Not classifiable General Government activities	108,992.0	5.5	69,424.4	20.5	21,771.8	2.5
<b>NON-ENVIRONMENTAL INDUSTRY:</b>	<b>373,452.8</b>	<b>100.0</b>	<b>53,585.2</b>	<b>100.0</b>	<b>199,674.3</b>	<b>100.0</b>
<b>Internal environmental protection activities</b>						

**Chart 00.5.**  
Gasto liquidado en las GENERAL GOVERNMENT en materia ambiental por provincia



- The **non-environmental industry's** expenditure for internal environmental protection amounts to **373.5 million euros**. This amount represents, on average, only 1.5% of overall industrial establishment-based expenditure.

# Environmental management of the atmosphere

- **Controlling and reducing indoor and outdoor air pollution**
- **Controlling and reducing noise and vibration pollution**

It covers the manufacture of equipment, technologies or specific materials, construction and assembly of facilities, as well as engineering, design and management of gas and particle treatment and/or extraction systems for static and dynamic sources in the atmosphere, indoor air treatment and exchange systems, or, systems for reducing or eliminating noise and vibration emission and propagation from defined or diffuse sources. It includes sampling, measurement, analysis and assessment of the specific characteristics of this medium.

- *Environmental management of the atmosphere* is the policy area with the least socio-economic impact on the environmental activities assessed on the whole. In 2006, 1,694 people were employed in this area, an estimated **1,325** full-time equivalent **jobs**, or 1.5% of total FTE environmental employment.

- The **environmental turnover** of specialised operators is estimated at **88.9 million euros** (1.5% of total estimated environmental turnover). The average environmental turnover per establishment represents 91% of the total invoiced, or 928.2 thousand euros.

- Employment is particularly strong in **Seville (37%)**, followed by **Malaga (14%)**, **Cadiz (14%)** and **Huelva (12%)**.

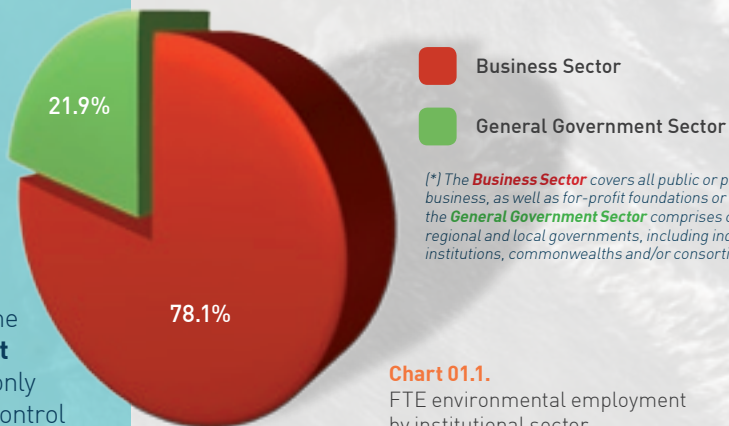
**Table 01.1.**

Environmental employment, turnover and expenditure by province

	Environmental Employment				Environmental Turnover		GG Environmental Expenditure	
	Staff Employed		Full-time Equivalent					
	staff numbers	%	FTE	%	thousand euros	%	thousand euros	%
Almeria	81	<b>4.8</b>	47.9	<b>3.6</b>	2,101.6	<b>2.4</b>	1,506.4	<b>3.3</b>
Cadiz	211	<b>12.4</b>	183.8	<b>13.9</b>	11,284.3	<b>12.7</b>	4,103.6	<b>9.1</b>
Cordova	103	<b>6.1</b>	65.4	<b>4.9</b>	4,018.7	<b>4.5</b>	2,101.0	<b>4.7</b>
Granada	203	<b>12.0</b>	126.8	<b>9.6</b>	7,704.7	<b>8.7</b>	2,950.6	<b>6.5</b>
Huelva	203	<b>12.0</b>	161.4	<b>12.2</b>	11,651.0	<b>13.1</b>	3,843.3	<b>8.5</b>
Jaen	112	<b>6.6</b>	59.4	<b>4.5</b>	3,483.9	<b>3.9</b>	4,851.8	<b>10.7</b>
Malaga	236	<b>13.9</b>	186.0	<b>14.0</b>	13,286.1	<b>15.0</b>	2,315.1	<b>5.1</b>
Seville	545	<b>32.2</b>	494.3	<b>37.3</b>	35,323.6	<b>39.7</b>	23,586.1	<b>52.1</b>
<b>ANDALUSIA</b>	<b>1,694</b>	<b>100.0</b>	<b>1,325.0</b>	<b>100.0</b>	<b>88,853.9</b>	<b>100.0</b>	<b>45,257.9</b>	<b>100.0</b>



- The **business sector** accounts for **78%** of employment, while the **General Government** agencies contribute only **22%** of air pollution control and prevention services.



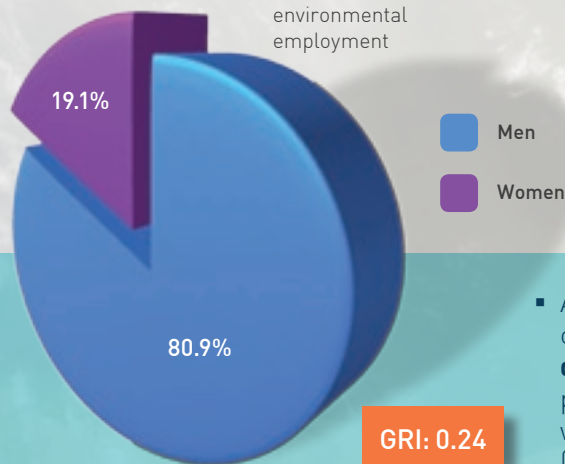
Business Sector

General Government Sector

(\*) The **Business Sector** covers all public or private business, as well as for-profit foundations or associations; the **General Government Sector** comprises central, regional and local governments, including independent institutions, commonwealths and/or consortiums.

**Chart 01.1.**  
FTE environmental employment  
by institutional sector

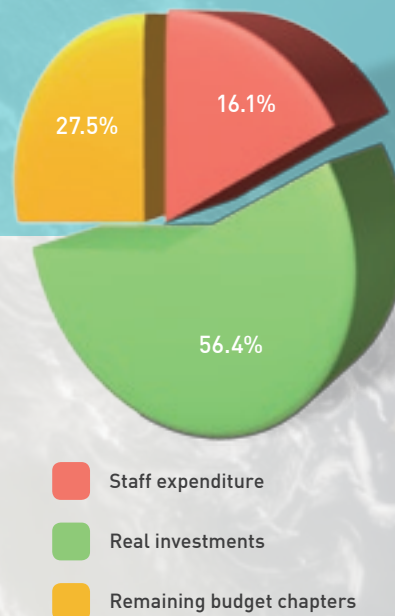
**Chart 01.2.**  
Gender-based FTE  
environmental  
employment



**GRI: 0.24**

- A Gender Representation Index of 0.24 reveals that **gender distribution of employment** is still predominantly male-oriented, with women representing barely a fifth (19%) of the total.

**Chart 01.3.**  
Cleared General  
Government expenditure  
by budget chapter



Staff expenditure

Real investments

Remaining budget chapters

- Cleared **environmental air management expenditure from the General Government** totalled **45.3 million euros**, or about 2% of total estimated environmental expenditure, of which 16% belonged to staff expenditure and more than half to real investments.

# Sustainable management of water resources

- **Drinking water supply**
- **Waste water treatment**

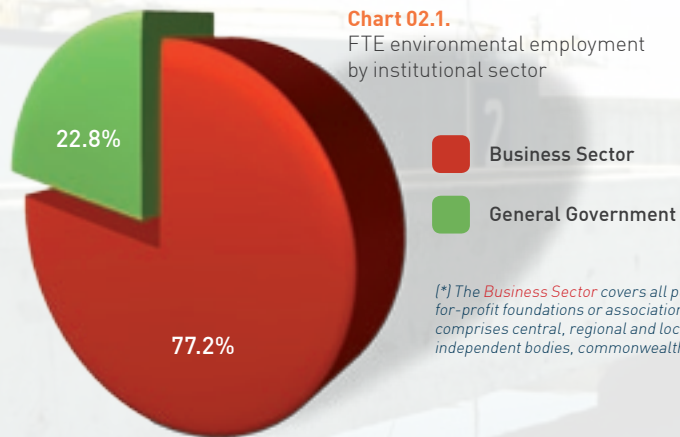
It covers drinking water collection, treatment and supply for household, industrial, commercial and other uses, including design and construction, maintenance, operation and management of wells, reservoirs and desalination facilities, as well as engineering and provision of water supply and distribution infrastructures and equipment. It also comprises collection, transport and processing services to eliminate pollutants and re-use wastewaters, cooling waters and sanitary sewage derived from industrial, agricultural and urban activities. It includes sampling, measurement, analysis and assessment of the specific characteristics of this medium.

- Activities for sustainable management of water resources employed 11,650 people, about **10,320** full-time equivalent **jobs**, or nearly 12% of total estimated environmental jobs.
- The **territorial distribution** of employment places Seville (27%) at the top of the ranking, followed by Cadiz and Malaga with 19% each.

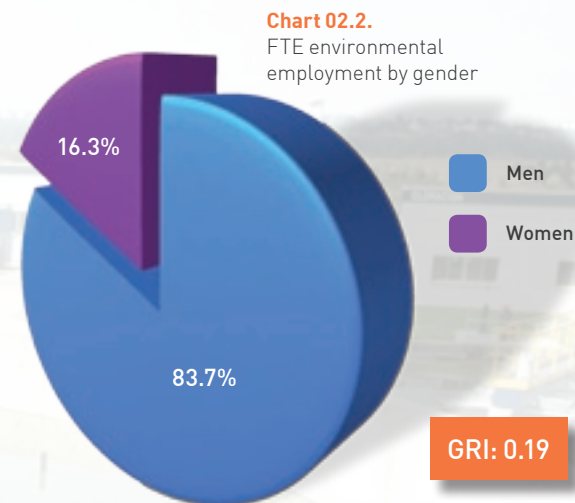
**Table 02.1.** Environmental employment, turnover and expenditure by province

	Environmental Employment				Environmental Turnover		General Government expenditure	
	Staff Employed		Full-time Equivalent					
	staff numbers	%	FTE	%	thousand euros	%	thousand euros	%
Almeria	732	<b>6.3</b>	591.8	<b>5.7</b>	56,486.6	<b>5.1</b>	39,344.1	<b>5.9</b>
Cadiz	2,105	<b>18.1</b>	1,976.2	<b>19.1</b>	229,160.6	<b>20.6</b>	116,367.5	<b>17.5</b>
Cordova	805	<b>6.9</b>	703.9	<b>6.8</b>	69,409.5	<b>6.2</b>	37,525.8	<b>5.6</b>
Granada	1,230	<b>10.5</b>	1,024.8	<b>9.9</b>	86,393.3	<b>7.8</b>	67,121.5	<b>10.1</b>
Huelva	621	<b>5.3</b>	516.1	<b>5.0</b>	49,084.6	<b>4.4</b>	68,444.9	<b>10.3</b>
Jaen	932	<b>8.0</b>	804.4	<b>7.8</b>	77,939.7	<b>7.0</b>	39,112.1	<b>5.9</b>
Malaga	2,151	<b>18.5</b>	1,918.1	<b>18.6</b>	228,565.6	<b>20.5</b>	146,829.6	<b>22.1</b>
Seville	3,074	<b>26.4</b>	2,785.1	<b>27.0</b>	316,778.8	<b>28.4</b>	150,271.6	<b>22.6</b>
<b>ANDALUSIA</b>	<b>11,650</b>	<b>100.0</b>	<b>10,320.4</b>	<b>100.0</b>	<b>1,113,818.7</b>	<b>100.0</b>	<b>665,017.1</b>	<b>100.0</b>





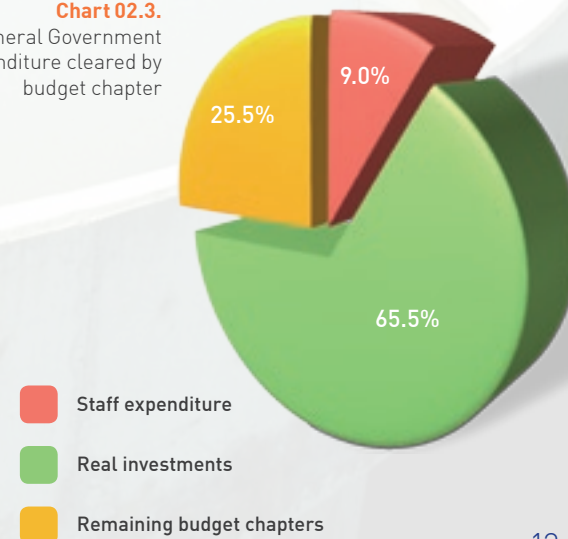
(\*) The **Business Sector** covers all public or private business, as well as for-profit foundations or associations; the **General Government Sector** comprises central, regional and local government agencies, including independent bodies, commonwealths and/or consortiums.



GRI: 0.19

- Public and private enterprises account for 77% of employment, whereas the **General Government** and their independent bodies contribute 23% of related employment.
- The serious **gender imbalance in employment**, with barely 16% of women and 84% of men, renders a Gender Representation Index of 0.19.
- The **environmental turnover** for specialised operators is estimated at **1,113.8 million euros**, or close to a fifth of total estimated environmental turnover (19%). The average environmental turnover of a standard establishment represents 93% of the total invoiced, or 2,395.1 thousand euros.

**Chart 02.3.**  
General Government  
expenditure cleared by  
budget chapter



- Water resources management* features prominently in General Government's environmental budget. It represents one third of total environmental expenditure and nearly half of real investments of the environmental budget cleared. Staff expenditure represents 9% of the total of **665.0 million euros**, whereas real investments account for 65.5%.

# Waste management, recycling and remediation of soil, surface water and groundwater

**Table 03.1.** Environmental employment, turnover and expenditure by province

	Environmental Employment				Environmental Turnover		General Government expenditure	
	Staff Employed		Full-time Equivalent					
	staff numbers	%	FTE	%	thousand euros	%	thousand euros	%
Almeria	2,633	<b>11.4</b>	2,363.9	<b>11.1</b>	168,550.5	<b>10.4</b>	38,208.0	<b>8.3</b>
Cadiz	3,274	<b>14.1</b>	3,102.9	<b>14.6</b>	238,189.9	<b>14.6</b>	80,846.1	<b>17.6</b>
Cordova	1,633	<b>7.1</b>	1,509.9	<b>7.1</b>	128,625.3	<b>7.9</b>	30,443.6	<b>6.7</b>
Granada	2,586	<b>11.2</b>	2,282.7	<b>10.7</b>	165,423.2	<b>10.2</b>	49,897.0	<b>10.9</b>
Huelva	1,840	<b>8.0</b>	1,662.2	<b>7.8</b>	114,500.1	<b>7.0</b>	40,414.6	<b>8.8</b>
Jaen	1,428	<b>6.2</b>	1,285.9	<b>6.0</b>	98,500.8	<b>6.1</b>	40,435.8	<b>8.8</b>
Malaga	3,463	<b>15.0</b>	3,205.5	<b>15.0</b>	239,555.5	<b>14.7</b>	83,865.1	<b>18.3</b>
Seville	6,283	<b>27.1</b>	5,909.3	<b>27.7</b>	472,418.6	<b>29.1</b>	94,213.7	<b>20.6</b>
<b>ANDALUSIA</b>	<b>23,140</b>	<b>100.0</b>	<b>21,322.3</b>	<b>100.0</b>	<b>1,625,763.9</b>	<b>100.0</b>	<b>458,323.9</b>	<b>100.0</b>

- Waste collection, transportation, storage and disposal

- Waste recycling, recovery and valorisation

- Restoration and clean-up of polluted sites, soil, surface water and groundwater

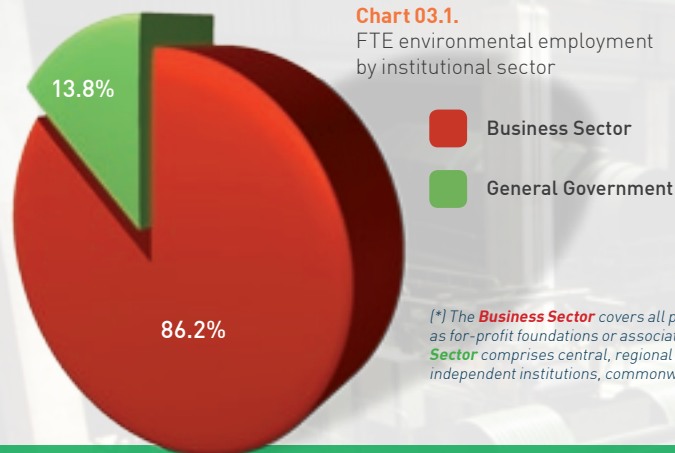
It covers collection, transportation, selection, sorting or treatment of urban waste, construction and demolition waste, hazardous or special waste, temporary storage and monitoring and/or elimination of waste, be it by disposal or total/partial. It also covers the preparation of waste for reuse as raw material, waste recycling (including composting and biometanation, but not incineration with energy recovery) and/or waste valorisation. This environmental policy area also comprises all activities aimed at controlling, preventing and reducing soil and (surface, ground and marine) water pollutants, including street cleaning and flushing of streets, public squares, etc., as well as environmental engineering, consulting, testing and analysis specific to this policy area.

- Waste management, recycling and remediation is the second largest environmental employment category. It employs about 23,140 people, or **21,322** full-time equivalent **jobs**, which represents a quarter of total estimated environmental employment in Andalusia in 2006.

- As to employment **distribution by province**, Seville stands out with 28% of the total, followed in descending order by Malaga and Cadiz (about 15% each), and Almeria and Granada (about 11% each).





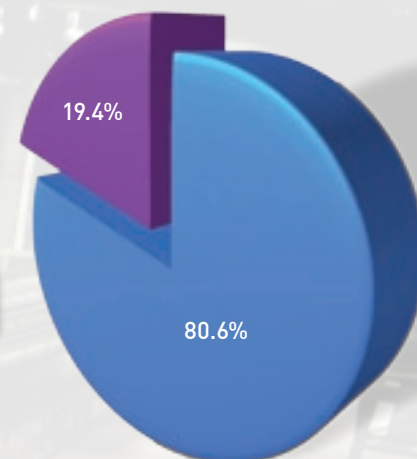


[\*] The **Business Sector** covers all public or private business, as well as for-profit foundations or associations; the **General Government Sector** comprises central, regional and local governments, including independent institutions, commonwealths and/or consortiums.

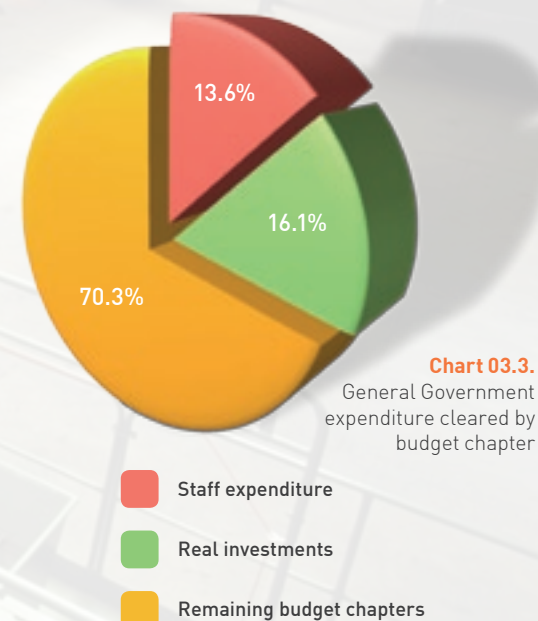
**Chart 03.2.**  
FTE environmental employment by gender

■ Men  
■ Women

GRI: 0.24



- Employment in the **institutional sector** is distributed between public and private enterprises (86%) and government departments and agencies (14%). It should be noted nevertheless that because of its considerable importance, most environmental jobs in General Government are located in this environmental policy area.
- There is a serious gender imbalance in **the distribution of employment**, with less than one-fifth (19%) of women represented. These figures render a Gender Representation Index of 0.24, thirteen points below the estimated index for all environmental activities in Andalusia.
- The **environmental turnover** of specialised operators is estimated at **1,625.8 million euros**. This amount is greater than 28% of total estimated environmental turnover, placing this policy area at the top of the environmental turnover ranking. The average environmental turnover per establishment represents 85,2% of the total invoiced, or 1,207.7 thousand euros.
- Waste management, recycling and remediation services are clearly given priority in the Andalusian government budgets. This **458.3 million euros** expenditure represents nearly a fourth (23%) of total estimated environmental expenditure, of which staff expenditure accounts for about 14% and real investments 16%.



# Sustainable energy management

**Table 04.1.** Environmental employment, turnover and expenditure by province

	Environmental Employment		Environmental Turnover		General Government expenditure	
	Staff Employed	Full-time Equivalent				
	staff numbers	%	FTE	%	thousand euros	%
Almeria	135	5.5	100.8	4.9	12,937.3	4.1
Cadiz	246	9.9	210.3	10.1	23,379.3	7.4
Cordova	154	6.2	112.2	5.4	14,714.3	4.7
Granada	216	8.7	148.0	7.1	19,796.9	6.3
Huelva	96	3.9	63.0	3.0	7,765.8	2.5
Jaen	215	8.7	163.5	7.9	21,307.2	6.7
Malaga	249	10.0	200.2	9.7	22,473.1	7.1
Seville	1,169	47.1	1,075.0	51.9	192,881.3	61.2
<b>ANDALUSIA</b>	<b>2,480</b>	<b>100.0</b>	<b>2,073.0</b>	<b>100.0</b>	<b>315,255.2</b>	<b>100.0</b>

## Energy savings and efficiency

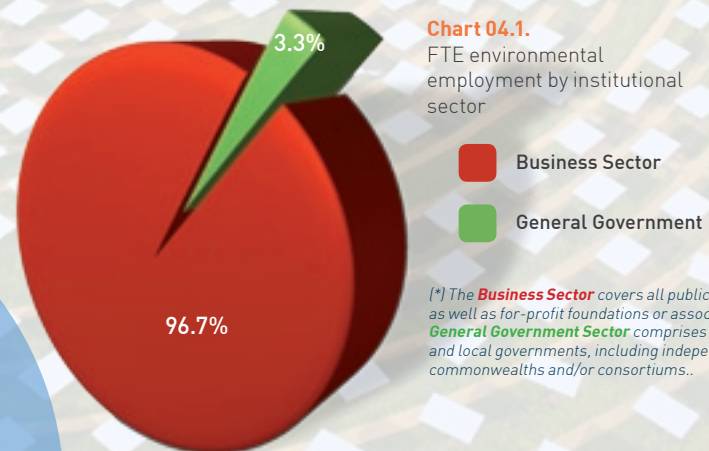
## Renewable energies

It covers manufacture of equipment, technologies or specific materials, as well as consulting and engineering services, design of projects, construction and/or management of facilities for reducing consumption and minimising heat and energy loss (e.g. cogeneration), for preventing or minimising climate change, or for generating, storing, transmitting and distributing renewable power from solar or photovoltaic, wind, hydro, wave, tidal, geothermal or biomass energy sources.

- *Sustainable energy management* employs about 2,480 people, or **2,073** full-time equivalent **jobs**, which represents slightly more than 2% of total estimated environmental employment in Andalusia in 2006
- The **business sector** is the main source of jobs associated to this policy area, accounting for nearly 97%, whereas the **General Government** only provides 3% of renewable energy, energy savings and energy efficiency services.

**Chart 04.1.**

FTE environmental employment by institutional sector

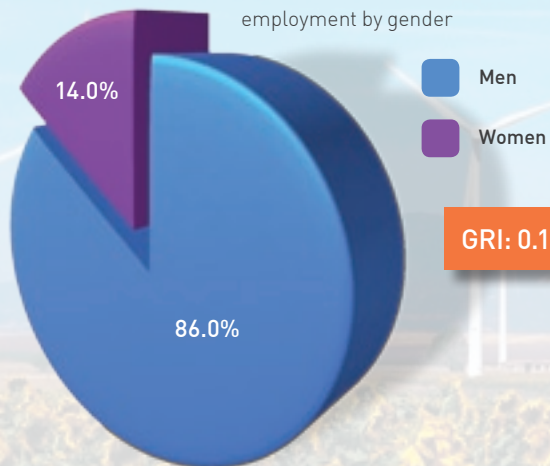


[\*] The **Business Sector** covers all public or private business, as well as for-profit foundations or associations; the **General Government Sector** comprises central, regional and local governments, including independent institutions, commonwealths and/or consortiums..



- More than half of the jobs (52%) are located in Seville, with the rest spread across the provinces of Cadiz and Malaga (10% each), Jaen (8%), Granada (7%), Almeria and Cordova (5% each), and Huelva (3%).
- There is a serious gender imbalance in employment distribution, with only 14% women and 86% men. These figures render a Gender Representation Index of 0.16, the lowest among the different environmental activities examined.

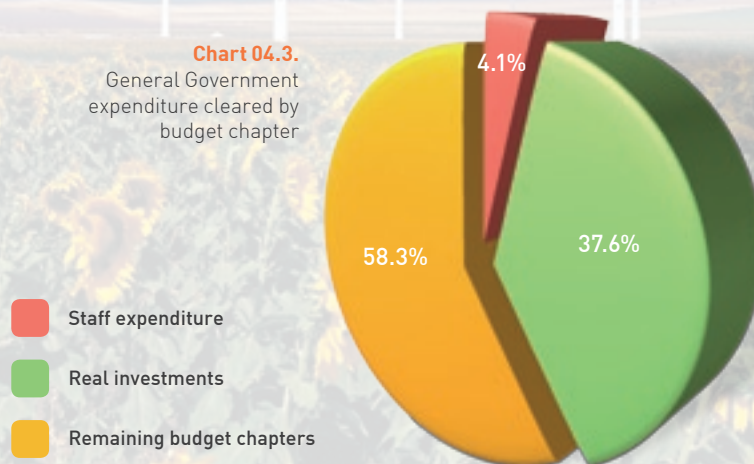
**Chart 04.2.**  
FTE environmental  
employment by gender



- The **total expenditure cleared by the General Government** for sustainable energy management amounts to 27.2 million euros, of which 4% corresponds to staff expenditure and 38% to real investments.

- The environmental turnover of specialised operators is estimated at 315.3 million euros, close to 6% of total estimated environmental turnover. This policy area is nevertheless characterised by a moderate specialisation, given the average percentage of environmental turnover of the total invoiced (60%) and the average percentage of environmental employment of total employment (53%). The average turnover per establishment is about 1,222.4 thousand euros.

**Chart 04.3.**  
General Government  
expenditure cleared by  
budget chapter



# Sustainable agriculture, livestock and fisheries

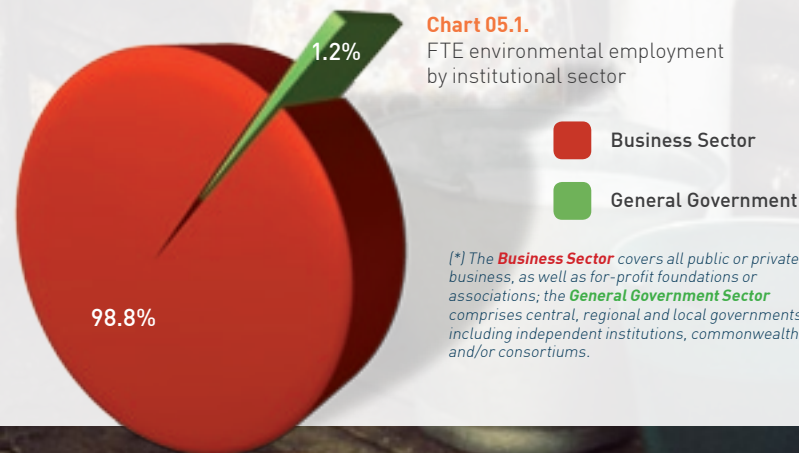
**Table 05.1.** Environmental employment, turnover and expenditure by province

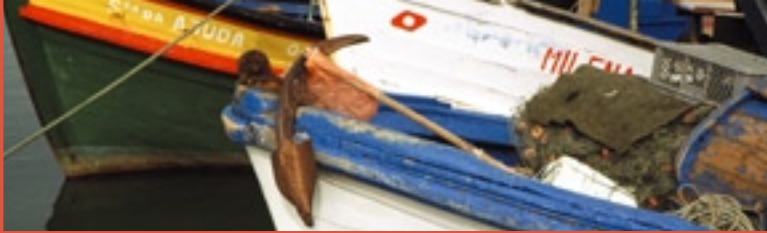
	Environmental Employment				Environmental Turnover		General Government environmental expenditure	
	Staff Employed		Full-time Equivalent					
	staff numbers	%	FTE	%	thousand euros	%	thousand euros	%
Almeria	2,258	7.5	1,987.8	7.5	117,772.3	9.6	1,556.7	4.2
Cadiz	4,801	15.9	4,168.3	15.8	169,357.2	13.8	3,445.2	9.2
Cordova	4,644	15.3	4,056.2	15.4	199,785.2	16.2	12,702.0	33.9
Granada	3,192	10.5	2,779.4	10.5	138,849.8	11.3	1,836.2	4.9
Huelva	6,006	19.8	5,220.4	19.8	215,510.1	17.5	3,046.5	8.1
Jaen	2,667	8.8	2,311.9	8.8	104,133.4	8.5	664.5	1.8
Malaga	1,996	6.6	1,745.1	6.6	89,707.2	7.3	2,994.9	8.0
Seville	4,726	15.6	4,109.6	15.6	194,158.8	15.8	11,215.9	29.9
<b>ANDALUSIA</b>	<b>30,290</b>	<b>100.0</b>	<b>26,378.7</b>	<b>100.0</b>	<b>1,229,274.0</b>	<b>100.0</b>	<b>37,461.9</b>	<b>100.0</b>

- **Organic production of agricultural products**
- **Production and marketing of organic products**

It covers all environment-friendly production and marketing activities of agricultural, livestock and aquaculture products, using natural fertilising methods and avoiding pesticides and chemical fertilisers or GMOs, in order to promote the rational use of natural resources. These activities must be certified by an authorised competent authority with the "organic farming" or similar label.

- *Sustainable agriculture, livestock and fisheries* stands out as the policy area with the highest employment rate across the range of environmental activities examined. There are 30,290 people employed in this area, or about **26,379** full-time equivalent **jobs**, in excess of 30% of total environmental employment in Andalusia.
- These jobs are mainly contributed by the **business sector** (99%), with only a marginal percentage of organic farming services being provided by the **General Government**.





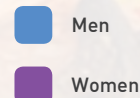
- It is characterised by a relatively balanced **distribution by province**. Huelva occupies a prominent place with nearly a fifth of total employment, followed by Cadiz, Seville and Cordova with similar turnovers (between 15% and 16%).

- In terms of gender distribution**, women take up slightly more than a third (34%) of the jobs, and the rest are held by men (66%). These figures render a Gender Representation Index of 0.51, which means that men are slightly over-represented in terms of employment.

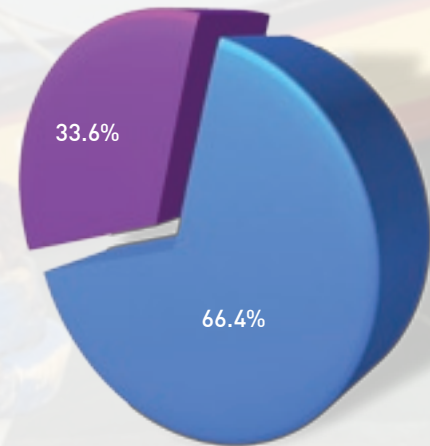
- The **environmental turnover** for specialised operators is estimated at **1,229.3 million euros**, or 21% of total estimated environmental turnover for 2006, placing this policy area in second place in terms of environmental turnover.

- The **total expenditure cleared by the General Government** for organic farming is estimated at **37.5 million euros** (2% of total environmental expenditure cleared), of which 20% corresponds to staff expenditure and 11% to real investments.

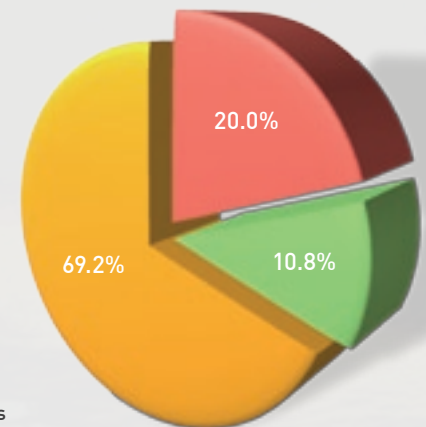
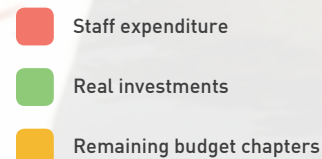
**Chart 05.2.**  
FTE environmental  
employment by gender



**GRI: 0.51**



**Chart 05.3.**  
General Government  
expenditure cleared by  
budget chapter





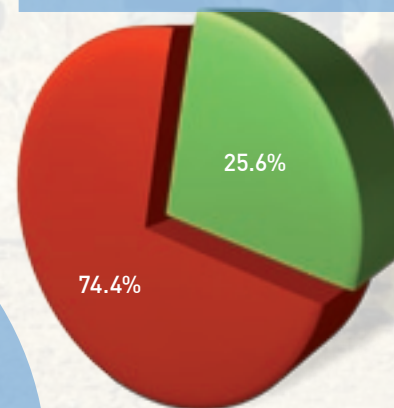
# Management of protected areas and sustainable forestry activities

It covers activities aimed at ensuring the conservation and protection of natural areas, in particular, protected areas, forests and/or coasts, promoting their restoration, improvement and rational use of resources. It includes biodiversity and geodiversity management, systems which prevent or reduce the effect of natural and/or human-made disasters (storms, floods, pests, forest fires, etc.), wildlife game management, silviculture and sustainable forestry management (duly certified by a competent authority), as well as monitoring and management of natural areas protected under one of the legal forms permitted under national or regional law. It also includes landscaping, design, conservation and/or maintenance of public gardens.

**Table 06.1.** Environmental employment, turnover and expenditure by province

	Environmental Employment				Environmental Turnover		General Government environmental expenditure	
	Staff Employed		Full-time Equivalent					
	staff numbers	%	FTE	%	thousand euros	%	thousand euros	%
Almeria	754	6.7	488.6	6.1	4,003.4	1.2	12,900.5	2.8
Cadiz	962	8.5	686.1	8.5	16,242.9	4.9	29,854.6	6.5
Cordova	718	6.4	478.8	6.0	8,961.2	2.7	6,867.0	1.5
Granada	1,605	14.2	1,121.9	14.0	41,823.6	12.6	15,453.5	3.4
Huelva	1,360	12.0	876.8	10.9	57,544.7	17.3	14,785.8	3.2
Jaen	2,223	19.7	1,642.2	20.5	77,448.1	23.3	13,688.7	3.0
Malaga	1,383	12.2	960.8	12.0	45,423.7	13.7	22,748.5	4.9
Seville	2,291	20.3	1,763.5	22.0	80,591.1	24.3	343,595.1	74.7
<b>ANDALUSIA</b>	<b>11,296</b>	<b>100.0</b>	<b>8,018.7</b>	<b>100.0</b>	<b>332,038.7</b>	<b>100.0</b>	<b>459,893.7</b>	<b>100.0</b>

- The staff employed for **Management of protected areas** and sustainable **forestry activities** amounts to 11,296, or **8,019** full-time equivalent jobs, which represents about 9% of total estimated environmental employment in Andalusia in 2006.



**Chart 06.1.** FTE environmental employment by institutional sector

■ Business Sector  
■ General Government

(\*) The **Business Sector** covers all public or private business, as well as for-profit foundations or associations; the **General Government Sector** comprises central, regional and local governments, including independent institutions, commonwealths and/or consortiums.

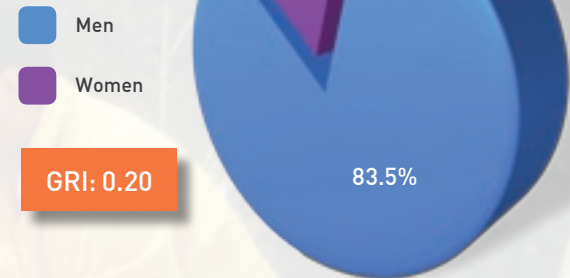


- Employment in **General Government** institutions represents a significant proportion, in excess of a quarter (26%) of total employment, whereas **public and private** enterprises employ 74% of the total.

- It is characterised by a relatively balanced **distribution by province**. Seville and Jaen are the provinces with the highest employment rate at 22% and 21%, respectively, followed by Granada (14%), Malaga (12%) and Huelva (11%).
- There is a significant **gender imbalance in employment**, higher than the average in the environmental sector as a whole. With barely 17% of jobs held by women and up to 84% by men, the Gender Representation Index is 0.20.
- The **environmental turnover** for specialised enterprises is estimated at **332.0 million euros**, or less than 6% of total environmental turnover. The average environmental turnover per establishment represents 84.8% of the total invoiced, or 2,027.1 thousand euros.

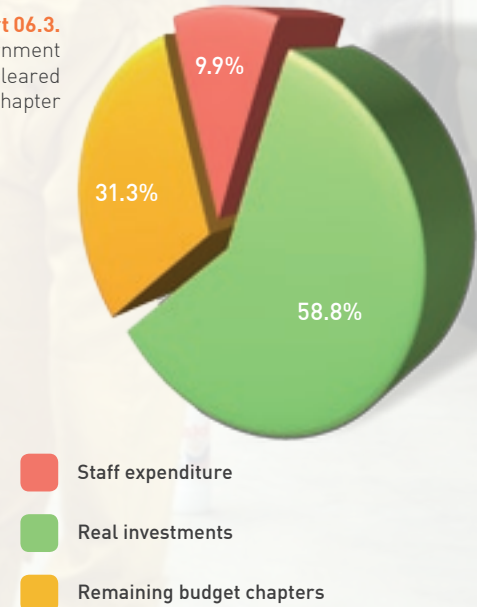
- The budgetary allocations and investments made by the General Government bear witness to the importance of this environmental policy area for Andalusia. **Total expenditure** for management of protected areas and sustainable forestry activities totalled **459.9 million euros**, or 23% of total environmental expenditure cleared by the General Government, whilst real investments represent more than 30% of overall real environmental investments in Andalusia, or about 270.4 million euros.

**Chart 06.2.**  
FTE environmental  
employment by gender



**GRI: 0.20**

**Chart 06.3.**  
General Government  
expenditure cleared  
by budget chapter







# Eco-tourism

- **Ecotourism accommodation**
- **Restaurant and catering services in rural areas and rural inns**
- **Recreation and sports activities or active tourism**
- **Management, promotion and marketing of ecotourism services**

It is defined as tourism activities aimed at providing specific services for the observation and enjoyment of natural assets in special protection areas. This environmental policy area covers accommodation and catering services in rural areas, recreation and sports activities or active tourism, duly approved by the competent authorities, as well as management, promotion and market intermediation for the provision of such ecotourism services.

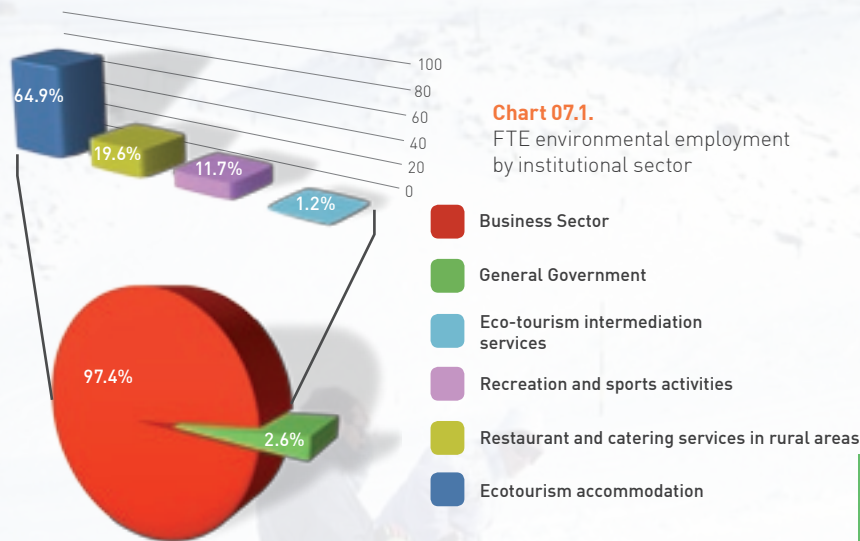
- The number of people employed in eco-tourism is estimated at 9,817, or **6,048** full-time equivalent **employments**, which represents 7% of total estimated environmental employment in Andalusia in 2006.
- As to the territorial distribution of ecotourism employment, Granada (22%), Jaen and Cadiz (almost 20% each) are the three top-ranking provinces.

**Table 07.1.** Environmental employment, turnover and expenditure by province

	Environmental Employment				Environmental Turnover		General Government environmental expenditure	
	Staff Employed		Full-time Equivalent					
	staff numbers	%	FTE	%	thousand euros	%	thousand euros	%
Almeria	539	5.5	339.3	5.6	23,913.8	6.0	578.8	5.1
Cadiz	1,859	18.9	1,196.6	19.8	74,331.2	18.6	752.7	6.6
Cordova	600	6.1	377.9	6.3	24,330.6	6.1	2,561.8	22.4
Granada	2,207	22.5	1,344.1	22.2	97,301.3	24.3	2,394.3	20.9
Huelva	1,365	13.9	819.0	13.5	53,577.0	13.4	1,036.0	9.1
Jaen	1,994	20.3	1,214.3	20.1	77,445.7	19.3	993.4	8.7
Malaga	804	8.2	475.7	7.9	33,367.0	8.3	1,046.6	9.2
Seville	449	4.6	280.6	4.6	16,225.6	4.0	2,061.7	18.0
<b>ANDALUSIA</b>	<b>9,817</b>	<b>100.0</b>	<b>6,047.5</b>	<b>100.0</b>	<b>400,492.2</b>	<b>100.0</b>	<b>11,425.3</b>	<b>100.0</b>

- The **environmental turnover** of specialised operators is estimated at 400.5 million euros, or 7% of total estimated environmental turnover. As in employment, accommodation services made the most significant contribution to turnover (63%). This activity is also characterised by the small size of ecotourism operators, whose average environmental turnover amounts to 207.7 thousand euros per establishment.

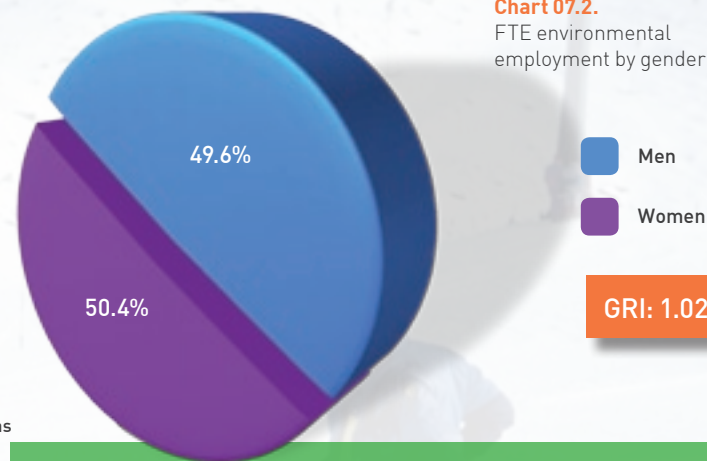




(\*) The **Business Sector** covers all public or private business, as well as for-profit foundations or associations; the **General Government Sector** comprises central, regional and local governments, including independent institutions, commonwealths and/or consortiums.

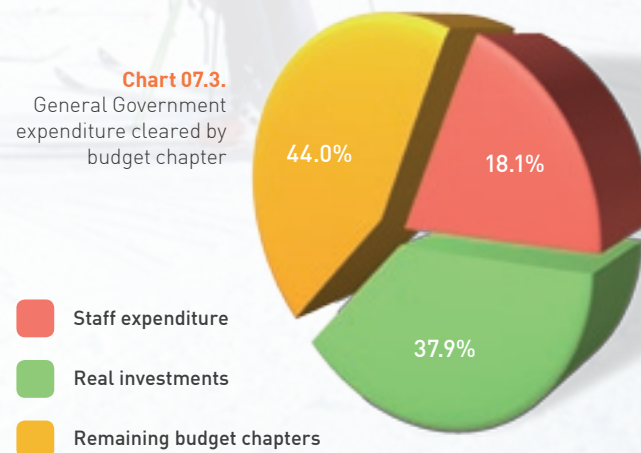
- Employment is mainly linked to **business sector** activities (96.5%) and, in particular, to eco-tourism accommodation (64%). Employment linked to eco-tourism services provided by the **General Government** represents only a marginal proportion of 3.5% of the total.

- The **total expenditure cleared by the General Government** for eco-tourism is estimated at **11.4 million euros**, or 0.6% of total estimated public expenditure, of which 18% corresponds to staff expenditure and 38% to real investments.



- From a gender perspective, eco-tourism employment is characterised by its even spread. Women represent 50.4% of the total and men 49.6%, rendering a Gender Representation Index of 1.02.

**Chart 07.3.**  
General Government expenditure cleared by budget chapter



# Environmental education and awareness

- **Environmental education and training**
- **Environmental information and communication, and activities of environmental protection organisations**

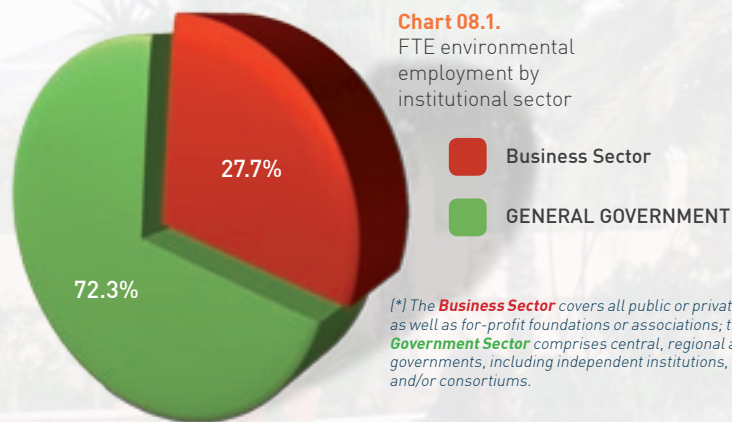
It covers environmental education and training, information and communication. Environmental education and training also include mainstream education (specific secondary level vocational education, higher university and non-university education) and non-formal education (adult education and lifelong vocational education), and, in general, all activities aimed at providing specialised environmental education to individuals and groups. Environmental awareness-raising, communication and information dissemination activities are also included, as well as activities of environmental protection organisations and promotion of environmental measures among specific social entities or groups, or targeting the general public.

**Table 08.1.** Environmental employment, turnover and expenditure by province

	Environmental Employment				Environmental Turnover		General Government environmental expenditure	
	Staff Employed		Full-time Equivalent					
	staff numbers	%	FTE	%	thousand euros	%	thousand euros	%
Almeria	391	7.4	228.4	6.7	2,998.1	6.7	8,367.3	5.4
Cadiz	688	13.0	452.8	13.2	5,196.7	11.7	17,664.6	11.5
Cordova	498	9.4	300.4	8.8	3,198.0	7.2	14,862.3	9.7
Granada	796	15.0	526.2	15.3	6,795.7	15.2	21,954.8	14.3
Huelva	369	6.9	232.0	6.8	2,598.4	5.8	8,747.8	5.7
Jaen	618	11.6	417.9	12.2	5,596.5	12.6	16,607.6	10.8
Malaga	508	9.6	344.0	10.0	4,397.2	9.9	15,104.6	9.8
Seville	1,438	27.1	926.0	27.0	13,791.3	30.9	50,484.8	32.8
<b>ANDALUSIA</b>	<b>5,306</b>	<b>100.0</b>	<b>3,427.7</b>	<b>100.0</b>	<b>44,571.9</b>	<b>100.0</b>	<b>153,793.8</b>	<b>100.0</b>

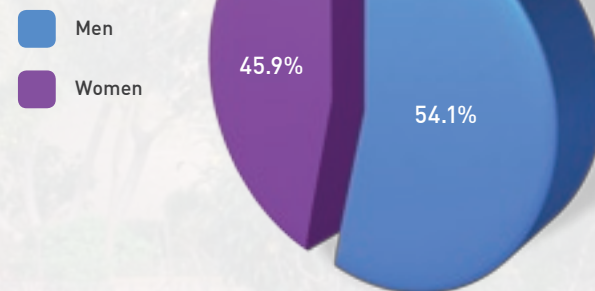
- The 5,306 people employed in *Environmental education and awareness-raising*, or **3,428** full-time equivalent **jobs**, account for about 4% of total estimated environmental employment in Andalusia in 2006.
- The bulk of employment (72%) is linked to **General Government** agencies and bodies, including Andalusian universities. The business sector represents 28% of employment.
- With regard to **distribution by province**, Seville stands out with 27%, followed in descending order by Granada (15%), Cadiz (13%), Jaen (12%) and Malaga (10%).





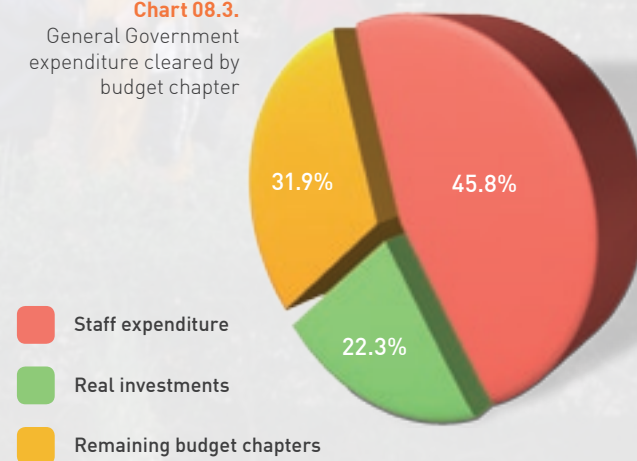
(\*) The **Business Sector** covers all public or private business, as well as for-profit foundations or associations; the **General Government Sector** comprises central, regional and local governments, including independent institutions, commonwealths and/or consortiums.

**Chart 08.2.**  
FTE environmental employment by gender



- **In terms of gender distribution** of employment, men account for 54% and women 46%. The resulting Gender Representation Index of 0.85 reveals a relative gender balance in employment distribution.
- Notwithstanding General Government's predominant position as a service provider, this policy area has the lowest **environmental turnover**. The total of 44.5 million euros does not even account for 1% of the total estimated environmental turnover in Andalusia. The environmental turnover of a standard business represents 62.8% of the total invoiced, or 199.9 thousand euros per establishment.
- **Total government expenditure** cleared for education and awareness raising amounted to 153.8 million euros, or 8% of General Government's estimated environmental expenditure, with the bulk going to staff expenditure (46%) and real investments (22%).

**Chart 08.3.**  
General Government expenditure cleared by budget chapter





# Environmental research and development

Table 09.1.

Environmental employment, turnover and expenditure by province

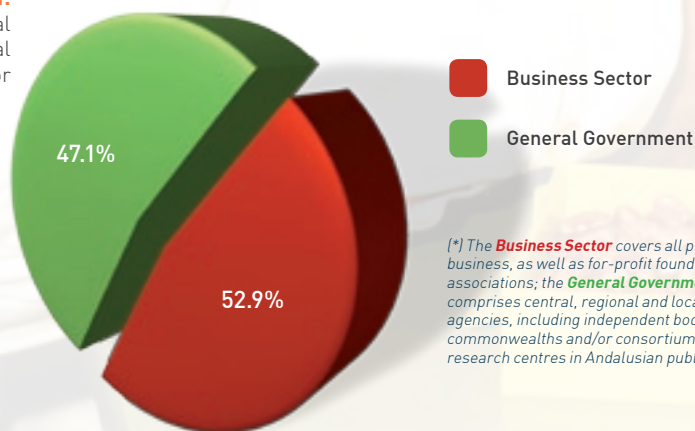
It covers systematic studies and creative efforts, be they basic, applied or experimental, directed specifically at generating new knowledge for protecting the environment and developing new products, technologies and processes that would limit negative environmental effects or contribute to the conservation and preservation of the environment.

- There are 1,841 staff working in environmental research and development, or 1,695 full-time equivalent jobs, which in relative terms represents 2% of total estimated environmental employment in Andalusia in 2006.

	Environmental Employment				Environmental Turnover		General Government environmental expenditure	
	Staff Employed		Full-time Equivalent					
	staff numbers	%	FTE	%	thousand euros	%	thousand euros	%
Almeria	308	16.7	291.4	17.2	85,625.8	28.3	1,613.6	7.3
Cadiz	201	10.9	184.3	10.9	19,759.8	6.5	3,240.8	14.7
Cordova	181	9.8	165.1	9.7	13,173.2	4.3	3,323.0	15.1
Granada	206	11.2	187.0	11.0	13,173.2	4.3	3,705.8	16.8
Huelva	75	4.1	65.4	3.8	0.0	0.0	1,594.9	7.2
Jaen	71	3.9	57.3	3.4	13,173.2	4.4	568.4	2.6
Malaga	154	8.4	141.0	8.3	19,759.8	6.5	2,191.9	9.9
Seville	645	35.0	603.7	35.6	138,318.7	45.7	5,831.1	26.4
<b>ANDALUSIA</b>	<b>1,841</b>	<b>100.0</b>	<b>1,695.2</b>	<b>100.0</b>	<b>302,983.7</b>	<b>100.0</b>	<b>22,069.5</b>	<b>100.0</b>

Chart 09.1.

FTE environmental employment by institutional sector



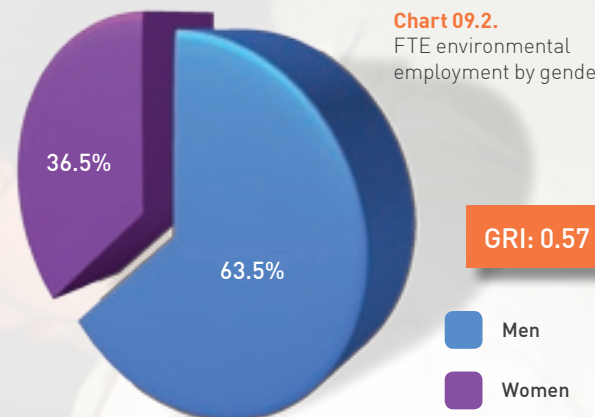
(\*) The **Business Sector** covers all public or private business, as well as for-profit foundations or associations; the **General Government Sector** comprises central, regional and local government agencies, including independent bodies, commonwealths and/or consortiums, as well as research centres in Andalusian public universities.

- Employment generated by government research bodies and institutes represents 53% of total employment, whereas the business sector and private not-for-profit enterprises account for 47%.



- **In terms of gender distribution** of employment, women account for 36.5% and men 63.5%. These figures render a Gender Representation Index of 0.57, which reflects certain bias towards male over-representation in terms of employment.

**Chart 09.2.**  
FTE environmental  
employment by gender

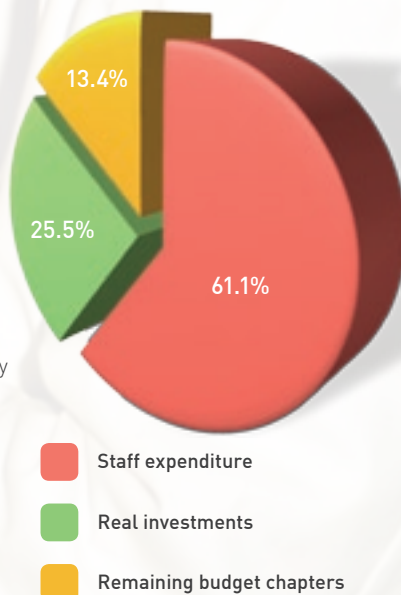


- In terms of employment distribution, Seville excels with 36%, followed by the provinces of Almeria (17%), Granada and Cadiz (11% each).

- The **environmental turnover** of environmental research and development entities amounts to 303.0 million euros, or in excess of 5% of total estimated environmental turnover.

- The **total government expenditure cleared** for environmental research and development amounts to 22.1 million euros (1% of total environmental public expenditure), of which 61% corresponds to staff expenses and 26% to real investments.

**Chart 09.3.**  
General Government  
expenditure cleared by  
budget chapter





## Other not classifiable environmental services

**Tabla 10.1.**

Environmental employment, turnover and expenditure by province

- **Environmental consulting and engineering services across multiple areas**
- **Not classifiable General Government environmental services**

It covers environmental consulting and engineering services, be it general or across multiple areas, as well as not classifiable environmental services provided by the General Government in other environmental policy areas.

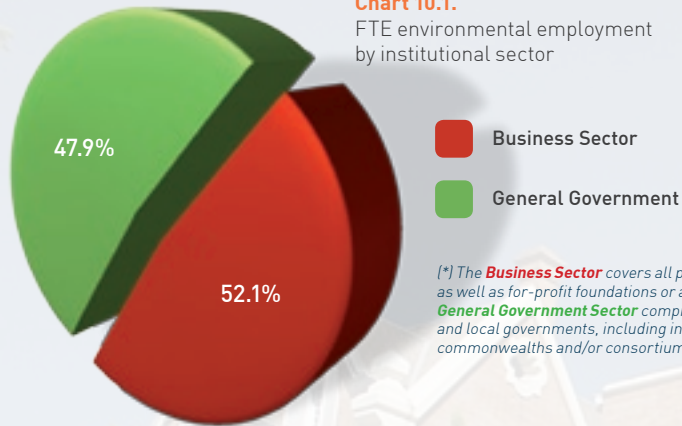
**Environmental consulting and engineering services across multiple areas** means overall environmental consulting services (including environmental legislation and accounting, etc.), architecture and engineering services, development and management of cross-cutting and multidisciplinary projects or “turn-key” projects, development of specific software applications and geographical information systems, environmental auditing, monitoring, sampling, measurement and recording, analysis and assessment, provided that these activities cannot be classified under a different heading due to its impact across multiple areas.

	Environmental Employment				Environmental Turnover		General Government environmental expenditure	
	Staff Employed		Full-time Equivalent					
	staff numbers	%	FTE	%	thousand euros	%	thousand euros	%
Almeria	398	<b>9.5</b>	364.2	<b>9.2</b>	29,280.7	<b>10.4</b>	7,908.7	<b>7.2</b>
Cadiz	374	<b>8.9</b>	344.4	<b>8.7</b>	21,733.3	<b>7.7</b>	11,702.9	<b>10.7</b>
Cordova	282	<b>6.7</b>	260.0	<b>6.6</b>	20,136.7	<b>7.2</b>	7,288.0	<b>6.7</b>
Granada	406	<b>9.6</b>	360.9	<b>9.1</b>	24,767.8	<b>8.8</b>	10,112.1	<b>9.3</b>
Huelva	317	<b>7.5</b>	298.5	<b>7.6</b>	18,334.8	<b>6.5</b>	10,106.4	<b>9.3</b>
Jaen	445	<b>10.6</b>	412.5	<b>10.4</b>	38,323.3	<b>13.6</b>	13,364.6	<b>12.3</b>
Malaga	563	<b>13.4</b>	522.6	<b>13.2</b>	32,103.7	<b>11.4</b>	10,114.8	<b>9.3</b>
Seville	1,421	<b>33.8</b>	1,394.0	<b>35.2</b>	96,564.7	<b>34.4</b>	38,394.5	<b>35.2</b>
<b>ANDALUSIA</b>	<b>4,206</b>	<b>100.0</b>	<b>3,957.1</b>	<b>100.0</b>	<b>281,245.0</b>	<b>100.0</b>	<b>108,992.0</b>	<b>100.0</b>

- General **environmental services** employ 4,206 people, or **3,957** full-time equivalent **jobs**, nearly 5% of total estimated environmental employment in Andalusia in 2006.
- Employment turnover in enterprises providing *consulting and engineering services across multiple areas* is estimated at 1,89%, or 48% of the total. *Not classifiable environmental services* provided by the **General Government** account for 2,061 full-time equivalent employments (52%).

**Chart 10.1.**

FTE environmental employment by institutional sector



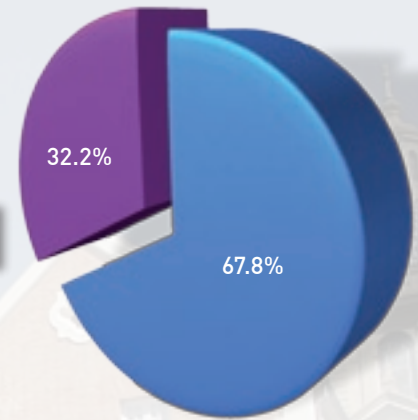
(\*) The **Business Sector** covers all public or private business, as well as for-profit foundations or associations; the **General Government Sector** comprises central, regional and local governments, including independent institutions, commonwealths and/or consortiums.

**Chart 10.2.**

FTE environmental employment by gender

GRI: 0.47

Men  
Women



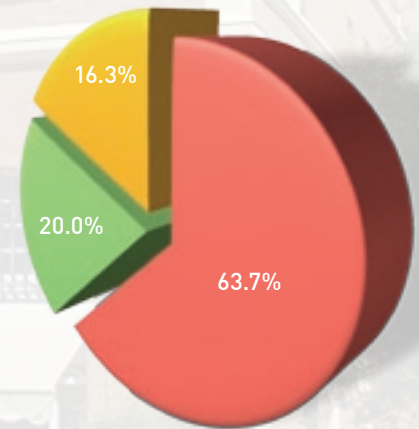
- In terms of employment **distribution by province**, Seville stands out with 35% of the total, followed by Malaga (13%) and Jaen (10%).
- **As to gender distribution**, women hold slightly less than a third (32%) of the jobs, and the rest go to men (68%). These figures render a Gender Representation Index of 0.47, which reflects male over-representation in this environmental policy area.
- The **environmental turnover** in enterprises specialising in *environmental consulting and engineering services across multiple areas* is estimated at 281.2 million euros, or nearly 5% of total estimated environmental turnover. The environmental turnover of a standard business accounts for 55.8% of the total invoiced, or 570.5 thousand euros per establishment.

- The **total expenditure cleared by the General Government** in not-classifiable environmental services is estimated at about 109.0 million euros, or nearly 6% of estimated environmental public expenditure, of which 64% corresponds to staff and 20% to real investments.

**Chart 10.3.**

General Government expenditure cleared by budget chapter

Staff expenditure  
Real investments  
Remaining budget chapters





## Internal environmental protection activities at non-environmental industries

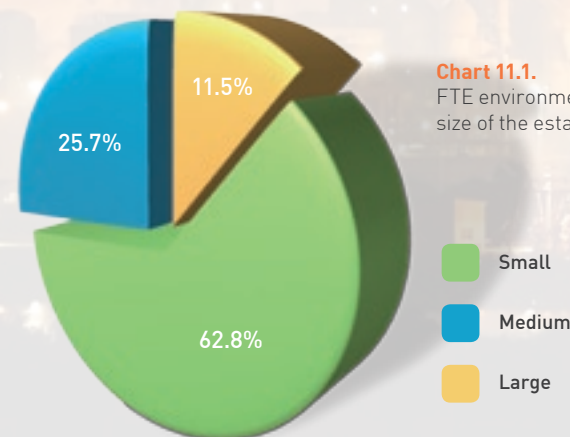
Environmental protection at “non-environmental” industries covers all activities aimed at preventing, reducing or eliminating pollution and any environmental deterioration. Activities aimed at essentially meeting technical health and safety needs are excluded, even though they may have a positive impact on the environment.

This group includes internal environmental protection activities at industrial facilities with more than 10 employees, whose main activity falls within sections C, D or E of the National Classification of Economic Activities (NCEA-93 Rev. 1), with the exception of those industrial facilities considered environmental producers.

**Table 11.1.** Environmental employment, turnover and expenditure by province

	Environmental Employment				Gasto en Protección Ambiental	
	Staff Employed		Full-time Equivalent			
	staff numbers	%	FTE	%	thousand euros	%
Almeria	313	<b>7.2</b>	140.1	<b>7.8</b>	35,005.0	<b>9.4</b>
Cadiz	616	<b>14.1</b>	291.3	<b>16.2</b>	59,250.1	<b>15.9</b>
Cordova	654	<b>15.0</b>	219.9	<b>12.2</b>	38,633.7	<b>10.3</b>
Granada	355	<b>8.2</b>	155.3	<b>8.7</b>	39,629.2	<b>10.6</b>
Huelva	287	<b>6.6</b>	142.7	<b>7.9</b>	44,578.2	<b>11.9</b>
Jaen	467	<b>10.7</b>	180.1	<b>10.0</b>	28,610.9	<b>7.7</b>
Malaga	522	<b>12.0</b>	205.0	<b>11.4</b>	32,506.2	<b>8.7</b>
Seville	1,143	<b>26.2</b>	462.9	<b>25.8</b>	95,239.5	<b>25.5</b>
<b>ANDALUSIA</b>	<b>4,357</b>	<b>100.0</b>	<b>1,797.3</b>	<b>100.0</b>	<b>373,452.8</b>	<b>100.0</b>

- There are 4,357 people employed in *internal environmental protection activities at non-environmental industries*, or **1,797** full-time equivalent employments, about 2% of total estimated environmental employment for Andalusia in 2006.
- Small-sized enterprises** account for most environmental employment (63% of the total). In terms of **branch of activity**, metallurgy, food and non-metal mineral product industries contribute most to employment. Their aggregate total represents more than half (52%) of the employment in internal environmental protection activities.



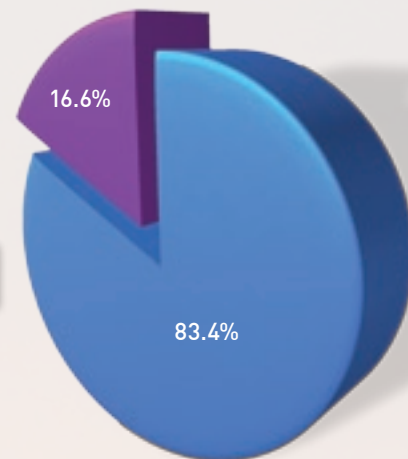
**Chart 11.1.** FTE environmental employment by size of the establishment

- As to employment **distribution by province**, Seville generates slightly more than a quarter of all environmental employment, followed by Cadiz (16%), Cordova (12%), Malaga (11%) and Jaen (10%).
- There is a serious **gender** imbalance in the spread of **employment**, higher than the average for the environmental activities examined as a whole. With barely 17% of jobs taken up by women and 83% by men, the Gender Representation Index for employment is only 0.20.
- Internal environmental protection activities at a standard industrial facility represent **1% of total (FTE) employment**, whereas environmental protection cost-sharing accounts for **1.5% of total operating expenses**.

**Chart 11.2.**  
FTE environmental  
employment by gender

Men  
Women

GRI: 0.20\*

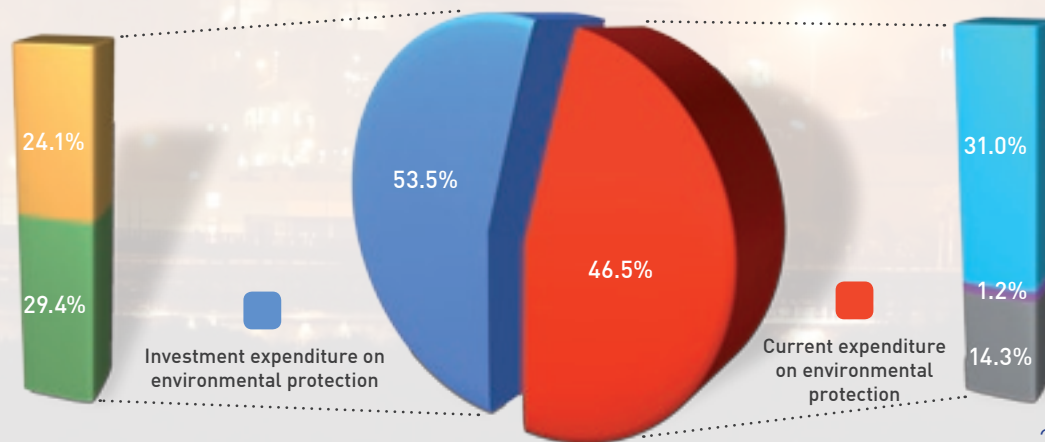


**Chart 11.3.**  
Environmental protection  
expenditure by budget item

Investments in standalone or *end-of-line*  
equipment and facilities  
Investments in integrated equipment and  
facilities

Staff expenditure  
Environmental R&D and  
training activity expenses  
Other current expenses

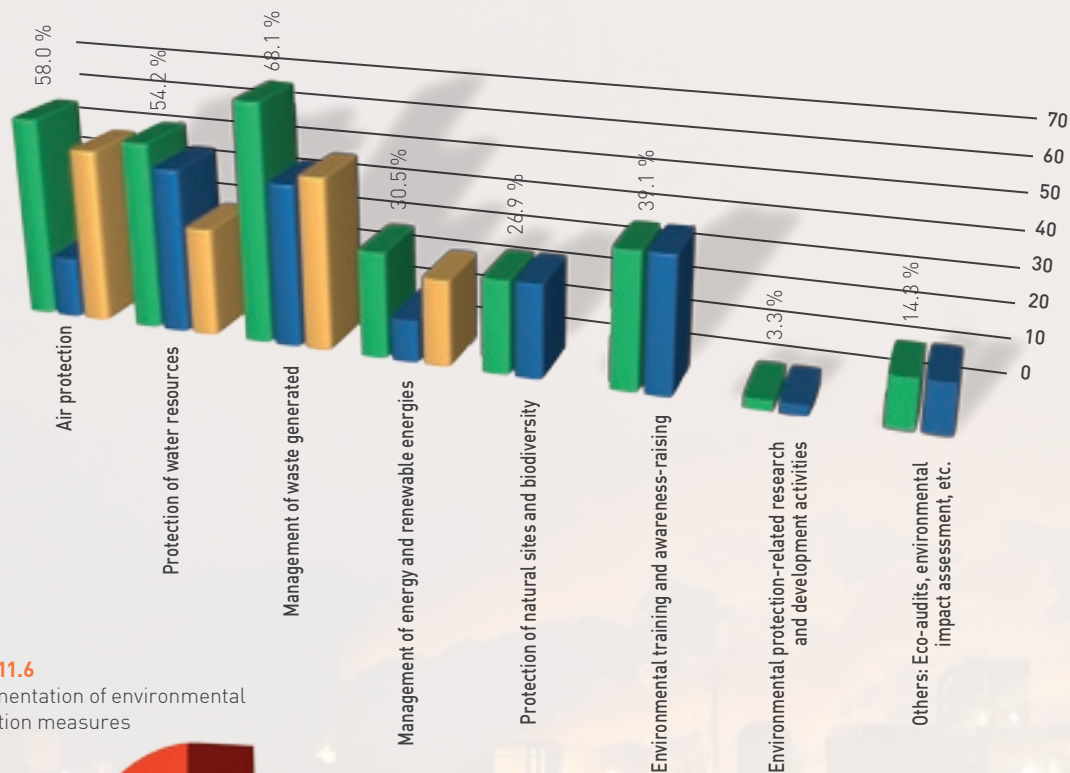
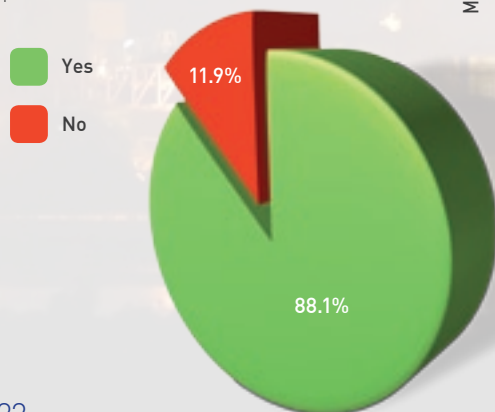
- Environmental protection expenses** amount to 373.4 million euros, of which *investment expenses* represent 53.5%. The amount allocated to standalone and *end-of-line* equipment and facilities (29.4%) is slightly higher than for equipment *integrated into production processes* (24.1%). Current expenditures represent 46.5% of total expenditure on environmental protection, of which 14% corresponds to staff expenses and 1% to environmental R&D and training activity expenses.





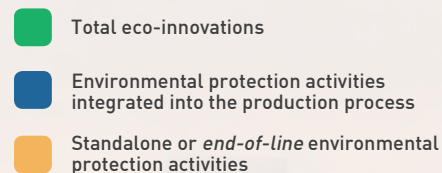
**Chart 11.6**

Implementation of environmental protection measures



**Chart 11.5**

Implementation of eco-innovations by type of activity and environmental protection area [% of establishments] (\*)



(\*) The results correspond to the sampled establishments. It shows the percentage of establishments that claim to have introduced eco-innovations. Establishments were allowed to indicate more than one environmental protection area.

- Up to 88% of industrial establishments surveyed claim to have introduced some type of **environmental protection measures** or **eco-innovations**. Implementation of measures aimed at *management of generated waste* is generally the most common environmental protection area (68% of establishments), followed by *air protection* (58%) and *protection of water resources* (54%). Conversely, *environmental protection research and development activities* have only been addressed by 3% of respondents.

- In terms of the environment, the main driving force behind corporate social responsibility is *adaptation to environmental legislation and standards* (35% of respondents). Other salient factors triggering the proactive attitude toward environmental protection in the industry are *improving corporate image* (23%), *cost reduction* (19%), and *obtaining an environmental certification and/or labelling* (17%).



**Chart 11.7**

Driving forces behind the introduction of eco-innovations by size of establishment (% of responses) (\*)

(\*) Results over the total of responses by sampled establishments that claim to have introduced some type of environmental protection activity.



### **Printed according to green printing criteria**

Green printing is an innovative form for sustainable management of printing services, which incorporates environmental and social criteria into the printing process, in order to minimise the negative impacts of this activity.

Green printing uses the best available techniques and best environmental practices, taking into account the product's life cycle as a whole, from design to distribution, making recommendations on raw materials, printing processes, stock management, packaging for distribution of publications and logistical management of distribution.

Green printing also reflects enterprises' social commitment to decent working conditions for workers involved in the different stages of the process.

