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**EVE** | Ente Vasco  
de la Energía

# Inventory of energy use in the Basque public administrations

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DATACTION



Co-funded by the Intelligent Energy Europe  
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**Coopenergy**

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# Framework and objectives

## Objectives of the study

The study was carried out in 2013

... to have an inventory of energy use in the three administrative levels ....

... in

- Buildings or smaller establishments
- Public lighting
- Railways and tram

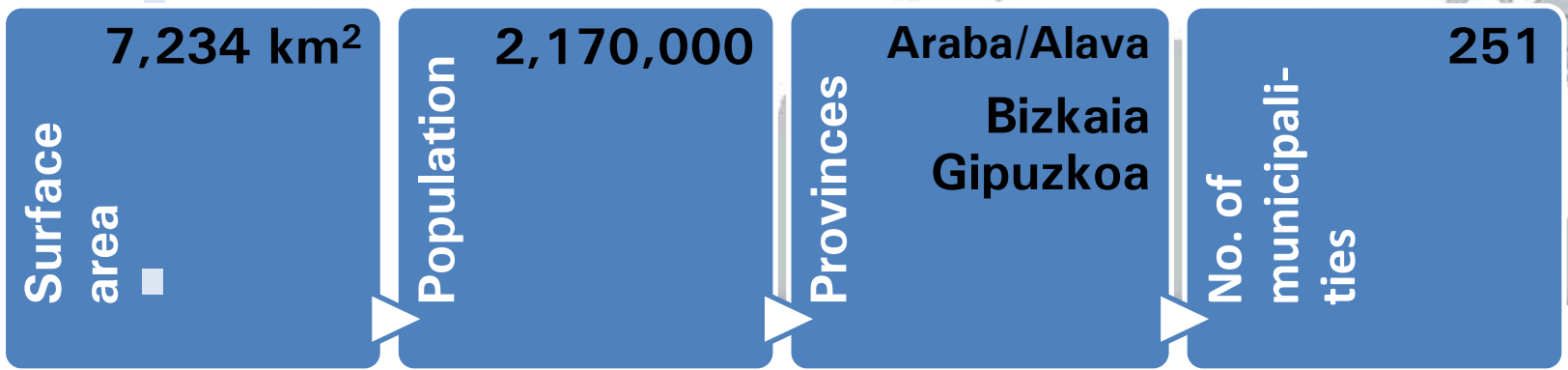
... missing

- Other public transport
- Use of vehicles in the public administration
- Water treatment, water bombs

... in order to

- follow European Directive
- having global information about the use of energy in the public admin.
- set the basis for an action plan for public buildings

## About Euskadi - the Basque Country



## Framework

- Directive 2012/27/EU on energy efficiency requires:
  - annual renovation rate of central government buildings of 3%
  - Inventory of central government buildings by 31 Dec 2013.
  - encourage public bodies, including regional and local level, to adopt energy efficiency plans with a view to following the exemplary role of central government buildings.
- Directive 2010/31/EU on the energy performance of buildings: after 31 December 2018, new buildings occupied and owned by public authorities are nearly zero-energy buildings.
- Basque Energy Strategy 3E2020



# Methodology

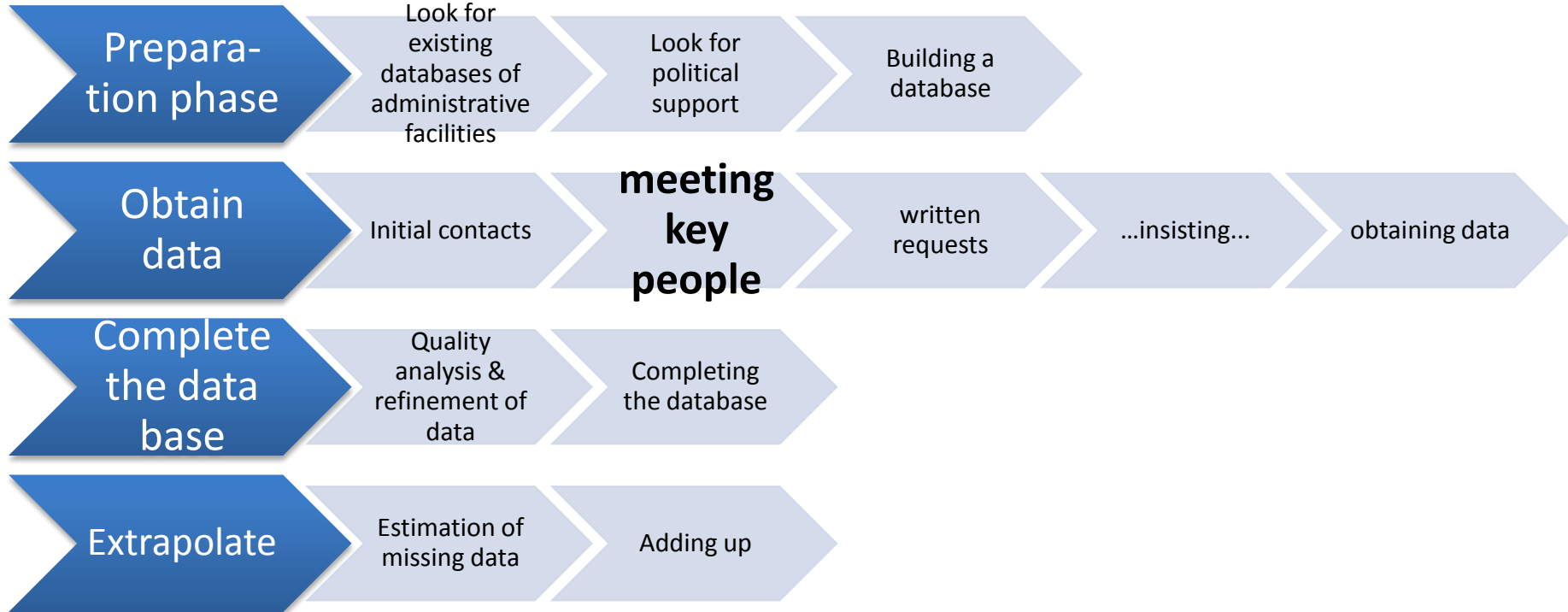
## Methodology

Requested info for each building:

- Name of building/establishment
- Address
- Use of the building (classification by administration sub-sectors)
- Year of construction or rehabilitation
- Surface
- Use of electricity – category of tariff, power, annual consumption (kWh and Euros)
- Use of natural gas – annual consumption (kWh and Euros)
- Use of other fuels (kWh and Euros)
- Use and production of renewable energy
- Identification of renewable energy equipment



## General methodology

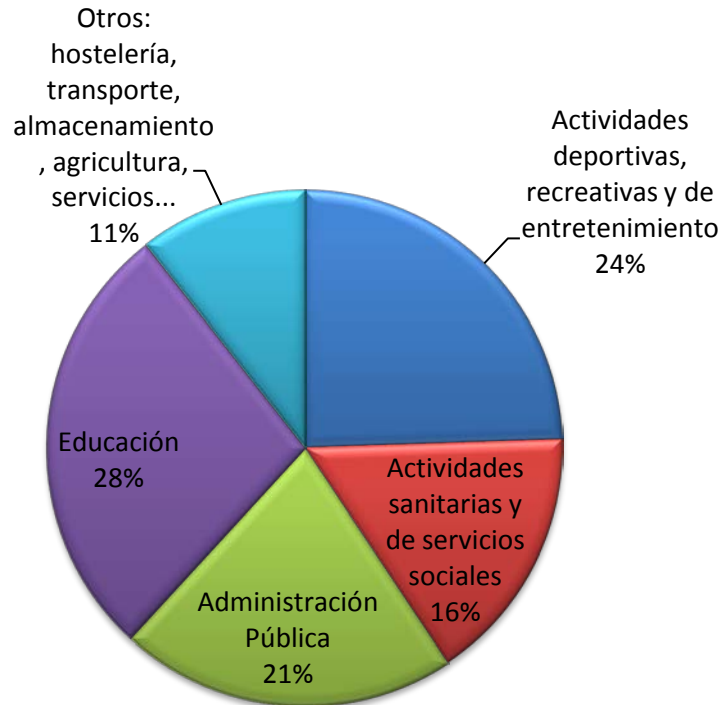




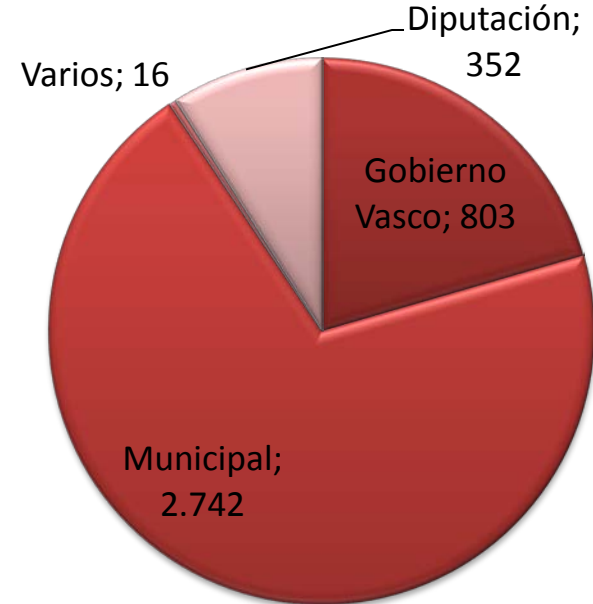
# Results

# Inventory: 3.913 buildings\*

## Distribution by sectors



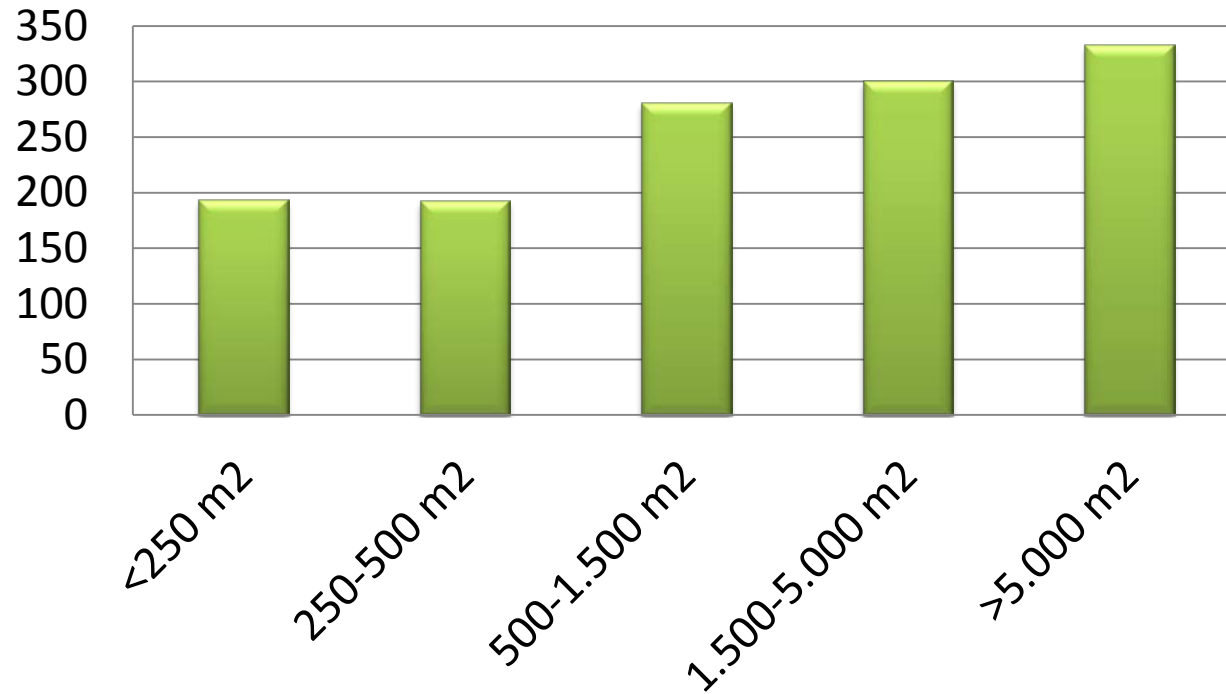
## Distribution by administrations



\* For 74% of the municipalities the information is incomplete. For this reason, there are several hundred buildings missing...

## Size of buildings

The size is known only for 33% of buildings.



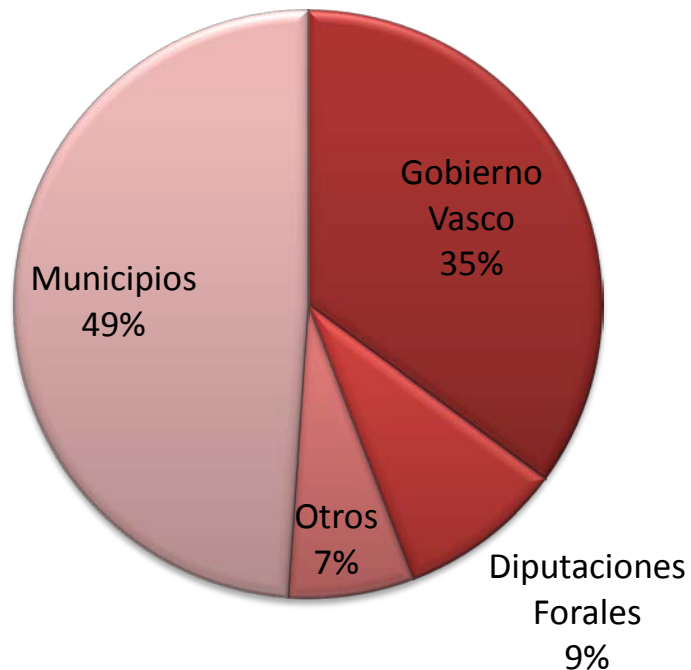
## Total use of energy in 2012: 1.827 GWh

Energy use is known for 63% of buildings.

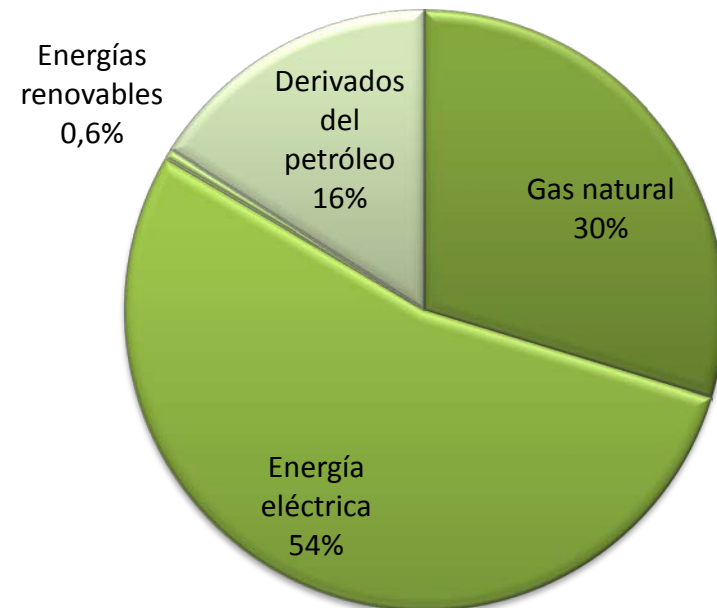
Available information has been extrapolated for all other buildings

Energy use...

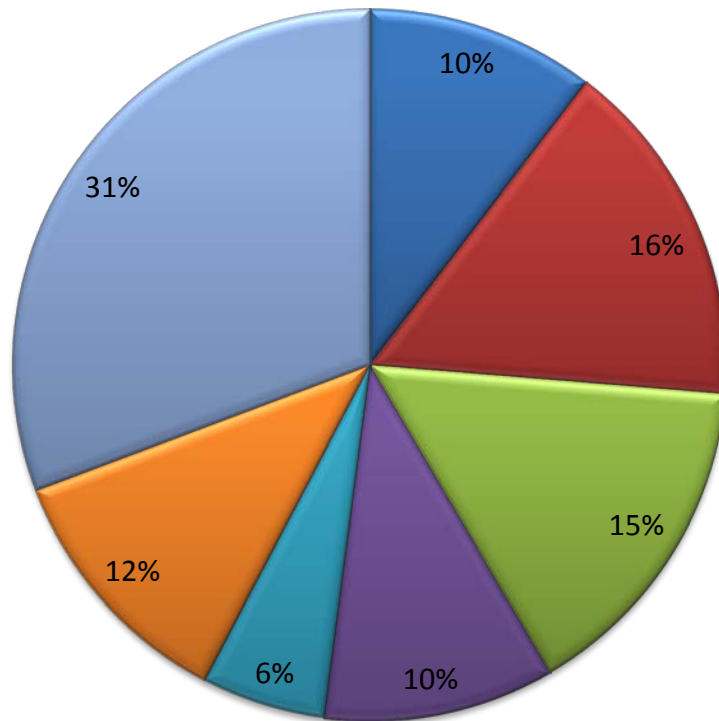
... segmented by administration



... segmented by energy type

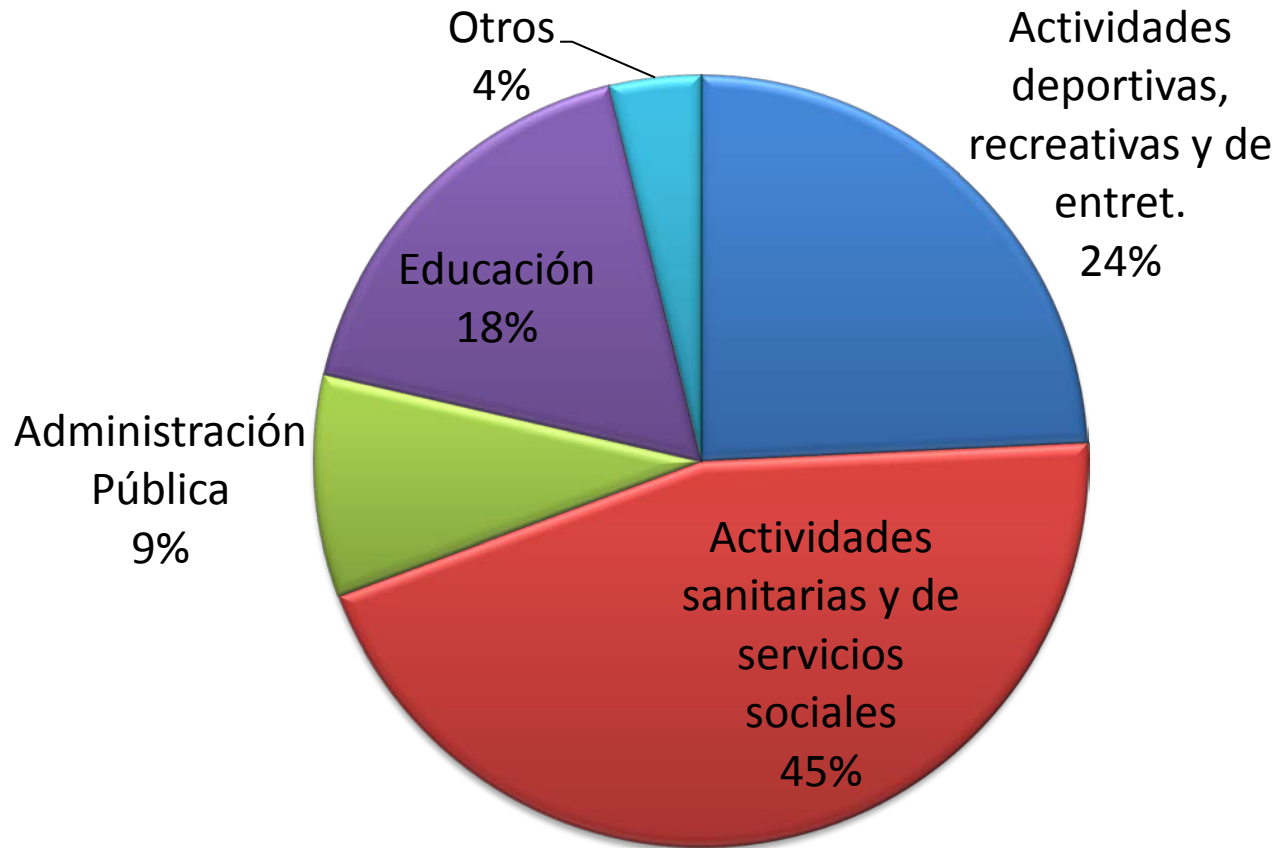


## Total use of electricity by sector



- Actividades deportivas, recreativas y de entret.
- Actividades sanitarias y de servicios sociales
- Administración Pública
- Educación
- Otros
- Transporte
- Alumbrado público

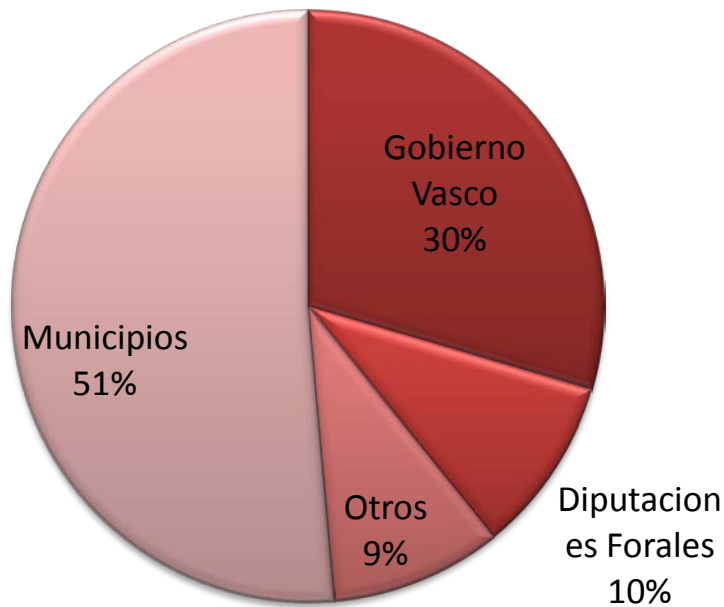
## Use of natural gas by sector



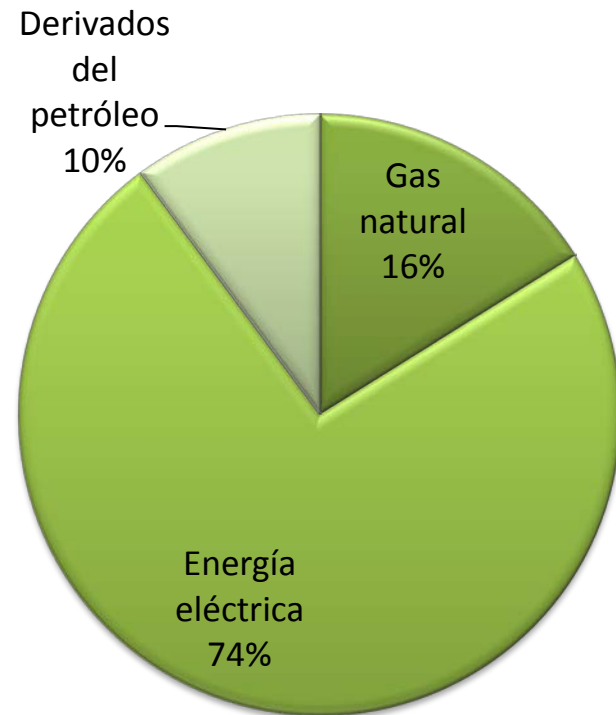
Energy bill: 183 M€

The yearly cost for the energy used by public administrations is 86€ for each citizen

by administration



by energy type

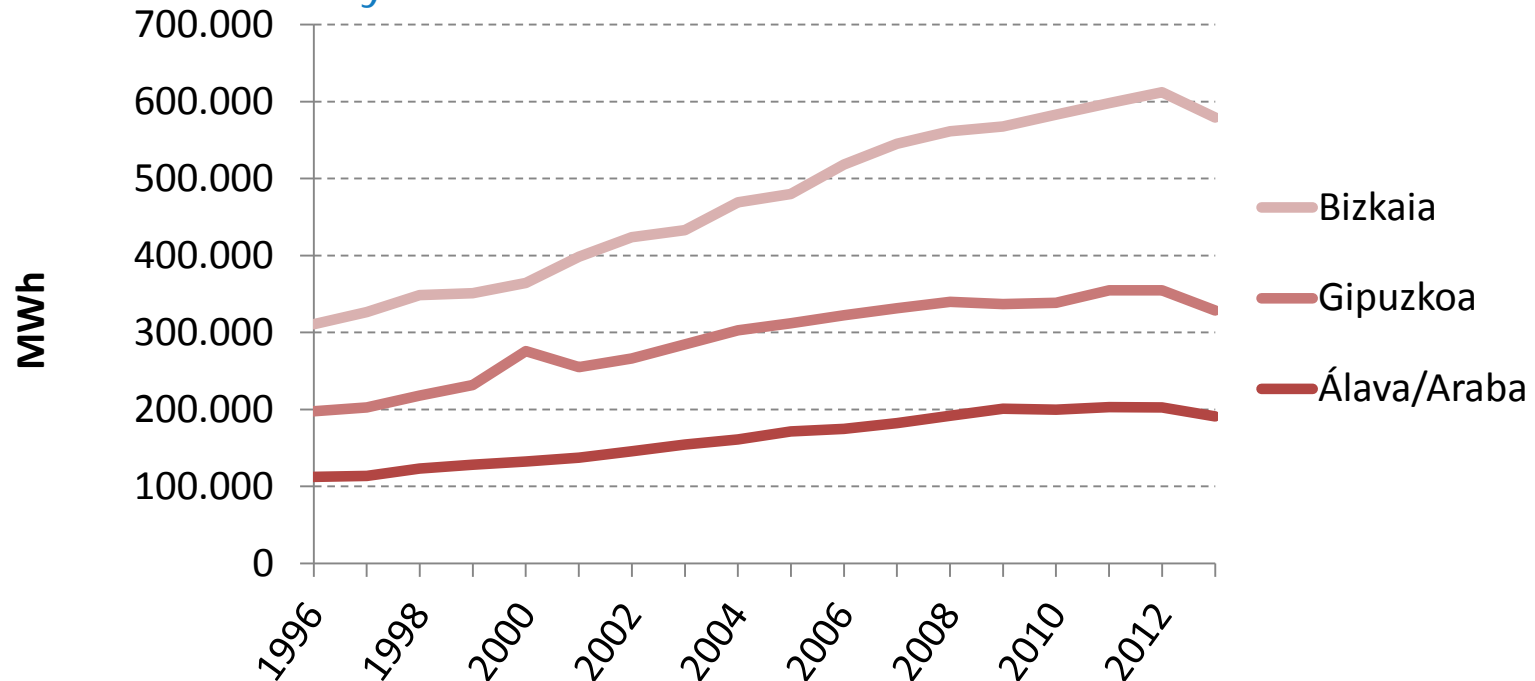




## Historical evolution

Only in 2013 there is a decline in the use of electricity

Use of electricity in the sector "Administration and other services"



NOTES:

- The subsector "Public administration and other services" includes some private services, such as private schools
- Source: Iberdrola, elaborated by EVE

## Renewable energy in buildings belonging to the Basque Government buildings

Type of energy	No of buildings using renewable energy	kW	MWh/year
Biomass	3	1.360	1.768
Geothermal	2	678	1.356
Photovoltaic	195	3.392	3.392

The use of renewable energy in the public administration is still scarce

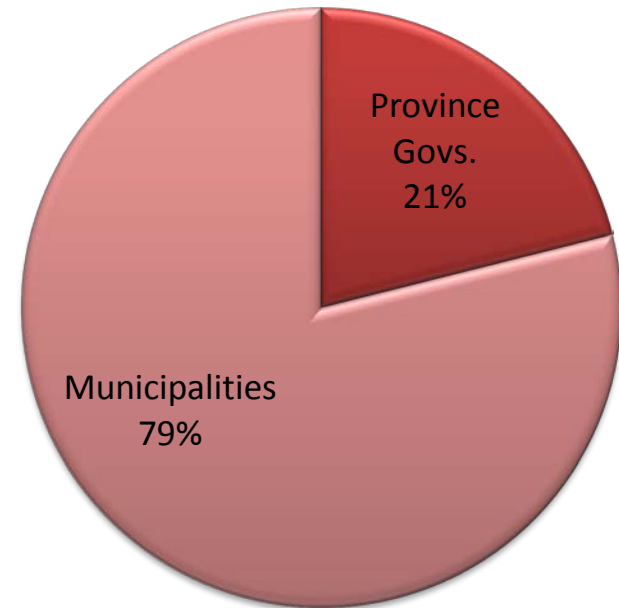
## Use of electricity in public lighting

Results extrapolated from a sample of 72 municipalities (45% of population), year 2012

**303 GWh**

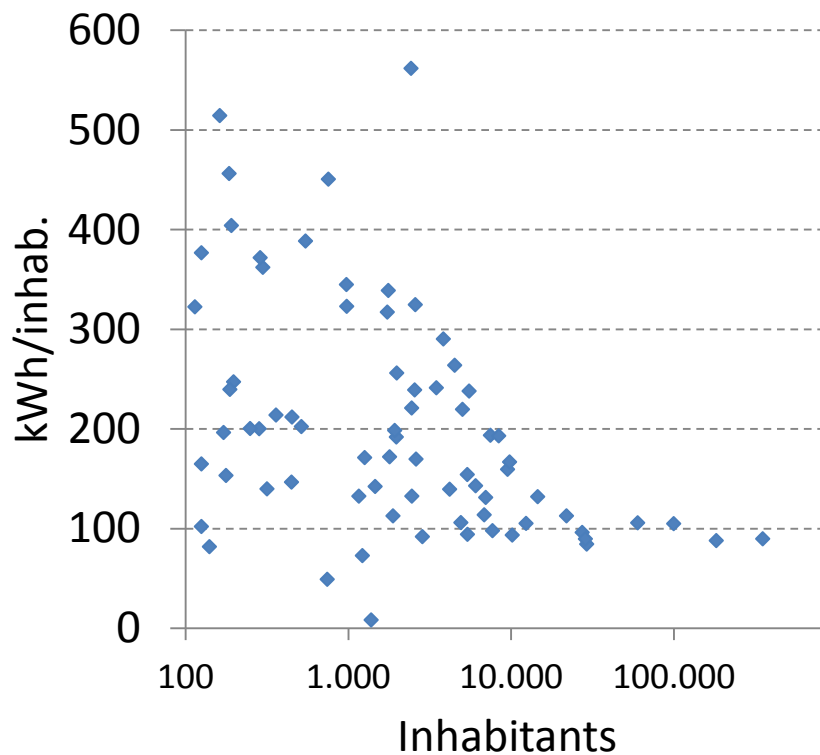
**36 million Euros**

### Use of electricity in public lighting



## Public lighting - benchmarking

Use of public lighting in municipalities  
(each point is a municipality)



- Averages (Not including road lighting provided by provincial administration)
  - < 5.000 inhab.: 218 kWh/hab
  - > 5.000 inhab.: 100 kWh/hab
  - 20.000 hab: 93 kWh/hab

**TOTAL**  
 1997: 68 kWh/hab  
 2008: 125 kWh/hab  
 2012: 137 kWh/hab



# Conclusions

## Conclusions (I)

- Gathering information about energy use in administrative facilities is a complex operation.
- Only in some cases collection of information is systematic.
  - For economic reasons – central purchasing bodies
  - For sustainability reasons – Local Agenda 21
- Quality of information is best for the main administrations: Historical Territories and Autonomous Community
- Obtaining info from smaller administrative bodies is very laborious
  - Public companies
  - Municipalities

## Conclusions (II)

- After granting confidentiality, willing to cooperate providing data was generally very positive...
  - .... even if, in many cases, to get the data it was necessary to insist.
- Generally, at all levels of the public administration, the awareness about actual use of energy in the administrative buildings is very weak.
- Making the study has helped rising awareness about this issue.
- The need to use renewable energy is accepted...
  - ...but the actual use of renewable energy is small.

## Conclusions (III)

- To obtain best results it is necessary to keep the survey simple.
- Technology offers increasing opportunities for gathering information with lower costs.
- Opportunities to reduce the energy bill were identified during the study. Training and supporting purchasing managers can help reduce the energy bill of the administration.
- The inventory will be the basis for a Basque Government's Decree on sustainability of energy use in the regional administration (already drafted) and action plan.





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# Eskerrik asko!

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