

Is the Spanish energy sector's Open Data maturity sufficiently high to enable the successful deployment of a Circular Economy (CE) strategy?

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CENSUI

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CONTENT

- Circular Economy (Information is crucial)
- Open Data Portal Initiative an essential tool to manage information in a CE context
- Spanish OD Portal – evaluation results (EU)
- Energy sector contribution to the Spanish OD Portal – practical experience



Circular Economy (Information is key)

- **Circular Economy - Guiding Principles (BS-8001 framework)**

(<http://environmentjournal.online/articles/moving-circular-economy/>)

(<https://www.bsigroup.com/en-GB/standards/benefits-of-using-standards/becoming-more-sustainable-with-standards/Circular-Economy/Executive-Briefing-BS-8001--a-Guide/>)

- Systems thinking
- Innovation
- Stewardship
- Collaboration
- Value optimisation
- **Transparency**

- **Closing the loop: EU Action Plan for the Circular Economy**

(https://ec.europa.eu/growth/industry/sustainability/circular-economy_en)

- Production (product design, production process, consumption)
- Waste management
- From waste to resources (secondary raw materials): turning recycled raw materials into business opportunities, sharing products or infrastructure (e.g. **water reuse**)
- Specific materials and sectors (**plastics, food value chain, critical raw materials, construction and demolition, biomass & bio-based products**)
- Innovation, investment and other cross-cutting issues

- **Transition to a circular economy demands opportunities for social discourse**



Open Data Initiative (OD)

- Contributes to a country's political, economic and social sustainability
- but... what does OD really mean?
- Open Data refers to the information collected, produced or paid for by public bodies which can be freely used, modified, and shared by anyone for any purpose.
 - ***“Open means anyone can freely access, use, modify, and share for any purpose (subject, at most, to requirements that preserve provenance and openness)”***

<https://theodi.org/>

<https://okfn.org/projects/global-open-data-initiative/>



The “Open Data” Initiative

- Open Data enables the assessment of the Sustainable Development Goals (SDGs) in three main ways
 - It is a facilitator of standards
 - A tool for accountability
 - An evidence base for impact assessment
- The [World Bank \(Open Government Data Toolkit\)](#)
- [European Data Portal](#)
- [Energydata.info](#)



Open Data in Europe

A series of indicators have been selected to measure Open Data maturity across Europe. These indicators cover the level of development of national policies promoting Open Data, an assessment of the features made available on national data portals as well as the expected impact of Open Data.



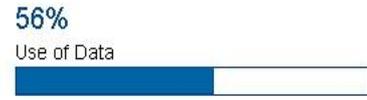
Jump to section

- Overview
- Country overview
- Detailed country view
- Country maturity map
- Download the full report
- Access the data

Overview

Open Data Readiness - Policy

59.62



Open Data Readiness: 59%



Portal Maturity

64.40



Portal Maturity: 64%

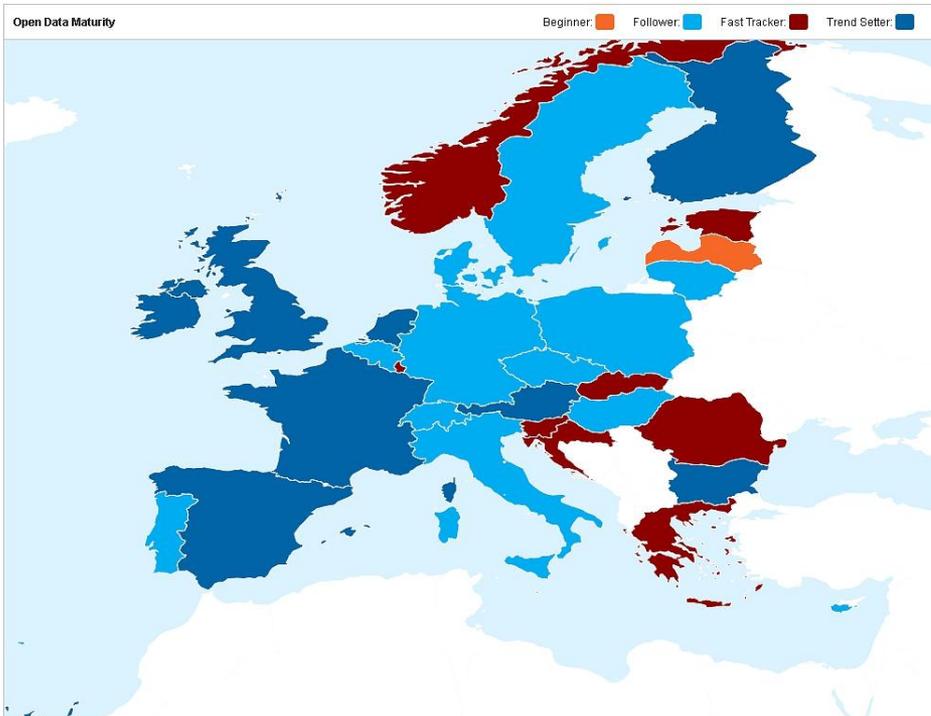
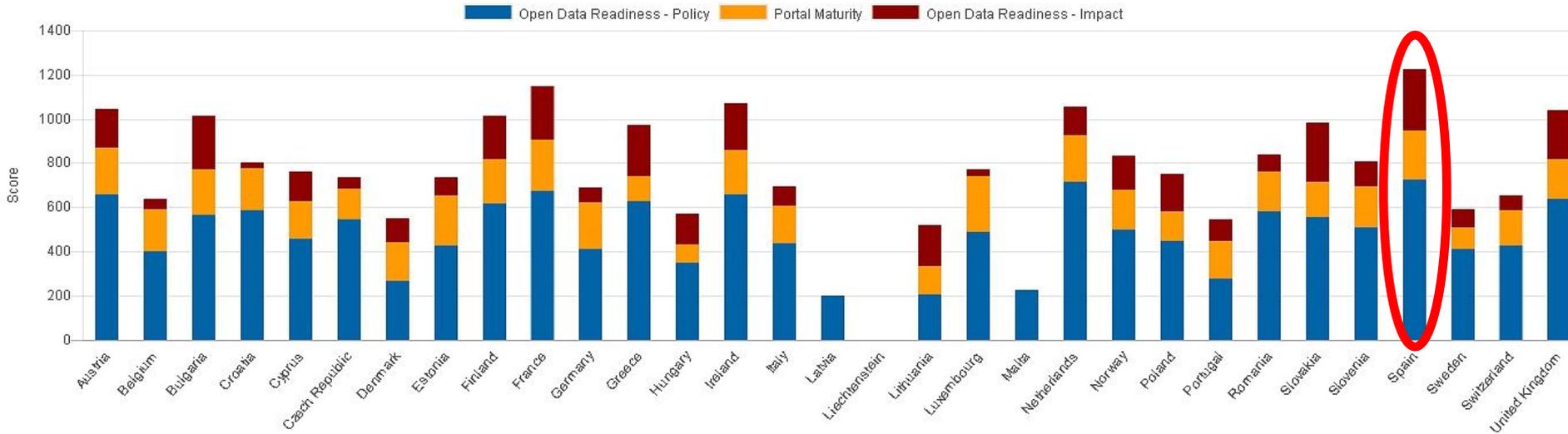


Open Data Readiness - Impact

42.33



Country overview



Indicators

OD Readiness

1 Open Data policy

- 1.1 OD Policies 15
- 1.2 Licensing norms 3
- 1.3 Coordination at national level 5

2 Use of the data 9

3 OD Impact

- 3.1 Political Impact 3
- 3.2 Social Impact 2
- 3.3 Economic Impact 4

Portal Maturity

- 4 Portal Usability 4
- 5 Portal Re-usability 6
- 6 Spread of data across domains 3

Number

41

23

15

3

5

9

9

3

2

4

13

4

6

3

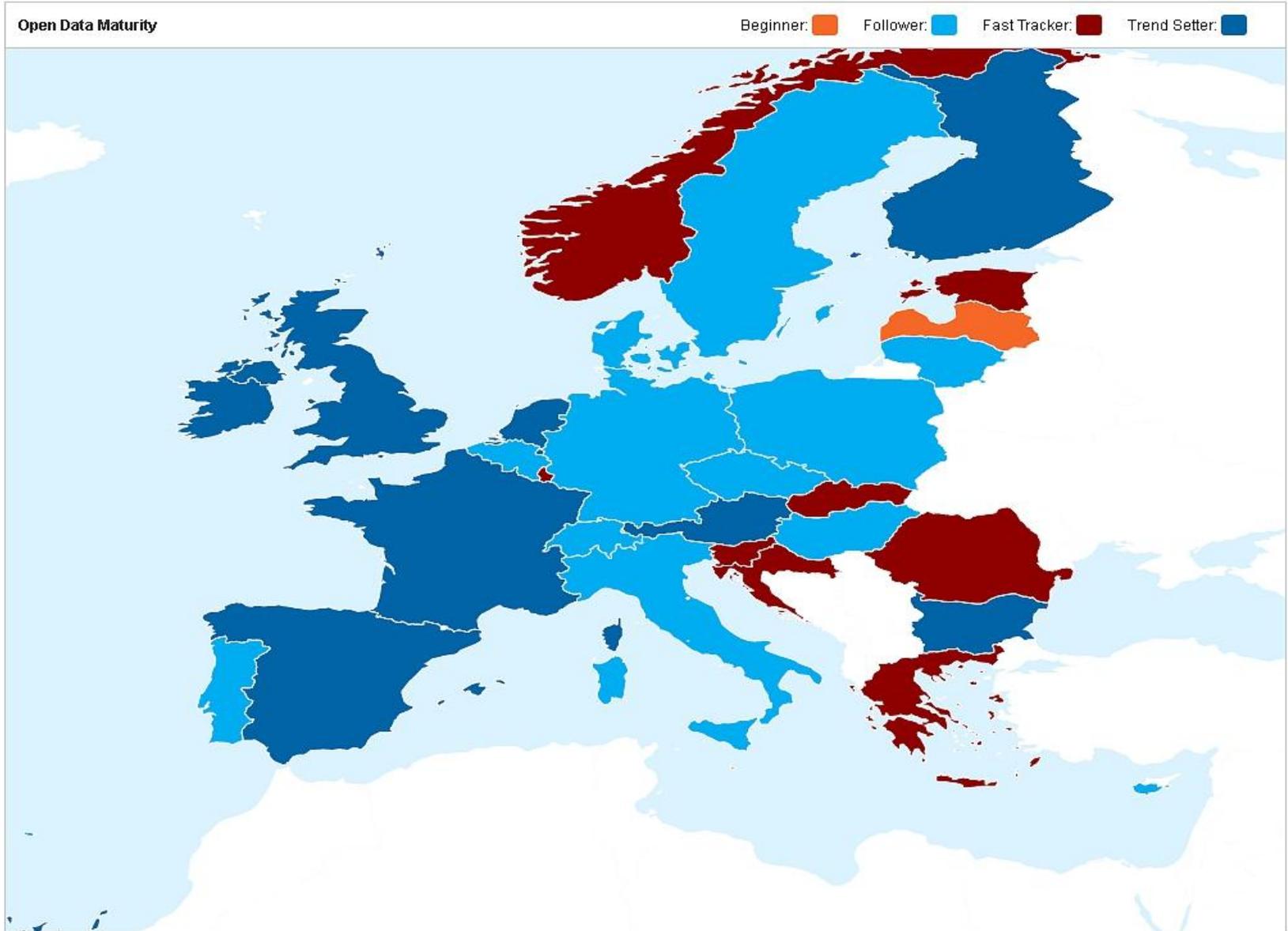


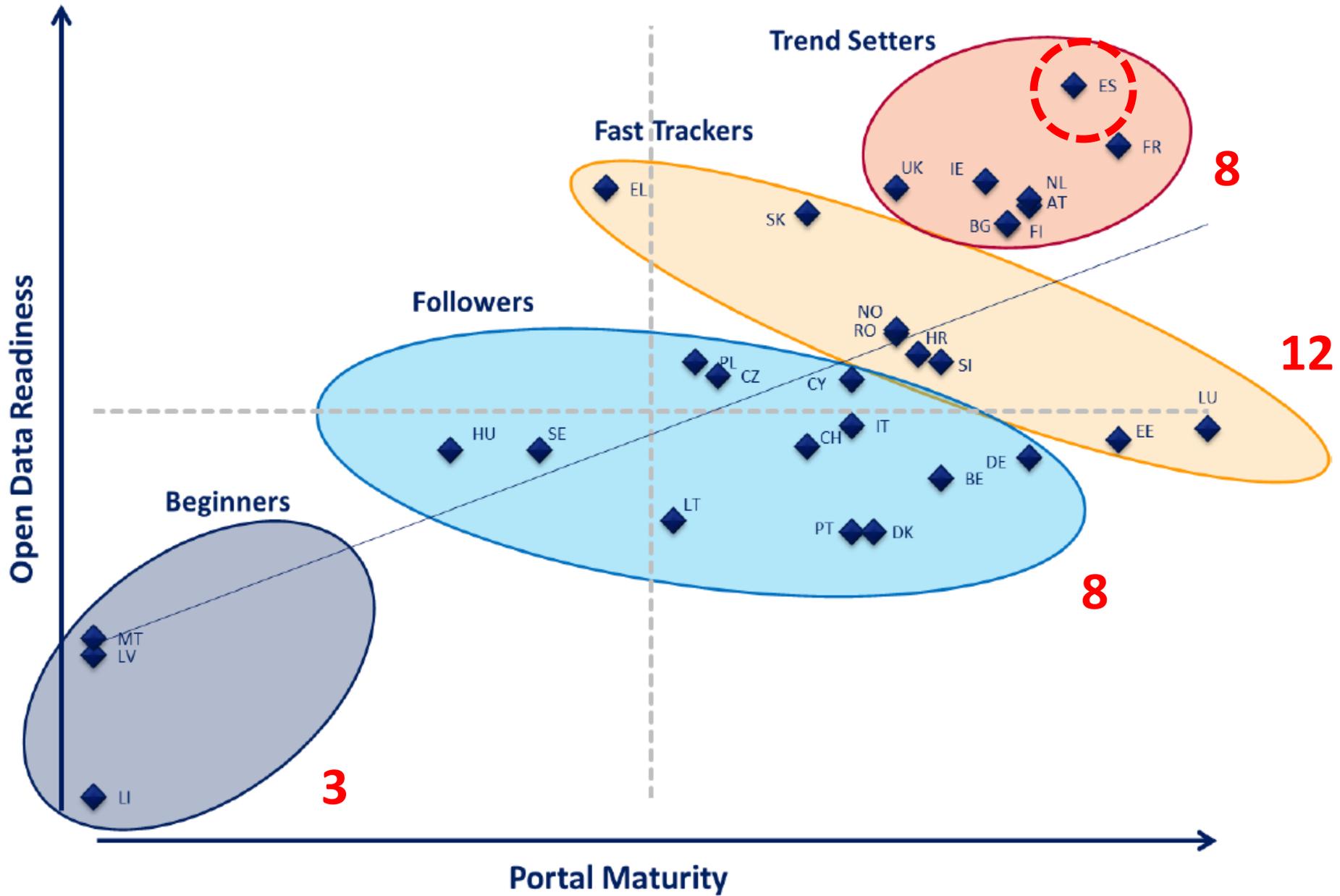
Beginner 

Follower 

Fast Tracker 

Trend setter 





Iniciativa de datos abiertos del Gobierno de España

Aporta.

Líneas de actuación



Difusión, Sensibilización y formación



Catálogo Nacional de datos abiertos



Estadísticas sectoriales



CPP Colaboración público-privada



Ámbito legislativo y cooperación nacional



Cooperación internacional



Asesoramiento y soporte

Impacto.

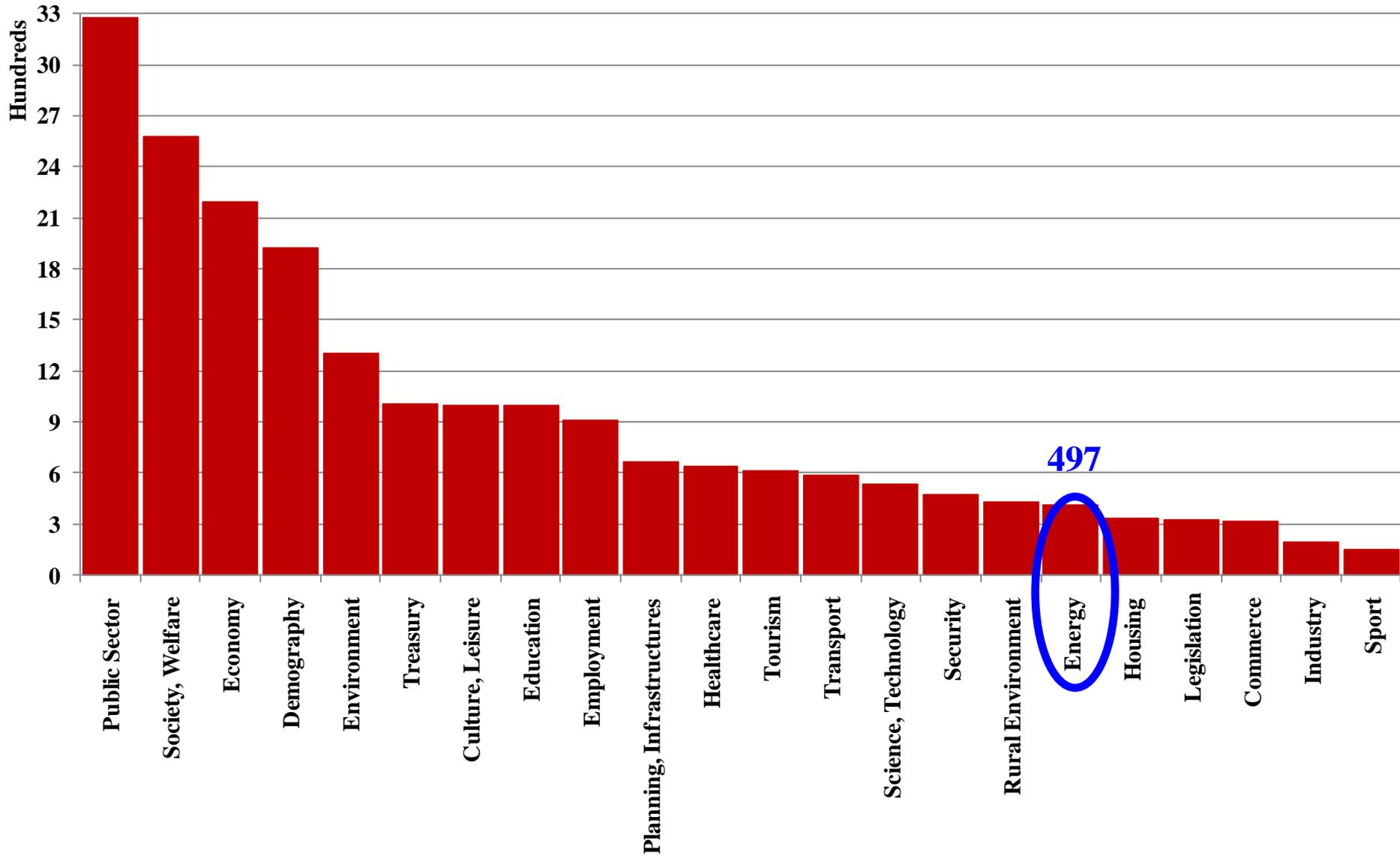
-  Local Administration (92)
-  State Administration (34)
-  Regional Administration (17)
-  Universities (10)



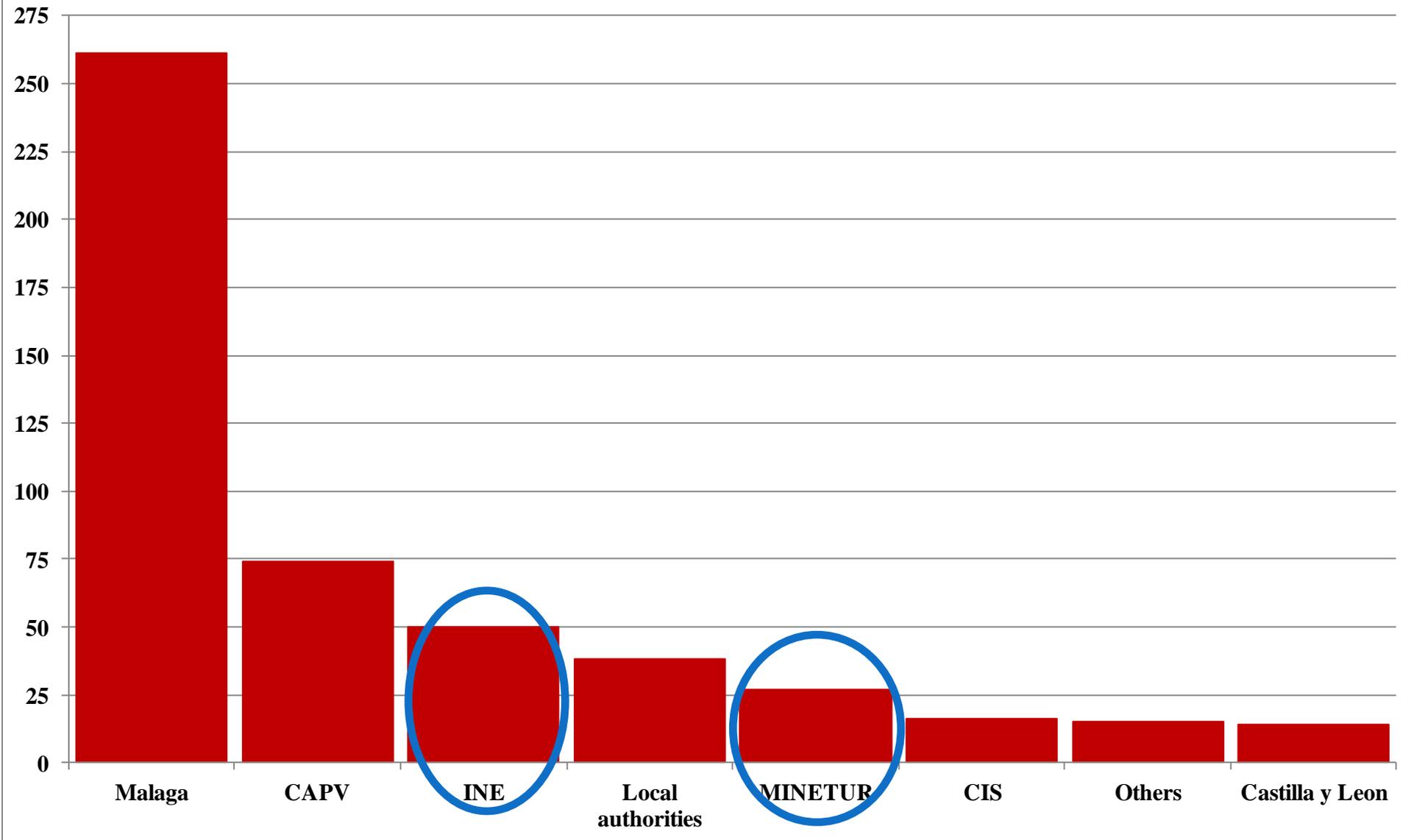
Mapa de iniciativas APORTA (<http://datos.gob.es/es/iniciativas>)



Datasets Categories in OD Catalog



Main Contributors to Energy related datasets





**CAN BIOENERGY MAKE A SIGNIFICANT
CONTRIBUTION TO THE CE EFFORTS IN SPAIN?**

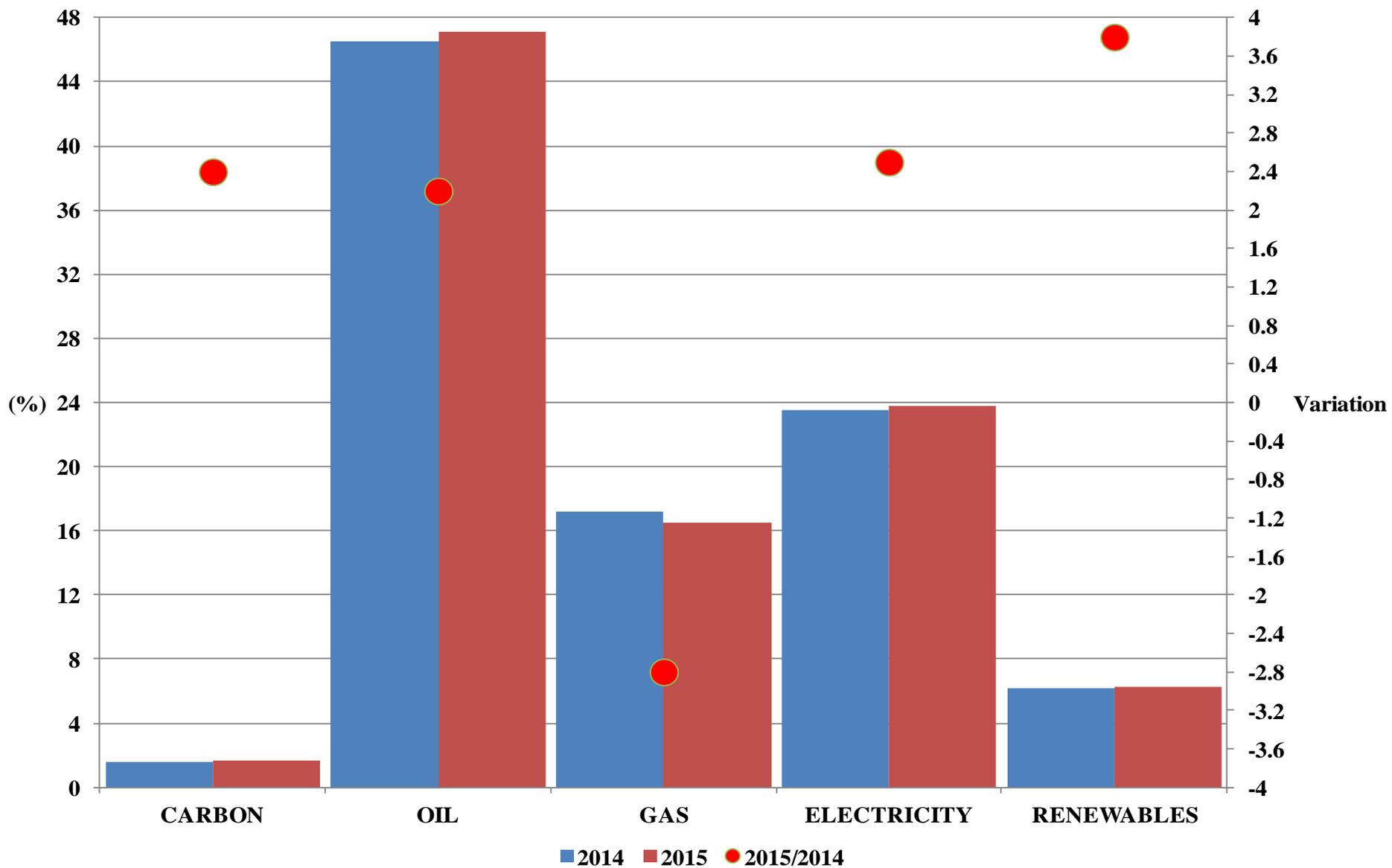


Where/how could the Spanish bio-energy sector contribute to this effort

- Energy consumption:
 - Electricity
 - Transport
 - Heating/cooling
- Support the CE's 3R implementation framework
 - Improve the reduction/reuse of waste
 - Improve GHG emissions reduction
 - Reduce environmental impacts linked to generation/use of energy



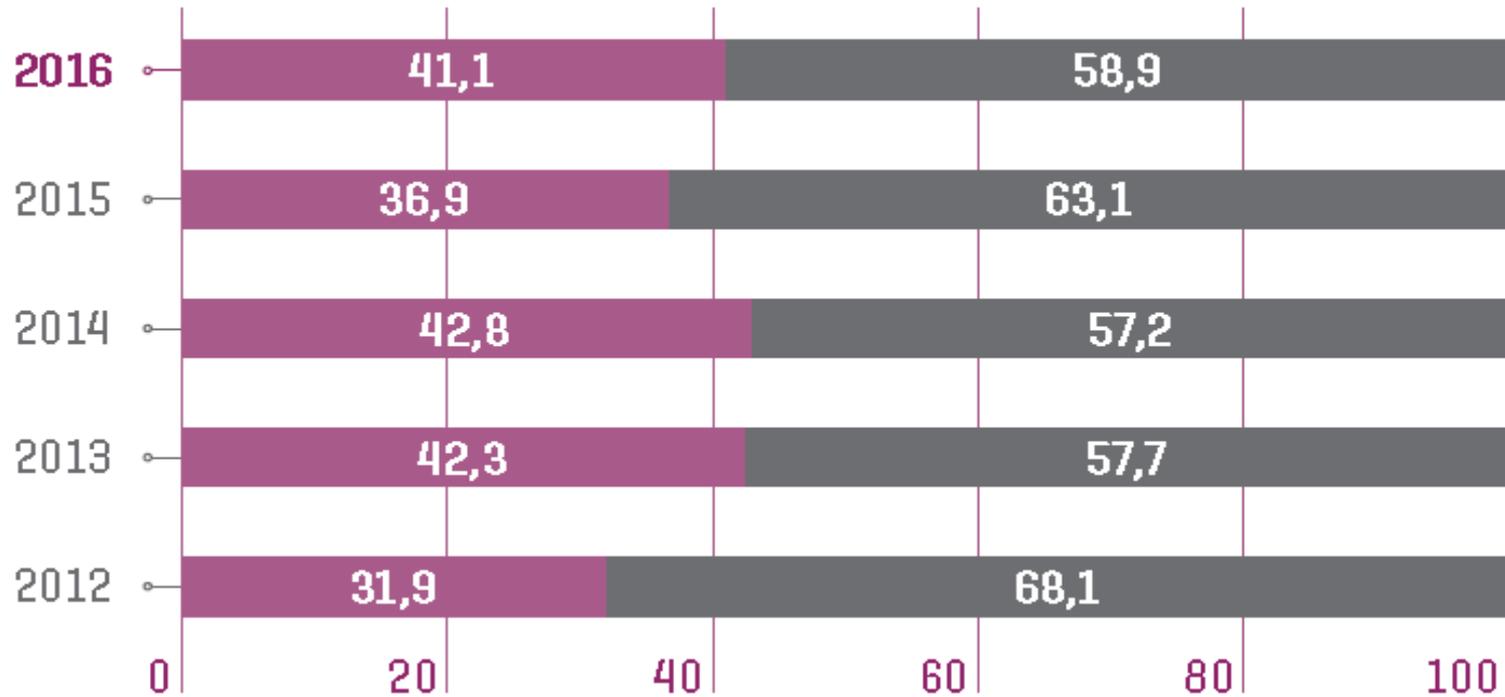
Distribution of Energy sources in SPAIN - 2015



Data source: <http://informeestadistico.idae.es/t2.htm>

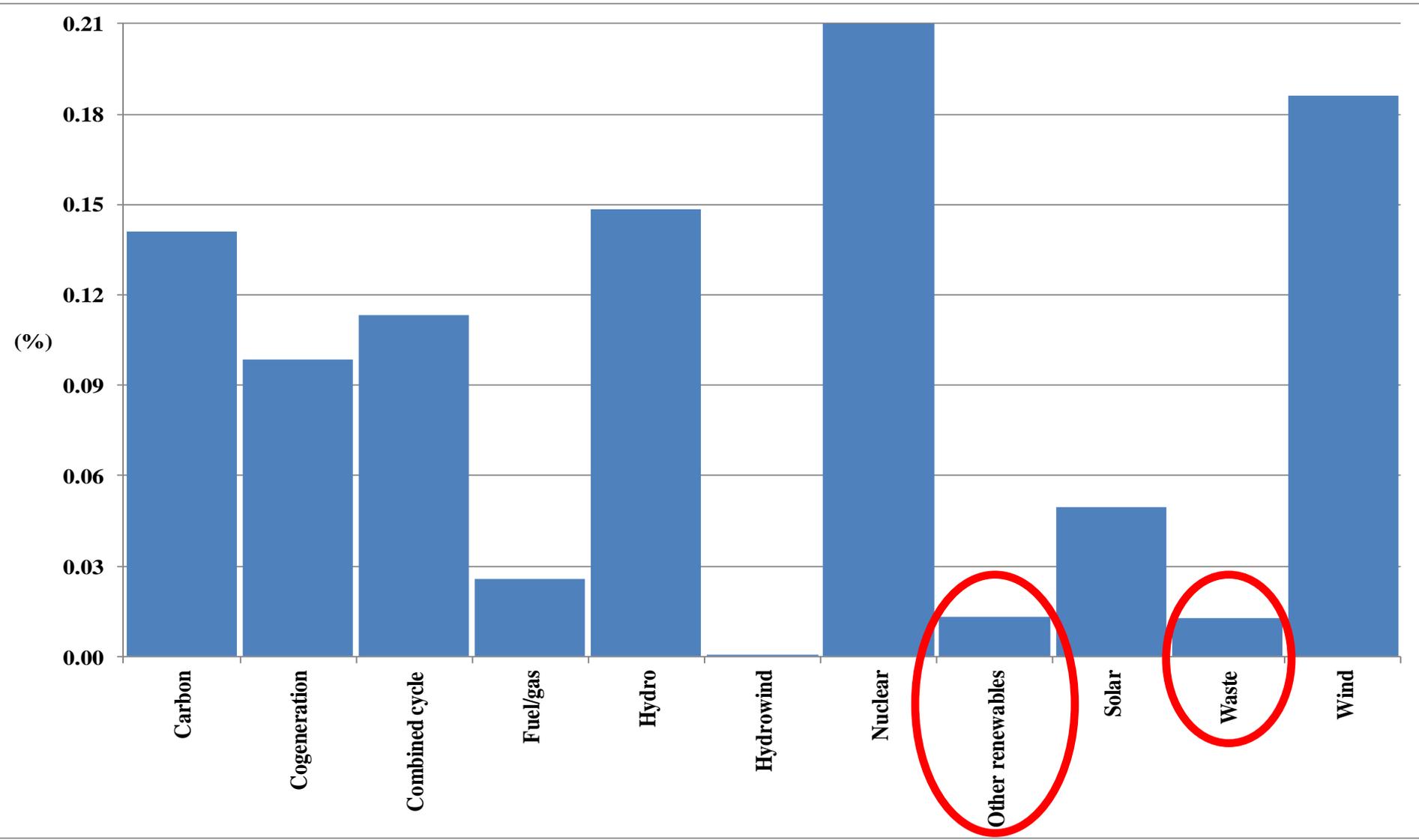


Evolution of Renewable Energy Use – Electricity Generation in SPAIN (%)



-  **Renewables: hydraulic, wind, solar PV, solar thermal, other renewables and 50% solid urban waste**
-  **Non renewable: nuclear, carbon, fuel/gas**

Distribution of Electricity by Energy Sources in SPAIN (2016)

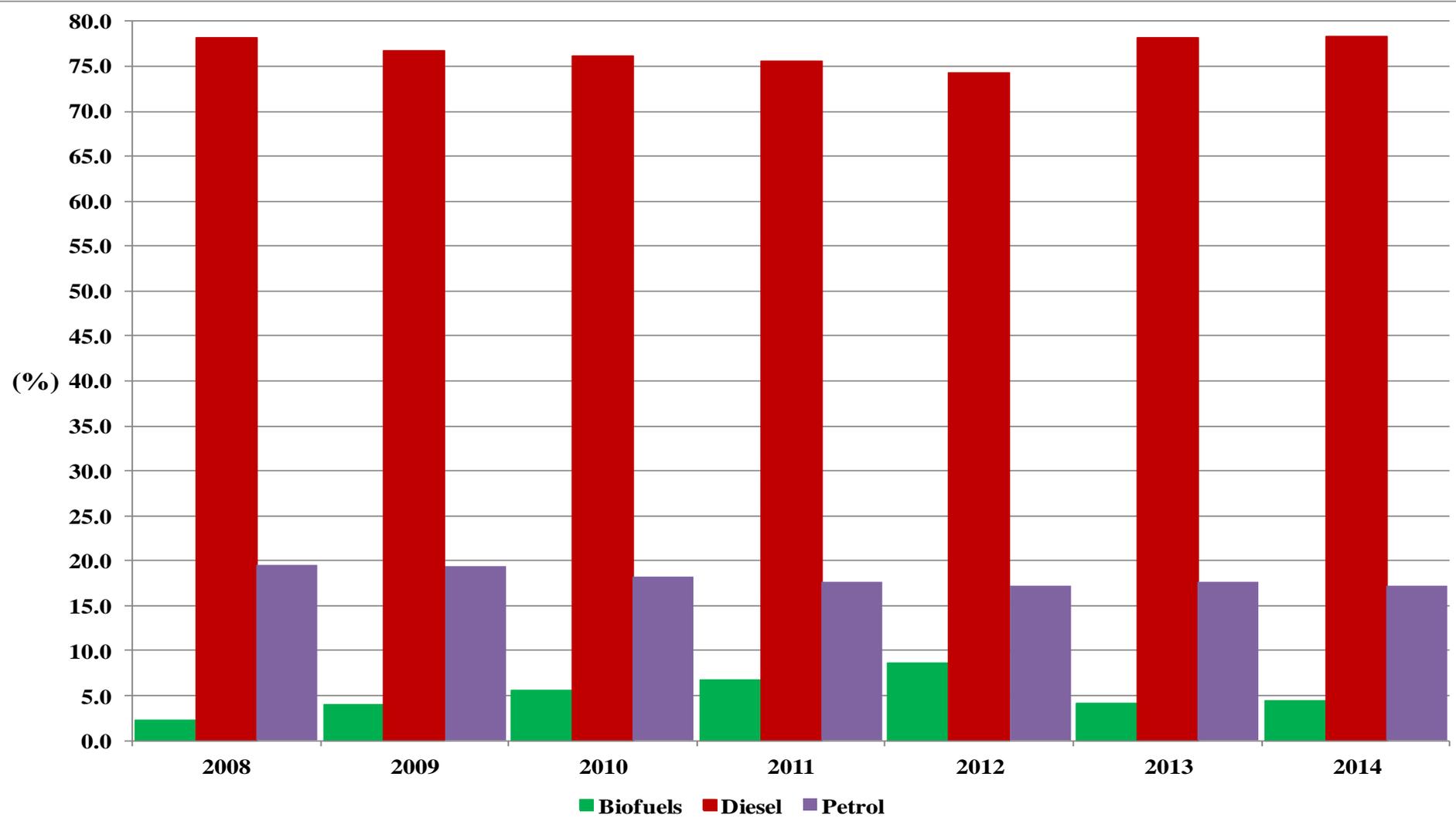


<http://www.ree.es/es/estadisticas-del-sistema-electrico-espanol/informe-anual/avance-del-informe-del-sistema-electrico-espanol-2016>

Other renewables: biogas, biomass, marine-hydro , geothermal



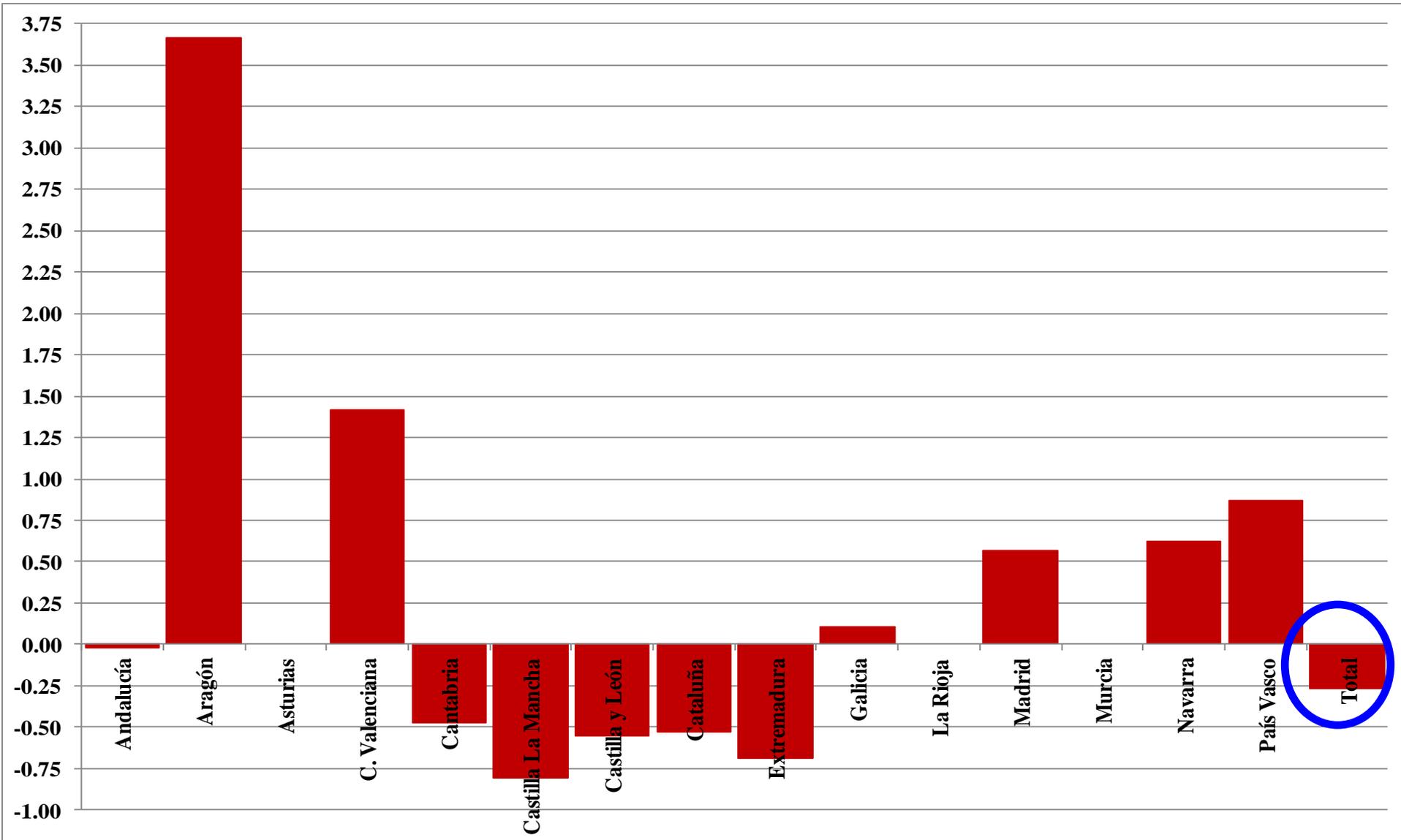
Transport fuel consumption in Spain – distribution according to types



Source: adapted from Espejo et al., 2016



Evolution Biofuels – CA Provision points (2007-2015)

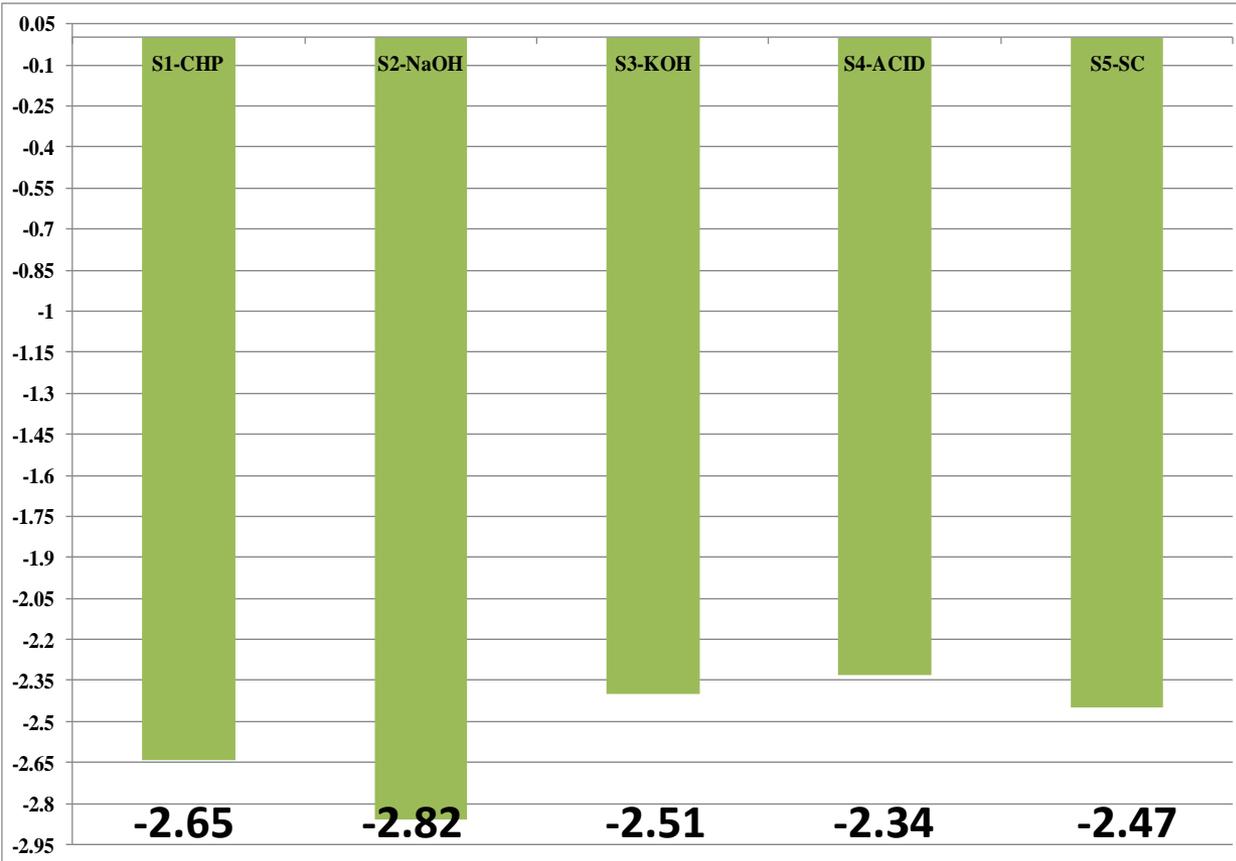


Source: adapted from Espejo et al., 2016



LCA (GWP of 1t UCO re-use, average GWP (Kgs-CO2e))

S1-CHP S2-NaOH S3-KOH S4-ACID S5-SC



Scenario Name	Description
S1-CHP	CHP production in a cogeneration plant
Methods of UCO trans-esterification to yield biofuel	
S2-NaOH	alkali-catalysed process employing sodium hydroxide
S3-KOH	alkali- catalysed process using Potassium hydroxide
S4-ACID	acid catalysed process
S5-SC	non-catalytic supercritical methanol



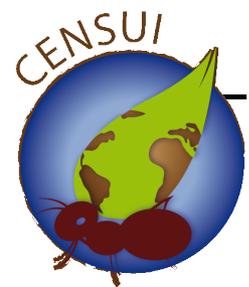
Conclusions – Bioenergy and OD

- Significant difference between the various OD platforms managed by local authorities (regional level)
- Significant differences in data quality and quantity associated with the Energy sector supplied by each CA (national and regional portals)
- Important differences in the temporality of the datasets available
- Many URIs associated with datasets at the National platform do not work or difficult to use
- Low contribution from energy sector including: research centres, NGOs, governmental bodies, businesses



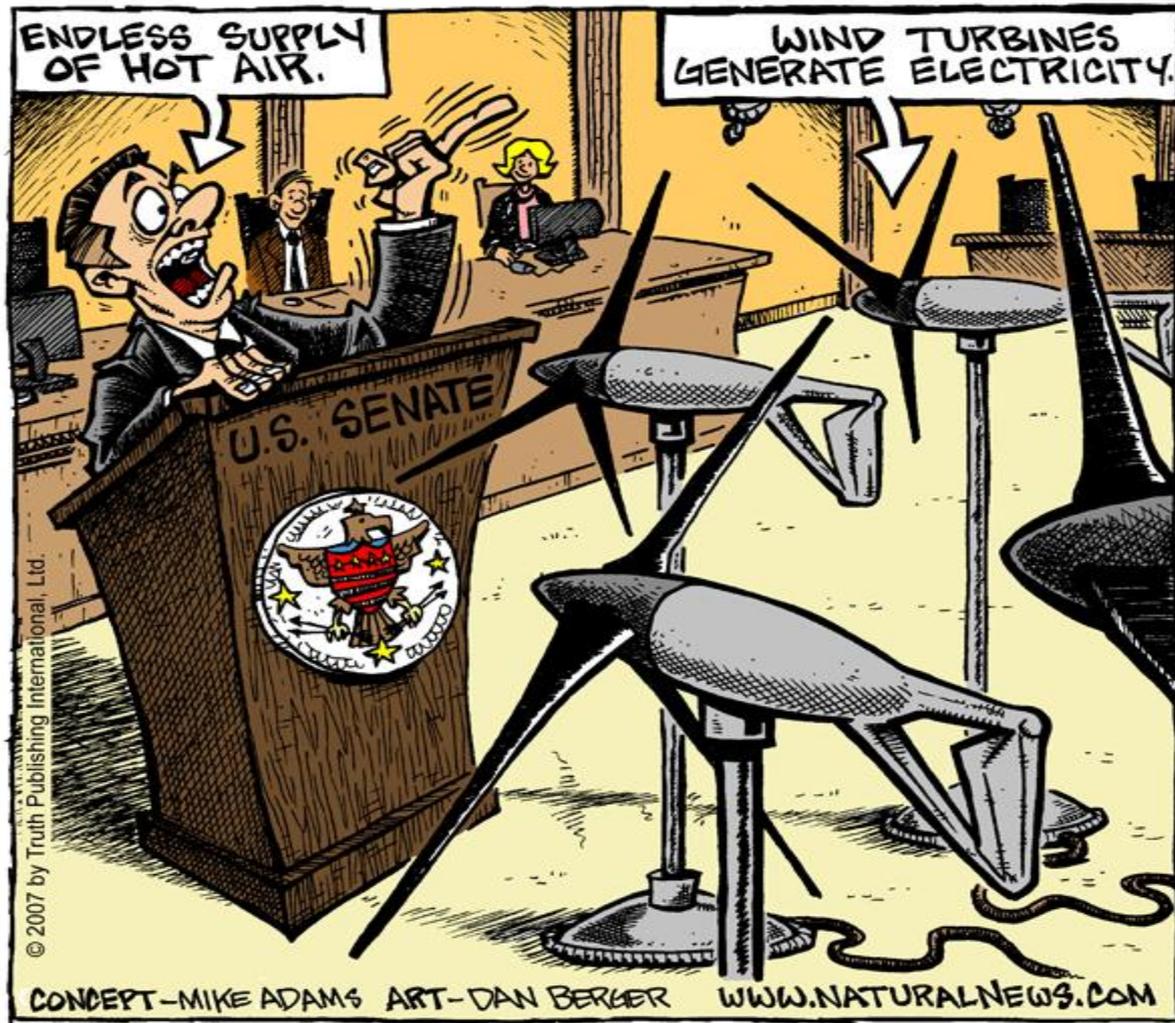
Conclusions – Bioenergy and CE

- Use of Bioenergy to support Electricity generation and for Transport has a lot of potential in Spain
- There is almost no data in the OD portal, the sector should work harder to resolve this gap (research centres, governmental bodies, industry)
- The sector can help the transition to a CE through different ways
 - Transform waste to Energy (e.g. potential of reusing cooking oil)
 - Provide more data to the OD portal and enable society to be more involved
 - Drive government to generate policies helping the community (e.g. provision of more supplier points, reduce the import of raw materials to produce biofuels)





COUNTERTHINK ENERGY CRISIS SOLVED!



THANK YOU FOR YOUR ATTENTION

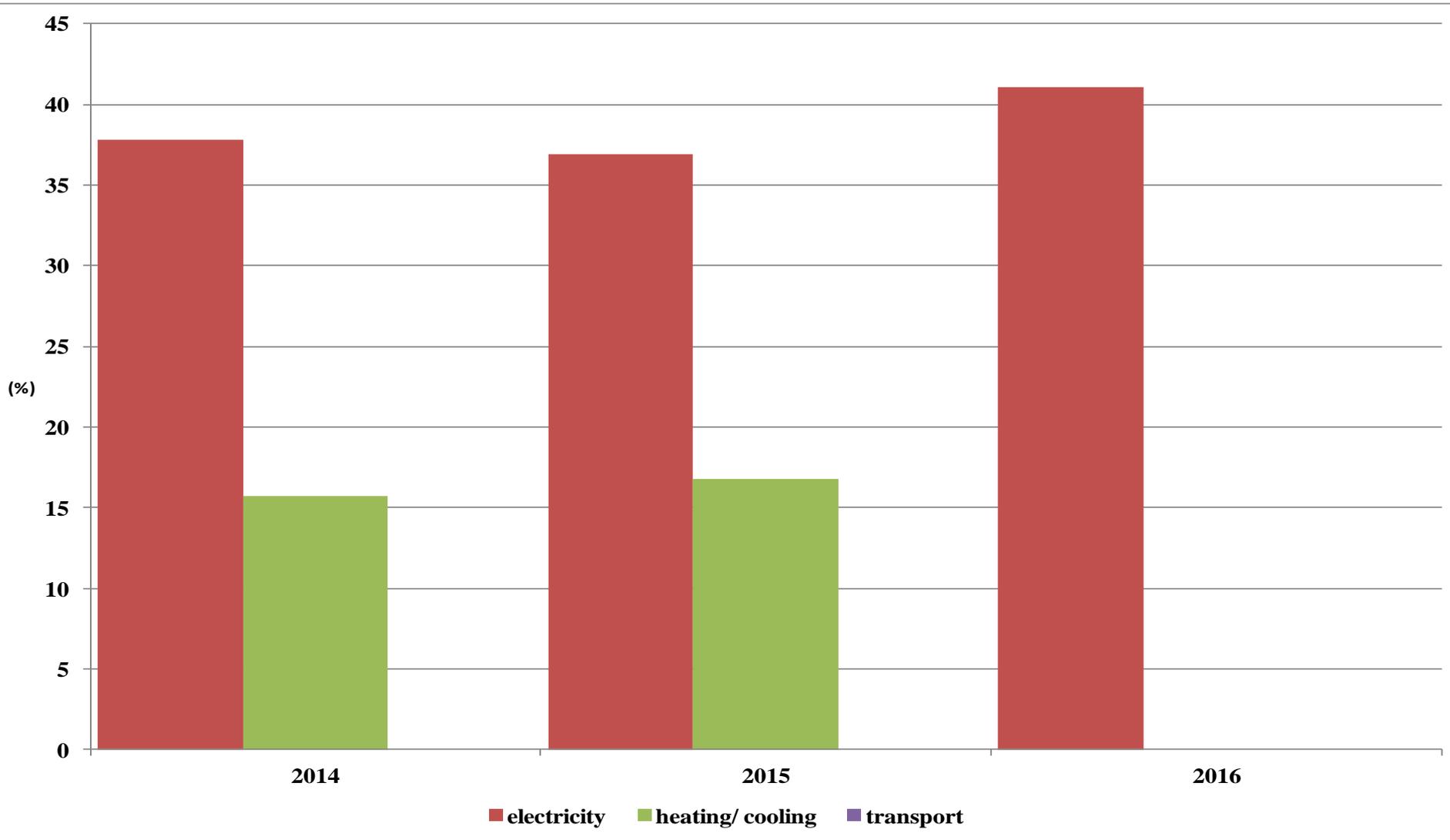




ADDITIONAL SLIDES



RE use distribution in Spain since 2014



Data source: <http://ec.europa.eu/eurostat>

