SOS16

SUSTAINABILITY REPORT IN SPAIN 2016

ASSESSMENT OF THE SUSTAINABLE DEVELOPMENT GOALS OF UN AGENDA 2030 IN SPAIN

1. INTRODUCING THE OBSERVATORY OF SUSTAINABILITY (OS)

Introducing the **Observatory of Sustainability (OS) (*Observatorio de la Sostenibilidad*/OS)**, an ambitious but achievable initiative to create a reference center for **Spain and Latin America** on environmental and socioeconomic sustainability. The goal of OS is to extract an independent, reliable and realistic X-ray of the situation in Spain and the South American Subcontinent, a predominantly Spanish-speaking area with which Spain maintains important relationships of economic and cultural cooperation. This initiative will rely on methodologies and indicators that evaluate the sustainability of progress of environmental, social and economic processes and reveal management mechanisms that guarantee this sustainability (situation, trends and scenarios).

OS is an **agency independent of government influence**, a pioneer in Spain that continues the work of a previous institution, closed in 2013, from which it inherits part of its staff. This staff will identify and evaluate the advancement towards sustainable development models within the aforementioned geographical area. OS also intends to become the center point of all minor and sector observatories that exist in Spain and Latin America. Via the best analysts and available science, OS will be able to to determine what is sustainable and what is not, so as to communicate it to public decision makers and become the main source of information sharing for the EU and UN.

OS promotes the participation of academic, university and scientific communities, and counts on the contribution of various economic and social agents. Furthermore, OS is a part of the Spanish network of observatories and intends to extend its collaboration internationally. A **Scientific Committee** (Uiversidad Politécnica de Madrid-UPM, Centro Superior de Investigaciones Científicas de España-CSIC, and specialists contrasted in different areas) assists the OS to guarantee the veracity, quality and independence of all the reports it collaborates. OS aims to offer periodic, qualified and independent information that can be compared in any environment at a global level. The reports aspire to become a fundamental reference and an essential element in the decision-making and public participation in the advancement towards sustainable development within the realm of different public policies. Reports from OS aim to place themselves at the level of other renowned annual publications such as those centered on the six keys of the WRI, or the World Watch Institute annual report, all of which describe the state of the world in terms of sustainability and its various aspects.

The OS aims to create a global sponsorship board composed of specialists related to urban development, hoping to expand its coordination activities to other geographical areas, especially Latin America. The network of exports within OS includes the Polytechnic University of Madrid (UPM), the Museo Nacional de Ciencias Naturales (MCLG / CSIC), the University of Washington, the Institute for Integrated Energy Studies and the University of California-Los Angeles .

The work of the OS covers the full range of activities necessary for the publication and dissemination of its reports:

1. Collection of information available in the Spanish, European, world documents and databases, and the information from the observatories and analysis centers in Latin America (currently underdeveloped and in need of growth and coordination).
2. Collaboration with leading experts on key issues, incorporation of their data and opinions in the reports and use of their knowledge in explaining different development models. Establishment of conclusions and management advice.
3. Data analysis and generation of higher-order information. Comparison and crossing of variables. Interpretation, historical comparison of the data and working out conclusions for optimizing policies as well as reinforcing their convergence.
4. Cartographic implementation through own means of data likely to be edited as maps. Optimal viewing of events, processes and actions that deserve spatial and intelligible dissemination.

Currently we are working on a definition of synthetic welfare rates similar to that of OECD, Better Life Index and UN indicators but adapted to the particular Spanish and Latin American situation. Moreover, we are taking the first steps to prepare a report on sustainability in Latin America. The structure of Latin American prospecting institutes is weak and fragmented. Coordinating all of them to issue reports is necessary. For this we have secured the interest of the Secretaría General Iberoamericana.

OS staff has prepared a Sustainability Report in Spain since 2005 converging thematic studies of different aspects of sustainability as air quality in cities, changes in land cover in Spain, urban sustainability, etc...

In December 2014 we released ***Sustainability Report in Spain 2014 (SOS14)***. We had access to the latest unpublished information in estimation of greenhouse emissions, market analysis of renewable energy, electricity mix and new land planning information, provided by specialists from CSIC and the National Geographic Institute (Instituto Geográfico Nacional-IGN). SOS14 edition was celebrated by many prospective and investigation agencies who also offered their cooperation and support. The current work of the OS is highlighting the genuine need to share information with citizens: service oriented, the OS is an informative and scientific assistance demanded by the public and trying to satisfy the right of truthful information based on the best available science.

In June 2016, the OS launched its annual ***Sustainability Report in Spain 2016 (SOS16)***. The analysis covers 55 indicators organized for the first time in around the 17 SDG from the 2030 Agenda for Sustainable Development. Several months before that report, the OS finished the first report on ***Climate Change in Spain: evidences, issues and policies (CC16)***, presented in February 2016, accomodating to the two major events of 2015 that will mark the future assessment methodology and commitment to worldwide conferences on Sustainable Development in New York (September 2015) and Climate Change in Paris (November-December 2015).

In August 2016, the OS published the monograph ***Report on land use changes on the coast in Spain (COSTA16)*** where the sustainability of coastal areas is analyzed via higher spatial entity.

OS reports are referenced in the analysis of sustainability in Spain and are based on quantitative indicators obtained using the best available science. The OS collaborates with AEMET (State Meteorological Agency), the Museo Nacional de Ciencias Naturales (MNCN / CSIC; National Museum of Nature Sciences / CSIC), the Barcelona Supercomputing Center (BSC), the Foundation for a New Water Culture, various thematic observatories and other think tanks in the country on sustainability issues and interpretation of data.

In addition to the preparation of reports and coordination described above, OS is involved in environmental projects of large-scale land planning co-financed by the European Commission (LIFE, INTERREG, Horizon 2020 ...) as well as private and public investors. Global Climate Change and its influence on the evolution of the development model need Nature-based solutions (green infrastructure) to reverse the effects of the climate crisis, to protect Biodiversity and to ensure the ecosystem goods and services on which the economy depends. This objective is in all major EU framework documents.

2. CONTENTS OF THE REPORT SOS16

Agenda 2030 will be for the next few years the organizational standard of sustainability reporting made by each country. But it will also be inspiring future assessment of the development model in autonomous regions, municipalities, industries and even corporations.

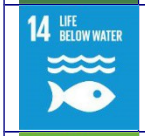
From the Observatory of Sustainability we try to figure out which way we are traveling using indicators: data and a conceptual scheme. In SOS16 we used a new standard report model based on the Sustainable Development Goals (SDG) of the United Nations Agenda 2030, presented in September 2015 in New York. The work has been hard: this time the report reachs 55 environmental, economic, social and synthetic indicators trying to capture the reality of 17 objectives and 169 goals. SOS16 made a radiograph of the sustainability of our country, a real analysis of the "state of the nation", an assessment of the conditions on which part Spain in 2016 view to achieving a sustainable future, commitment that, along with 192 more countries, Spain ratified in the month of April this year. This report responds to two obsessions: the first, rely on the best available information produced by the best specialists in each field; and second, try to reach the maximum of citizens and policy makers. That is, to know what happens and then tell people, so there is no posibility for excuses among decision makers.

SOS16 has been published by the OS a month (June 15, 2016, in Madrid) before another revealing UN report: INDEX SDG & DASHBOARDS: A GLOBAL REPORT (filed on July 19 in New York). Despite the different approach of each report (one takes a snapshot of the sustainability of Spain and the other compares the situation regarding SDG in 145 countries and draws up a ranking), between both great matches are seen in the diagnosis concluding that the current state of sustainability in our country is poor: of the 17 DGD in SOS16 it is considered

that serious violations occur in 11 of them; into INDEX SDG & DASHBOARDS this number is reduced to 9. SOS16 is based on time series, it takes a more detailed zoom scale autonomous communities (Spanish regions) and utilizes specific research for different variables. In addition, SOS16 uses more recent and varied than those of the UN report, which handles especially homogeneous data sources that allow comparison between a large number of nations. However, the results of both evaluations seem remarkably.

Comparison of the 17 Sustainable Development Goals between the UN report and the report of the Observatory of Sustainability. July 2016.

	ASSESSMENT OF COMPLIANCE WITH THE SUSTAINABLE DEVELOPMENT GOALS	(UN)SDG INDEX & DASHBOARDS	SOS16 (OS)
	**Goal 1. End poverty in all its forms everywhere**		
	**Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture**		
	**Goal 3. Ensure healthy lives and promote well-being for all at all ages**		
	**Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all**		
	**Goal 5. Achieve gender equality and empower all women and girls**		
	**Goal 6. Ensure availability and sustainable management of water and sanitation for all**		
	**Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all**		
	**Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all**		
	**Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation**		

	**Goal 10. Reduce inequality within and among countries**		
	**Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable**		
	**Goal 12. Ensure sustainable consumption and production patterns**		
	**Goal 13. Take urgent action to combat climate change and its impacts**		
	**Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development**		
	**Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss**		
	**Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels**		
	**Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development**		

The different objectives are determined by several indicators that detail and justify the value of the indicator. There is not yet a final battery of official and definitive indicators to measure compliance with the SDG. The United Nations Statistical Committee is responsible for this final battery.

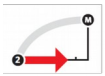
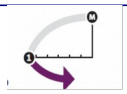
The differences between the two valuations refer to poverty (SDG 1), where the OS considers that there are very worrisome levels in income for a large part of the population and child poverty. On the issue of water (SDG 6) the OS is particularly concerned about the lack of debugging, the general state of inland water bodies, especially in the Mediterranean region, the effects of climate change and water stress by excessive use by agriculture. The OS has measured inequality (SDG 10) through two different indices, Gini and Palma (UN uses only Gini Index), related to income and consumption and considers that their growth must be valued severely as it affects the whole society and it relates to a large number of socioeconomic variables. Regarding the resilience of cities (SDG 11) the OS believes they have not yet produced the necessary actions for adaptation to climate change, transport is still based on fossil fuels, universal access to housing is still not guaranteed and there is enough public housing stock. Regarding production and consumption (SDG 12) the OS considers that progress has been made in recycling and that the systems operate even though they have

a long way to develop. But it is true that air quality remains a serious problem. Regarding the oceans (SDG 14) the OS considers that considerable efforts have been made in declaration of protected areas and the extractive fleet has changed dramatically in recent years; OS misses complete and reliable information on levels of marine pollution.

3. EVALUATION OF INDICATORS

25 of the 55 indicators can be considered socioeconomic; 26, related to environmental sustainability and productive sectors; 4 are synthetic and evaluating the progress of society. Of the 55 indicators analyzed only two obtained positive assessment: it is the energy efficiency indicators and early school leavers. In 10 of them glimmers of improvement and good future prospects are observed; 13 hold negative trends and fault conditions; 30 of them illustrate frankly deficient situations.

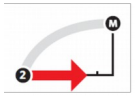
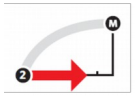
SOS 16 establishes a classification of 5 degrees that illustrate the situation and trend of each indicator and are briefly defined in the following table:

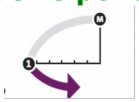
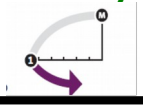
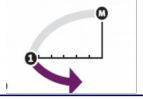
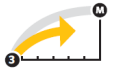
SYMBOL	MEANING OF EVALUATION
	**On the way to surpass the goal**
	**On the way to reach the goal if the current trajectory is maintained**
	**Progress has been made toward the goal of an insufficient pace (unless intensify our efforts the goal will not be reached)**
	**No significant overall progress, there is not a definite trend**
	**There is a move away from the target (the situation is getting worse rather than better)**

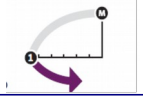
The indicators are grouped around DGS to which they relate. The next table shows the highlights of each indicator, determining the valuation given.

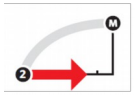
The poor results achieved by Spain show that the policies implemented during the last decades in our country have placed us in clear breach places that surely will affect people and ecosystems in the future. The lack of serious attention to climate change policies put Spain as the worst country in the EU in this regard (except Malta and Cyprus); we are also in a bad situation in sewage treatment (Spain currently has four open court cases on the Court of Justice of the EU, the latter launched in 2015) and forest fires, inequality, we have high levels of perceived corruption (Transparency International), and serious gaps in policy

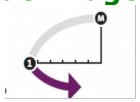
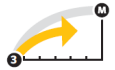
innovation and public and private investment in research and development that bind to the problems in education, housing, health, etc., which show together a bleak scenario. These crucial data, linked to others such as the average increase in temperature in Spain in 2015 was 0,94ºC, detected by the AEMET, or that 2016 June has been the warmest month it is reported worldwide, force that new decision-makers must begin to take these issues seriously. Ignorance is not yet excuse.

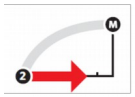
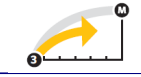
	REPORT OF SUSTAINABILITY IN SPAIN 2016 (SOS16) **EVALUATION OF THE UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS (SDG)** **OBSERVATORY OF SUSTAINABILITY**	
INDICATOR ASSESSMENT (1-5)	**FACTS**	**SDG**
Disposable income 	**Close to three million people have moved from the middle to the lowest bracket in terms of distribution of income. The average net disposable income has dropped from 17,042 euros to 15,408 euros between 2009 and 2015 (a reduction of 10.6%). The per capita GDP in 2015 is still lower than in the early months of 2007.**	
Net disposable income 	**Average household spending between 2008 and 2014 has dropped by more than 4,600 euros, a total change of 14.7%. If we ignore the rise in prices since 2008, the real purchasing power of income per capita in 2015 would be about 17,533 euros, about two thousand euros under the power of income per capita during that year (2008).**	

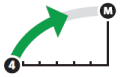
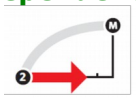
Variation of relative poverty 	**The European index measuring those at risk of poverty and exclusion, abbreviated AROPE, reported a level of 29.2% of the entire population. Since 2009, the indicator has risen 4.5 percentage points, making it the highest mark since the measure was first calculated. The risk of poverty in Spain has risen from 20.4% in 2009 to 22.1% in 2015. In 2014, 790,801 people fell below the poverty line. The percentage of the working poor has increased from 11.7% in 2013 to 14.2% in 2014.**	
Children in Poverty 	**In 2014, 2,982,272 children living in Spain were in risk of poverty or social exclusion. 2,540,763 children lived in homes whose incomes were below the poverty line. 1,397,868 children lived in extreme poverty. 791,385 children suffered material deprivation.**	
Hunger and Malnutrition 	**A lack of food may affect more than 1.9 million people in Spain. The demand for food has continued to rise in 2012, without an end in sight. 17.2% of all food aid of the EU goes to Spain. The Quality of Life Study found that 3.4% of homes can only eat beef, chicken, or fish once every two days.**	
Productive biodiversity and sustainable agriculture 	**Contamination by fertilizers and pesticides are one of the biggest problems facing Spanish agriculture, even as there has been a clear decline in this problem throughout the rest of the EU. In 2009/10, Spain used a total 3,768 thousands of tons of fertilizers (nitrogenous, phosphatic, potassic and complex), a number which by 2014 had risen to 4,868 thousand tons.**	
Integrated agriculture and ecology 	**Since 2014, Spain has ranked first in devotion to organic farming, and has been the EU's leading exporter of organic products. Spain has roughly one million hectares dedicated to integrated farming. The inscribed surface in organic farming (2014) was 1,663,189 hectares, compared to 1,593,197 in 2012. However, the percentage of organic farming throughout the SAU remains very low.**	

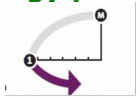
State investment in health and welfare 	**In 2014 the budget of the Ministry of Health, Social Services and Equality was reduced by 35.6%. In 2015 its budget grew only 0.7% and 3.6% in 2016.**	
Public expenditure on pharmaceuticals and medical copayment 	**14.76% of the population, due to their low income and high copayment, cannot afford the purchase of medicine. This has percentage has risen from 5.4% in 2007 to averaging around 15% of the population since 2013. In result, there has been a simultaneous decrease in state expenditure on pharmaceuticals. There has been a slight upturn since 2013 in per capita spending and a decrease in the percentage of GDP, which is digressive: 1.31% in 2013 and 1.30% in 2015.**	
Human resources for health care and mortality rate 	**According to the OECD (Health DATA) Spain will remain among the countries that spend the least on health care, relative to the GDP of industrialized countries in the world, through the year 2030. We continued in 2014 with a higher ratio (370 doctors / 100,000 citizens) than the EU average (332 doctors / 100,000 inhabitants). Between 2014 and 2015 Spain has improved slightly in the ratio of patients per primary care physicians in all Autonomous Communities (Acs). However, it would take roughly 142,000 more nurses in the healthcare system to reach the European average (811 nurses / 100,000 citizens in 2014). The development of nurses has decreased in 2014 and 2015. Currently, the ratio of Spanish nurses is only 508 / 100,000 inhabitants.**	

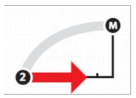
Public expenditure on education (% of GDP, government investment per student) 	**Public spending on education (as% of GDP) was 4.23% in 2015, similar to 2014 (4.25%), according to the MECD. Yet the expenditure is even lower than in 2005. The negative trend was consolidated in 2012, the year of large budget cuts. 2009 was the year of greatest allocation in education, reaching 4.99%. Spain's allocates less to education than the average of both the EU28 (5.25% in 2011) and also OECD (4.6 in 2011). Despite Spain's 2015 Budget increasing spending to that of 9.28%, it is still insufficient. Comparing the education budget of 2016 and 2011, there has been a cut of 12.64% in money allocated. The ratio of state investment per student began to fall below the European average starting in 2010.**
Ratio of number of students per teacher 	**State spending for teachers has improved in 2015. The 2012-13 year was the worst year for teachers, especially for those teaching in public schools. According to the MECD, teachers saw their presence diminish in classrooms by 21,899 educators. This reduction came from the forceful entrance of the Royal Decree 14/2012 and 20/2012.**
PISA report on education 	**The competency of Spanish students in math and reading is below the average of the OECD countries and the EU. According to the OECD's PISA report in 2015, one in four Spanish students have not achieved basic mathematical competence; only 8% of Spanish students attain high levels of mathematical achievement, 5 points below the OECD average; 6% of Spanish students reach levels of excellence in reading comprehension, below the OECD average (9%); the proportion of excellent students in science remains unchanged since 2006 (5%), which is below the OECD average of 8%. 32.9% of Spanish students have repeated at least one grade (the OECD average is 12.4%).**
Early dropout rate 	**In 2015, the rate of early school dropouts had fallen to 20.0%. In 2014 it was 21.9%. Until 2009, the rate remained above 30%. Throughout the last ten years, the Spanish rate has consistently been more than twice that of the average European rate. Spain maintains this disproportion in 2015. The fall in unemployment in the years of economic boom decisively influenced the rate increase, contrary to what happened in most EU countries.**

Gender wage gap 	**The wage gap between men and women in Spain is 19.3% (EUROSTAT, 2013). This figure is almost three points higher than the European average (16.4%), which translates to women working 58 'free' days per year in comparison to their male peers. Spain, along with only 9 other countries, is above the EU average. Men who work spend on average 9 hours of unpaid time per week performing domestic activities or care (dependent), while women workers perform almost 26 hours a week on the same tasks, about four hours per day.**	
Gender-based violence 	**In 2015 there have been 57 femicides (2012: 52 deaths; 2013 and 2014: 54 deaths). Three murders have yet to be clarified, so the figure could rise. 821 women have been killed by gender-based violence in Spain since 2003; equating to more than five femicides per month for 13 years. Furthermore, since 2013 the dead children of battered women are counted at the hands of the perpetrator: 13 children in just under three years: 834 fatalities in just over a decade. 2016 is expected to employ 25.22 million euros; a figure still below 32 million was allocated to gender-based violence in 2010 or 30 million attendants in 2011.**	
Water consumption 	**Between 2010 and 2013, according to INE data that studies the water supplied by companies upstream (domestic, municipal and connected industries), the total volume of water consumption has decreased by 5.7%, reaching 4,324 Hm3 in 2013. In 2013, the volume of water registered and distributed to households was 2,218 Hm3, which represented 69.1% of total water consumption. Economic sectors consumed 695 Hm3 (21.6%), while municipal consumption (garden irrigation, street cleaning and other uses) amounted to 298 Hm3 (9.3%). Water consumption of households decreased by 3.9% over the previous year (2012). The use of water for economic sectors 2.3% and 6.3% municipal uses also reduced. The average household consumption has clearly declined since 2010 from 144 l/person/day to 130 l/person/day (almost 10%). While these reductions in water consumption do not refer to trends observed in the reduction of the overall consumption of water, it is because agricultural water use do not appear in the INE.**	

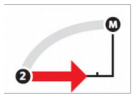
Cost of water and management strategies 	**The percentage of management through private and joint ventures reached 57% in 2015. In 2012 this percentage did not exceed 50%. In September 2015 the European Parliament issued a resolution explicitly supporting the European Citizens' Initiative to defend the right to water (EPSU-led Right2Water ECI), backed by nearly two million signatures. The unit cost of water has risen between 2010 and 2013 in a 21.2%. This rise has been most prominent in the intended sanitation cost (increased by 42.4%) than the intended supply cost (which increased by 18.5%).**
Sewage treatment 	**In 2015, the EU demanded that Spain come before the Court of Justice of the European Union due to its failure, once again, of the directives on urban water waste. Spain is currently involved in four cases concerning the lack of sewage treatment, affecting some 800 villages spread across the country. Spain refines only 84% of urban wastewater, which does not comply with the requisition of the Directive.**
Effluent reuse debugging 	**In 2015, Spain was the number one country in the European Union in sewage effluent reuse. The volume of reclaimed water was in 2015, 400 cubic hectometres, which is far from the 1,200 projected by the government for 2015. The 54% of reclaimed water stops agriculture in Murcia and Valencia.**
State of the sustainability of watersheds 	**In almost every category analyzed by the Water Exploitation Index (WEI), Spain ranks higher than the 40% threshold considered by the European Environment Agency as "severe stress". This pressure is mainly due to agricultural activities, as demarcations agriculture is responsible for 70% or more of total claims. In six of the ten districts analyzed, the proportion of bodies of water ranked as "Good" does even measure as half, although in 2015 all masses should have reached the "Good" or "Potentially Good." A significant part of the budget of the Programs of Measures of the Water Plans are dedicated to meeting the demands, although the basic objective of the Water Framework Directive is to achieve and maintain good conditions.**

Primary energy 	**The fall of primary energy consumption from 2007 to 2014 was 16.7%. Between 2013 and 2014 the demand fell 1.7%. The total electrical contribution to final energy demand has reached 23.4%. This percentage has grown since 1990 at a rate of 1.4% per year, confirming the robust electrification of the Spanish economy and hence the importance of continuing progress in renewable electricity generation.**	
Coal use 	**Coal use grew in 2015 by more than 23% compared to 2014. 20.3% of the electricity consumed in the peninsula last year was generated in thermal power plants using this fuel. Coal was the second most used source in 2015, only behind nuclear energy (21.9%). Thermal coal in 2014 contributed 16.8% of electricity (compared to 15% in 2013). Thermal coal in 2014 contributed 16.8% of electricity (compared to 15% in 2013). In April 2015 CO2 emissions electrical system grew 55% over the same month last year mainly due to the rise of burning coal.**	
Energy intensity 	**Energy intensity in 2014 compared to 2013 represents an improvement in final energy of 4.0% and 3.1% in primary energy, given some change in the composition of the energy mix. Thus, the variation of intensity has increased from 160.9 tepEP / M € and 114.8 tepEF / M € in primary energy (EP) and end (EF) respectively in 2000 to 126.7 tepEP / M € and 89.4 tepEF / M € in 2014 (with reference to € 2005); improvement in the period has been at rates of 1.7% IP; IF while it was 1.8.**	
Energy dependence 	**In 2013 for the first time Spain reached a record low with 70.3% of energy dependence, near the psychological threshold (1/3 of domestic production; dependence 66.6%), resulting in a rebound to 73.2% in 2014, with a drop of 2.3%. This fact is even more unfortunate to put ourselves in a scenario in 2014 where there was a decline in primary energy demand of 1.8%, a decline in gross electricity 2.5%, and GDP growth of 1.4%.**	

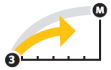
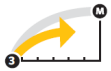
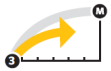
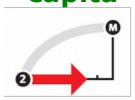
Renewable energy 	**Wind power in 2014 ranked second in the energy mix, but in 2015 has dropped by 5.7% compared to 2014. The photovoltaic solar represented 3.1% of the energy mix. In 2015 only 2 new MW installed wind and only 25 MW in 2014. And, mainly due to weather, production of hydraulic energy dropped more than 28% compared to 2014. Spain fell 12 places in the ranking of quality climate policy climate Change Performance Index 2016 and ranks among the countries of "poor" results (since 41 of 58, just over Austria and Estonia in the group of the EU). Spain represents one of only 4 of the 58 countries with declining trends in renewable energy, classified in the group of "very poor" results.**	
Energy poverty 	**Energy poverty in Spain has increased by 22% between 2012 and 2014 (latest available data) being located above the EU27 average and the values of 2007. The rise in energy poverty rates according to different methodologies occur parallel to the increase in unit costs of natural gas and electricity for domestic consumers, in which Spain ranks second and fourth country with highest prices.**	
Unemployment rate 	**The number of precarious contracts in 2015 reached a record high although unemployment has fallen from 26.94% in 2013 to 20.90% in the fourth quarter of 2015. The total number of unemployed has fallen by 678,200 people per year, down from 436,100 in men and 242,100 among women. However, insecurity grows: The average duration of contracts and short workweeks (seven days or less) has decreased and now account for 25% of the total. In 2015 the record was broken in the number of temporary contracts, with 17.07 million. However, contract rate is still lower (around 26%) which was in 2007 (31.5%). However the average length of contract is lower now than eight years ago.**	

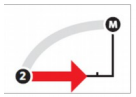
Long-term unemployment rate 	**In 2016 only Greece has worse data in this category than Spain. 14% of our workforce has been unemployed for more than a year, of which 70% have been seeking employment for at least two years. There are more than 3.1 million long-term unemployed in Spain today and when considering those who have taken more than two years unemployed, the number rises to 2.3 million. Almost 2.5 million people have been unemployed for more than one year and receive no benefit; 1.8 million people have been unemployed for more than two years and receive no benefit.**	
Youth unemployment rate 	**Spain's youth unemployment rate is more than double the average European youth unemployment rate and more than five times its value against the countries located in the best positions of the ranking throughout the EU. The highest rates of youth unemployment were: Greece (49.5% in September 2015), Spain (47.5%), Croatia (45.1% in September) and Italy (38.1%). Meanwhile, countries with lower youth unemployment rates were: Germany (7%), Denmark (9.9%) and Austria (10.9%). The Labour Force Survey shows that in Spain the total of 1,549,300 "Ninis" (those who do not work or study) between 16 and 29 years in the third quarter of 2015, two out of three were unemployed (994,800), while the rest were inactive (554,600). The number of "Ninis" increases with age, so that almost half of them (705,200) were between 25 and 29 years. In the first half of 2015 only 20.8% of those under age 30 are emancipated, and of them only 15.7% have enough to live on their own resources.**	

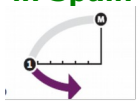
Public and private expenditure on R+D+i (% of GDP) 	**Spain held a percentage of investment in R+D+i of 1.24% in 2015 (ALTRAN Index), far from the goal of the European Strategy 2020 set at 3% of GDP. Resources for science have fallen in Spain by 34.69% between 2009 and 2013 according to the OECD, which places Spain as the European country that has slashed budgets most for scientific research, under Greece, Portugal, Italy and Ireland and 33 percentage points below the EU average, which has increased funding games by an average of 0.16%. If between 2009 and 2016 Spain had maintained funding levels of 2009 in science research, Spanish science would have received 20,000 million euros in the period. The budget for 2016 has increased by 0.36% over 2015 on a global basis, but still represents 66% of the resources allocated in 2009 (historical ceiling) and 75% of the investment in 2011, which makes it impossible to comply with the European average. It would require an annual growth maintained endowment of 4.22% over the next 10 years (until 2026) just to reach 2009 levels.**	
Gini and Palma income inequality 	**In 2014, the OXFAM Intermón Palma index gave Spain 1.36. With a Gini index of 34.7% in 2014 Spain was one of the most unequal countries in the EU. FOESSA points to equally high Gini values for 2014: 33.99% in 2014 with a rise of 5.6% between 2009 (32.19) and 2014. The 80-20 ratio of inequality has also grown in those years by 15.9% (2009: 5.47, 2014: 6.34). The Tax Agency diffuses in the spring of 2015 that household income fell by 8.8% during the crisis and has fallen by 5.5% since 2011. In 2014, the income of households rose slightly, by 0.2%, insufficient to offset declines in previous years. The differences have increased and average incomes have declined, which has produced a collapse of the lowest incomes. About 10,000 million euros would be the amount needed to ensure adequate protection of those most vulnerable social groups.**	

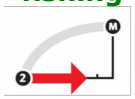
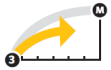
Gini and Palma consumption inequality 	**The rebound in consumption during 2014 is due to increased spending by the middle class and wealthier households. The ratio of Palma fell until 2012 and then increased. In 2014 the Palma ratio was 0.9. With the Palma ratio adjusted for the period 2007-2014 of 0.97, it represents an increase in inequality in consumption of 7.8%. The Gini index behaves in parallel to that of Palma in the same period. In 2013 a change of trend was accentuated in 2014: the increase in household spending middle-class and wealthier while made by disadvantaged continues to decline, which has resulted in a spike of inequality.**	
Land use 	**Between 1987-2011, use of artificial surfaces has increased to almost double the amount used up until 1987. In the last period from 2005 to 2011 there was an increase of 40 thousand hectares per year of artificial surface coinciding with the peak of the housing bubble of 2008. An increase in forest areas and a decrease in agricultural by almost 200 thousand hectares per year during the same period is also observed.**	
Coastal land use 	**Between 1987 and 2011 there were more than two hectares urbanized every day in the first 500 meters of coastline. Occupational changes on the coast are data of high importance that indicates the magnitude of the transformation of one of the most valuable and threatened while territories. The coastline is a scarce resource of strategic importance under multiple pressures. The 8,000 kilometers of coastline permit a small strip of the order of 4.25% of the land area (up to the first 5 km) and accounts for 44% of the population. In the period 1987-2011 the coast has undergone an accelerated and intense process of urbanization in the first kilometers of coastline. This is an average of more than two hectares urbanized each day, in the first 500 meters of coastline, from 58,000 hectares nearly 76,000 in just 22 years.**	

Housing access 	**According to the 2011 Census the relative amount of the vacant homes in Spain was 13.7%, much higher wing of the neighboring countries. In Spain they have been built 1.56 million homes between 2008 and 2015, equivalent to 6.4% of the total housing stock. 389,000 new homes were empty in 2015, 24.9% of completed since 2008. According to the Bank of Spain in 2007 the figure was 300,000, an amount that increased to about 700,000 by 2010. In 2015 there were still. 86% of new empty homes are in the hands of Banking and SAREB. The average number of years needed to cover the purchase of a home in Spain salary has dropped to 7.4 years in 2015 compared to 7.6 years in 2014 to 13.7 years and the highest peak of the bubble. Although the national average is lower than in other years, it is a figure that is still far from the 4 years of salary that would define a reasonable ratio. Our rate of subsidized housing is only 1.1% compared to 32% in the Netherlands, 23% in Austria, 18% of UK and 17% in France. The stock of affordable housing rent in Spain does not exceed 2% of the main housing, percentage falls far below the 9% EU average.**	
Transportation 	**Transportation is a sector that contributes about 6% of GDP (one point higher than the EU average), provides direct and indirect employment to 4.5% of the labor force and the average investment annual in transport infrastructure represents more than 1% of Spanish GDP. 40% of energy consumption in Spain comes from transportation, and they produce 35% of total CO2 emissions. In freight transportation, the roads have the highest demand (90%). This is followed by rail (5%) and air (4%). In freight transport the road is the main protagonist. Air transport and rail lost share, while the road has remained stable over the years. The energy intensity of road transport exceeds that of other modes, including air transport. The whole sector closed 2015 with a movement of 209,387 million tons / km, representing an increase compared to 2014 of 6.96%. Domestic traffic growth in tons/kilometer was 7.08%, while international traffic grew 6.74%, with growth in imports of 5.95% and exports by 6.2%. Cars are responsible for 11% of total emissions of CO2 equivalent in our country.**	

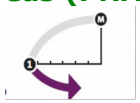
Reuse and recycle in packaging waste 	**Since 1998 the recycling rate of packaging waste has risen from 4.8% to 73.3%. This percentage must be improved to achieve 100%. There are still areas of great waste, as there are hazardous waste containers that are not treated properly. No special geographical differences are recognized as autonomous communities. The packaging collection system provides coverage to 99% of the population. In 2015 this was collected in separate collection systems, totaling 1,300,339 tons of packaging waste. By type of material, the total distribution is 445,051 tons of plastic (34.23%), 267,896 tons of metals (20.60%), 580,585 tons of paper and paperboard (44.65%) and 6,807 ton of wood (0.52%).**	
Resuse and recycle of glass packaging weight 	**In 2015 725 thousand tons were collected. Glass recycling in 2014 has managed to avoid the extraction of 833,000 tons of raw materials, saving 1,875,000 MW / h of energy and preventing the emission of 1,875,000 tons of CO2 as Ecoglass.**	
Reuse and recycle of paper and cardboard 	**In 2015 the collection rate was 70% (calculation for all channels), in line with the European average. Paper and cardboard were collected, processed and reinserted in the more than 4,584 M MT of waste paper and cardboard, 3.3% more than in the system by 2014. The commercial channels (66.4%; 3.04 M Tm) and industrial (21.2%; 972 KTM) increased by 4% volume collection as a direct result of increased sales of retail and wholesale trade (4.4%) and industrial production (3.2%) . The municipal channel, Ktm 568 (12.4%) also experienced a slight increase: citizens deposited in 2015 on average in the blue container 12.2 kilos of paper and cardboard.**	
Food waste per capita 	**Spain is in 7th place in the EU for total food waste. Of the total food discarded in Spain the percentage of that wasted without any consuming in households accounts for 42%. Waste in stores and markets reaches only 5%. The disposal of households followed in importance food factories (39%) and restaurants (14%). According to MAGRAMA, in 2015, Spanish households will dispose of 25,500 tons of food each week, totaling an annual total of 1,329,500 tons.**	

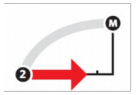
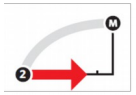
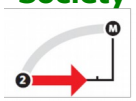
Atmospheric pollution 	**Approximately 25% of the Spanish population was subject to an Air Quality Index (ICA) rating of poor, bad or very bad in 2015 (341 days with data). The average number of people exposed to unfavorable ICA throughout every day of the year totaled 10,138,304. Every day during 2015, the ICA was insufficient for an average of 8,650,411 people. There were 165 days (48%) in which air quality was "bad" and affected 2,498,716 people. There were 51 days (15%) in the ICA was very bad for an average of 2,028,030 people daily. The total amount of days of occurrence of these ICA reached 13,577,157 inhabitants, 29% of the Spanish population. In 2014 the average daily number of people affected by unfavorable ICA was higher: 14,761,678; however, the number of days of occurrence of episodes with insufficient air quality remained below that of 2015: 317 days of occurrence and a daily average of 9,282,438 people exposed to poor ICA, 110 days of occurrence and 2,907,969 people ICA bad and 42 days of occurrence and 2,571,271 for very bad ICA. However, in both cases the percentages present inadmissible and dangerous realities.**	
Carbon market and emissions 	**Spain has continued to increase emissions of greenhouse gases during 2015, continuing the trend begun in 2013, while all neighboring countries have experienced strong reductions in their emissions. The evolution of emissions in Spain showed an increase of emissions until 2008 and then a decrease until 2013. However, after 2013, emissions have been rising yearly once again. Estimates indicate an increase of 4% in 2015 compared to 2014. The use of imported coal in power generation has undoubtedly contributed to this increase. The increase in the use of coal use, which has grown almost 20%, increased consumption of petroleum products (around 2%) and the stagnation of consumption of natural gas are facts that contribute to this discrepancy. 2015 emissions would equal at least 338 million tons of CO2 equivalent.**	

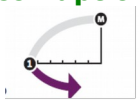
National and regional policies of Climate Change mitigation and adaptation 	**The Principality of Asturias stands out above the others in both aspects, which gives an idea of the high concentration of GHG emitting facilities in the community. However, the valuation of its political activity in terms of adaptation to climate change is very poor. On the opposite end, communities such as Catalonia, the Balearic Islands, Valencia and Extremadura, boast low ratios (low concentration of issuers) and very active policies. The case of Murcia, with ratios low and a (underactive) poorly designed policy, demonstrates the lack of foresight of a Mediterranean community in one of the places on the planet where climate change is expected to be more severe (contrary to what happens in the other Mediterranean regions). 4 autonomous regions have established policies to adapt to climate change and be comparatively active in the protection of biodiversity; 5 regions have policies with medium activity; and 8 communities devote minimal effort to understand and address climate change.**
Severity and type of Climate Change in Spain 	**The Mediterranean basin is one of the most popular locations to carry out studies and discover evidence in regards to climate change. Climate Change in Spain is severe. The average value of the maximum temperature is predicted to continue increasing throughout this period, rising 3-5 ° C by the end of the 21st century. So far the greatest increase in maximum temperature corresponds to the summer months up to 5-7ºC, and is less intense in the Cantabrian area than in the rest of the Peninsula. In winter the average expected value shows an increase with values around 3 ° C. In general, decreased precipitation rate has been observed throughout the peninsular area. In the northern half of the peninsula decreased rate of precipitation is between 0-10%, while in the remaining area the decrease varies between 10-20%. In Extremadura, Andalusia and Valencia, the decline has been between 20-30%. The number of rain days in similar magnitude decreases in all regions reaching the end of the century next 10-15 days values, with greater uncertainty in the northern and peninsular center. The duration of dry periods tend to be longer with increasing extent of projection values between 5-10 days.**

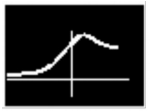
Sustainability of fishing 	**Most extraction capacity regarding the reproductive capacity of the species, can convert a renewable biological resource to a dynamic of fossil resource. Among the Spanish fisheries, those in the North Atlantic Canary waters appear closer in proximity to the Good Environmental Status (BEA). Mediterranean data is very negative: the fishing mortality and catch/biomass ratio is very unbalanced. The current Spanish fleet (30-06-2015) consists of 9,586 to 35,984 ships to crew enrolled (30% of the total EU fisher workers). It is the largest fleet in terms of capacity in all of the EU, with 24% of the total amount of vessels in the EU, and the third highest in number of vessels. The decisions of the EU fisheries policy and the sustainability of our fisheries determine a clear imbalance between fishing capacity of our fleet and the possibility of what they could catch. Discounting the artisanal fleet, which constitutes 35% of the fleet and only draws 1.8% of landings, it is estimated that in 2013, 1,596 ships were in a position to clear imbalance. We believe that in the future, there should be the withdrawal of this level of activity.**	
Conservation of coastal and marine zones 	**Spain has adopted specific laws for the protection of marine environment protection: Law 41/2010, of 29 December on the protection of the marine environment was formally created by the Network of Marine Protected Areas of Spain (RAMPE), which are incorporated via Marine Protected Areas (MPAs), SPA's, and other categories of protected natural areas in accordance with Article 29 of Law 42/2007 and protected areas by international instruments. There's only one listed region of MPA in Spain: El Cachucho (Asturias).**	

Compliance with the UN CBD and the Aichi Goals 	**In 2015 only 6 of the 19 Aichi evaluated found a positive trend and, sometimes, with low compliance. The MAGRAMA competent for Biodiversity, has suffered drastic spending cuts, more so than other ministries. Since 2009 the budget has been cut by almost 50%. Many areas dedicated to National Parks or Protection and Improvement of the Environment have suffered severe cuts in recent years. All of the Autonomous Communities have experienced the same situation. For example, Canarias has cut the budget for the management of its National Parks by 75%. According to the yearbook of EUROPARC, most bio-geographical regions have habitats in inadequate or bad states of conservation. The percentage of habitats in good condition is around 10% for the Alpine and Atlantic, with a smaller percentage in the Mediterranean (6%), and amounting to 40% in the Macaronésica. In the marine environment, there is an absence of sufficient information to assess the state of conservation (around 50% of habitats). However, no habitats is currently recorded as in a state of "bad" conservation.**	

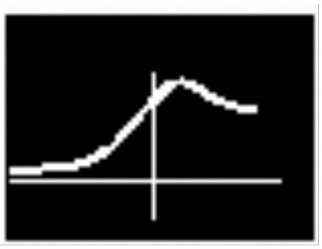
Quality of management of protected natural areas (PNAs) 	**In 2015, the Natura 2000 network covered a total of 22,213,909.87 hectares in Spain, of which 13,783,561.04 were a terrestrial environment (27.23% of the land area of Spain) and 8,430,348.83 were the marine environment (7.90% of Spanish waters). In 2013 the Guadarrama National Park joined the Network of National Parks, with an area of 33,960 hectares. The Tablas de Daimiel National Park has expanded by 50% (1,102 hectares), and the Picos de Europa National Park by 2,467.59 hectares. A process has begun to identify areas worthy of being Marine National Park. However, in 2016 the consolidated budget MAGRAMA was reduced by 11% from that in 2015. Between 2011 and 2012 the consolidated budget was reduced by 5.2%, a smaller budget cut than in the previous year, in which the 2011-2010 difference was -13%. Between 2008 and 2011 MAGRAMA's funds fell by 16.7%. In 2008 the endowment was more than 13,000 million euros. Currently the endowment is not even 10,000 M. MAGRAMA has increased the number of parks with budget constraints under 100,000 euros per year. Most parks have investments below € 20/ha compared to 26 €/ha in 2010. A drop in the number of parks with investments of over 100 €/ha is also notable. 84% of the Natural Parks have already been possessed by PORN (Plan Natural Resources Management) according to data from 2012. Only 73% had the required PRUG (Rector of Use and Management Plan). National Parks between these percentages are reduced to 66% in PORN and PRUG 52% in that year. Meanwhile, in 2012 the NATURA 2000 network accounted for only 15% of management plans approved in its cataloged spaces (281 LIC and ZEPA) of the nearly 1,900 spaces that made up the Spanish network today, according to official data.**
Forest fires 	**Fires have burned 7.7 million hectares in the last 50 years. According to statistics by MAGRAMA there have been 223,783 forest fires between 2001 and 2014, representing 1.5 million hectares burned. 55% of these fires were intentional, reaching a rate of 80% in Galicia. 94 of the 100 municipalities where the most fires occur are located in Galicia and Asturias. There have been 103,199.96 hectares burned in 2015, of which 33,494.55 correspond to wooded areas, 60,620.59 were in a woody brush and 9,084.82 were in herbaceous areasof which is much higher than 2014 (42,777 ha). During 2015 15 GIF's took place. GIFs are mainly distributed during the summer season. In total, the amount of registered GIF accounted for 38.76% of the total area affected and 0.12% of total claims incurred. In 2015, burned forest area twice in 2014 and three times in wooded areas. Also, in December a major fire occurred in a forested area, an unprecedented situation so far.**

Better Life Index of OECD 	**Spain is above average in work-life balance, housing, health status, sense of community and personal safety, but below average in income and wealth, civic engagement, environmental quality, education and skills, and employment and remuneration. In Spain, the average net adjusted disposable household income per capita is $ 22,007 per year, a figure lower than the OECD average of $ 29,016 a year. There is a considerable gap between the richest and the poorest citizens. The population occupying the top 20% of the income scale earns about seven times what the population that occupies lowest 20%. In general, Spaniards are slightly less satisfied with their lives than the OECD average. When asked to rate their overall satisfaction with life on a scale of 0 to 10, the Spaniards gave him a rating of 6.4, which was lower than the OECD average of 6.5.**	
UN happiness data 	**Spain is ranked 37 out of a total of 149. However, it is the ninth country in the world that has lost the most happiness according to the United Nations. Considering the period 2005-2007 and 2013-2015 Spain is one of the countries where the rate has fallen happiness. Other countries with similar cases are: Italy, India, Yemen, Venezuela, Botswana, Saudi Arabia, Egypt and Greec, which is the country where the variable has decreased the most. The majority of the 10 countries with the largest declines in happiness in average life evaluation have suffered a fall from a combination of economic, political and social factors. Three countries (Greece, Italy and Spain) were among the four where there was a heavy blow to the euro zone and whose experience the World Happiness Report measured in detail after the crisis in 2013.**	
Perception of the environment by Society 	**According to the CIS, Spanish citizens are more aware of environmental problems, but recycle the least. Citizenship is one of the leading actors that determine the degree of environmental sustainability. What's more, without a citizenship with an ecological mindset, a country cannot be green. Spain has a society that, while maintaining an acceptable level of environmental awareness, does not get actively involved in the objectives that should be pursued. Among those who reported to CIS, 78.7% recycled in 2013. In 2015, this number was 70.8%.**	

Perceptions of corruption 	**In terms of International Transparency Spain has again lost points in the 2015 ranking. It now stands 58th out of 100. This is a loss of two points from the IPC 2014 (which was 60). In 2009 Spain obtained a score of 61 out of 100; in 2010 it was also 61 of 100; in 2011, it rose to 62 in 2012 and 65th out of 100. However, it is true that in the last three editions of the CPI, Spain has marked its lowest scores in the last fifteen years. Furthermore, this year the worst. The worsening trend is clear and we find ourselves far away from almost all EU countries.**	
Investment aid and cooperation as a percentage of GDP 	**Since 2009, following a period of steady increase, the budget allocation to the Official Development Assistance in Spain, measured as % of GDP, has fallen from its peak of 0.46% to 0.13% in 2015, which puts Spain in the fourth to worst place among the countries of the Development Assistance Committee of the OECD.**	



It is expected that governments, corporations and civil society begin to consider the usefulness of these indicators to know where we come from and where we stand. Indicators value forward or reverse of society towards sustainability and long-term future goals. They are a good tool to evaluate the policies implemented. They work, ultimately, to see if we move towards a more sustainable future or, on the contrary... to the collapse!!



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