

European Employment Observatory

EEO Review: The Employment Dimension of Economy Greening

Spain

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1. Introduction

The greening of the economy consists of a change in the productive structure which implies a composition shift of the workforce. This alteration means that some sectors (such as mining) are reducing their labour demand, while others are increasing it. Beyond the adaptation period, most agents agree that economy greening will affect positively the labour market with more and higher qualified jobs.

In November 2007, the national government launched the Spanish Strategy on Sustainable Development, which integrated a threefold dimension of the concept, as defined by the European Union, having an environmental, social and international sustainability dimension. A greening transformation of the economy involves practically all the economic activities, from the environmental sectors (waste management, water treatment...) whose aim it is to protect the environment, to traditional sectors. As part of this strategy, the Spanish Climate Change and Clean Energy Strategy aims at reducing greenhouse emissions from all sources, focusing especially on renewable energy development, in order to reduce emissions and energy dependency, which remains at 80 % in Spain.

In fact, Spain has turned into a leader country in the wind energy sector, thanks in part to the encouraging framework in place since 1994. At present, Spain is the world's second wind power producer in its energy mix (after Denmark), with a 10 % share of its electricity¹ coming from wind energy in 2008. Moreover, Spain's total installed wind power reached 15 709 MW in 2008, and, thus, comes third, behind the United States and Germany.

However, among the approaches identified then, four sectors have become vitally important not only for environmental but also for social sustainability, as far as their employment dimension is concerned. These sectors are: eco-industries (water supply and treatment; waste management), renewable energies, sustainable construction, and sustainable transportation (trains, electric and hybrid cars).

From then on, different initiatives have been developed in order to fulfil European and international compromises, especially in the attempt to reduce greenhouse gas emissions according to the Kyoto Protocol.

The debate on climate change and climate and energy policies and their impact on the labour market is being led by the European Union and Spain follows, by adopting measures according to the EU strategy. Some specific programs are arising in this sense: electric car, low-energy light bulbs in Spanish homes, tourism 2020 etc. However, the concern about climate change and other environmental issues such as biodiversity and waste reduction as well as its impact on the labour market is not receiving significant attention across the board.

The main flourishing green economic sectors are leading the debate, such as in the case of wind power. Responding to Gabriel Calzada's 'Study of the effects on employment of public aid to renewable energy resources', which states that

¹ Ministry of Industry, Tourism and Trade. Paper on Energy in Spain, 2008.

renewable energies destroy jobs, the Spanish Wind Energy Association has entered the debate, defending the opposite view and publishing macroeconomic studies which contradict that accusation (see below).

Thus, even if there is an increasing awareness of environment and climate change, according to opinion surveys, the Spanish population seems to be more concerned about the economic crisis than about climate change, and more generally speaking, about environmental issues. As the economic downturn worsens, people's perception of the importance of this problem decreases.²

Finally, the main labour actors are engaged in the greening process of the economy, at least at institutional level. The major trade unions in Spain, CCOO and UGT, support the Just Transition campaign, which is an international labour response to environmental problems, and consider environmental issues in the social dialogue at national level. Similarly, employers' associations have also committed themselves on environmental and social issues as they are also represented in the State Council on Corporate Social Responsibility.

2. Labour market outcomes

The greening of the economy is currently affecting the Spanish labour market as some sectors are already suffering from worsening access to water resources, such as agriculture, and others have to adapt themselves to new legislation as in the construction and transport sectors.

Bearing in mind that economy greening may affect almost all sectors, the present report will mainly analyse the sectors which will probably play the most important role in the greening evolution, namely, eco-industries, renewable energies, sustainable construction and sustainable transportation.

According to the Economic Report of the President, about one and a half million workers were employed in these four sectors in 2008. Given that European Directives related to reducing greenhouse emissions have a 2020 horizon, most available employment forecasts are estimated for the same period. However, these figures should be taken with caution due to the current uncertainty about significant factors that may change from the short to the long term. Among them, the rhythm and timing of economic recovery, political compromises that may arise from climate talks at international level, as well as changes in technologies, can be highlighted.

² CIS Barometer Indicators, Perception of main problems in Spain (2008-2009)

Table 1 – The number of green jobs in Spain, 2008 and 2020

Sectors	Jobs in 2008	Estimated Jobs 2020
Eco-industries	230 000	490 000
Renewable energies *	190 000	140 000 – 180 000
Sustainable construction	535 000	800 000
Sustainable transportation	595 000	770 000
Total	1 550 000	2 200 000 – 2 240 000
*(2007)		

Sources: ISTAS, Spanish government, European Commission.

Key documents include the Plan for the Promotion of Renewable Energies (2005-2010), the Spanish Strategy on Sustainable Development, and the Spanish Climate Change and Clean Energy Strategy (2007-2012-2020), which presents the main action lines to develop the Action Plan on Energy Saving and Efficiency (2008-2012). Additional, measures with a potential impact on the labour market that have been adopted recently, or are being developed, include the Draft Bill of Sustainable Economy, several measures in the energy sector (Royal Decree Law 6/2009) and the new Technical Building Code.

The Draft Bill of Sustainable Economy, presented at the end of November 2009, is part of the Spanish Strategy to change its economic structure in the medium term. It contains some proposals aimed at economy greening, related to energy policy, emission trade system, electric vehicles, investment in infrastructure for sustainable transportation, and environmental protection. Most of these proposals are expected to be developed during 2010, so their impact on the labour market is not yet known.

The Royal Decree Law 6/2009 about energy measures has modified some conditions of the special regime applied to renewable energies in order to reduce the tariff deficit in the electricity system, given the downward evolution of costs. In previous years, the feed-in tariffs and the guaranteed access to the grid, which were regulated by Royal Decree 661/2007), had highly encouraged the development of renewable energy and, thus, employment in these activities. However, the installed capacity has clearly surpassed the objectives set for installations in the wind and thermoelectric energy. Biogas, biomass, cogeneration and small hydropower may still increase their installed capacities over the present situation and, thus, employment in these sectors could also increase further. In this sense, the number of jobs in these renewable energies is expected to increase largely, especially in biomass and biofuel areas.

Table 2 – Direct employment in the renewable energy sectors

Direct Employment in the Renewable Energy Sectors			
Type of energy	Jobs 2007	Jobs 2010	Jobs 2020
Wind	32,906	36,197	42,637
Small hydropower	6,661	7,327	24,098
Solar Thermal	8,147	8,991	7,047
Solar Thermoelectric	968	1,065	6,616
Photovoltaic Solar	26,449	29,093	36,108
Biomass	4,948	5,443	87,733
Biofuel	2,419	2,661	21,400
Biogas	2,982	3,208	2,796
TOTAL	85,480	93,985	228,435

Source: ISTAS.

Some sectors need higher qualified workers in the process of going green. Moreover, emerging sectors related to the greening of the economy as a whole, such as renewable energies and eco-industries, need specific skills that are not always available in the labour market. The shortage of skills ranges from experience, relatively scarce due to the short period of existence of some of these activities, to other more general skills such as knowledge of safety standards and language and computer skills³.

In the Spanish case, some traditional sectors are also significant in economy greening, taking into account the weight that construction and tourism have in the economic structure.

Employment in the construction sector in Spain represented about 12 % of national employment between 2002 and 2008. Since the beginning of the current economic crisis, the labour market has experienced a significant reduction of employment in the construction sector. As a result, the share of employment in the construction sector has diminished to 10 % in the third quarter of 2009, which leaves room for a deep transformation of the sector. In this regard, both the new and renovated buildings have to fulfil the new requirements regarding energy efficiency according to the new Technical Building Code. This change involves, for example, acquiring knowledge about solar panel installations.

Another case in point is the Spanish tourism sector, in which rural tourism is the most significant kind of eco-tourism. Despite the crisis, employment in the sector has continued to increase in 2009, reaching approximately 21 000 people at present. Taking into account the current sectoral trends and the Tourism 2020 Strategy, the number of employed people in the sector is expected to approach 45 000 by 2020⁴.

Overall, as mentioned above, the net quantitative expected effect of the greening process is positive, yet uncertain. From an employment quality point of view,

³ National Observatory of Occupations, Spanish Wind Energy Association, and Association of Producers of Renewable Energy.

⁴ Economic Report of the President (2009).

sectors such as construction and tourism, with currently lower than average jobs quality in terms of educational requirements and labour conditions (e.g. high temporality and rotation, more accidents at work), may improve the work quality due to higher skill demands (and supposedly corresponding better conditions), and enhanced stability if the tourism seasonality decreases with rural, alternative and/or eco-tourism.

The regional differences are determined both by the sectoral specialisation and geographical features. The regions of the southern part of Spain (Andalusia, Extremadura, Murcia) are expected to suffer more from water scarcity due to the climate change and are highly specialised –in relative terms- both in agriculture and tourism. The coastal regions are also expected to experience the consequences of rising seawater levels and are also specialised on tourism and construction activities. The more densely populated urban areas, where construction has a higher relative weight, will be more affected by the greening of this sector.

In this context, other interior regions lagging behind, specialised in agriculture and low added value activities, face the possibility of increasing their convergence pace through specialisation on eco-agriculture, productivity increases if they manage to reduce water and energy needs and taking advantage of the availability of vast land spaces to specialise in renewable energies and install windmill and solar parks (Castilla y León, Castilla la Mancha).

The Spanish labour market has four characteristics that can affect the greening restructuring process: a high volatility of the employment rate, a high youth unemployment rate, a high temporary employment rate and segmentation of the labour market, and a significant weight of the construction sector in the structure of employment. The current economic crisis is having a strong and quick impact on the labour market mainly on the temporary jobs segment; however, the stable one (open-ended contracts) shows very rigid features that could hamper an adequate adaptation pace.

All these factors, along with the unsustainable unemployment rate (18 %)⁵, imply that a labour market reform is necessary according to almost all social agents. If their positions regarding environmental issues are taken into account in the social dialogue, as is expected, economy greening may be considered in the negotiations. They should focus on providing a quick response to emerging employment needs, in terms of training and geographical mobility of workers and unemployed, bearing in mind that greening may be an opportunity to unemployed having lost their jobs in non-sustainable sectors, such as construction.

Bearing in mind the EU Directives implementing 20-20-20 targets⁶ in terms of climate change and energy efficiency, the National Observatory of Occupations is currently carrying out a prospective analysis of green professionals in the renewable energy sector and of potential training needs. Even though this more ambitious study

⁵ LFS, third quarter of 2009.

⁶ This refers to the target of a 20 % cut in emissions, 20 % improvement in energy efficiency and 20 % increase in the renewables by 2020.

is still in progress, some primary⁷ and existing secondary⁸ research suggests that it is difficult to find workers in specific occupations, especially with enough experience, language skills, and geographical mobility. Therefore, some of the gaps (lack of language skills and lack of geographical mobility in particular) are similar to those identified in other economic sectors.

Some examples of recovery measures that have dealt with labour market needs and, at the same time, have contributed to economy greening are to be found in the Spanish economic recovery plan (the E-Plan). In 2009, the Local Investment Fund endowed with EUR 8 billion has absorbed labour force from the construction sector who has been employed in public works. Fifteen percent of all projects were environmental projects⁹, mainly regarding energy saving and efficiency. For 2010, a State Fund for Employment and Local Sustainability, as a second phase of the local investment fund, has already been passed. One of its aims is to promote economy greening by promoting projects related to energy and efficiency savings, sustainable local mobility and scientific and technological parks, as well as to increase employment demand. The effects of both funds on direct employment creation are possibly among the highest compared to other measures, though their effects are limited in time.

Additionally, car industry measures have also taken into account environmental and employment dimensions. For instance, the promotion of new vehicles with low CO2 emissions, through the E-Plan, allows firms to maintain their employment levels while more sustainable vehicles are being encouraged. Another example is the special training programme which supports engineering in the car industry, which results in improving worker skills while promoting more advanced and efficient techniques in the car industry.

For 2010, another measure proposed is the plan to support electric cars in the automotive sector. The aim is to maintain employment following recovery from the current economic crisis, while the national fleet of cars becomes more sustainable.

3. Review of labour market policy developments

As mentioned above, economy greening is receiving considerable institutional support through programs and plans aimed at promoting sustainable mobility, environmental sustainability, renewable energies, and so on. Despite the fact that Spanish labour market policies do not constitute a specific and integrated approach to economy greening, some particular measures may be highlighted, not only regarding the economic recovery process but rather from a structural point of view.

First of all, as far as the systems for skills' anticipation are concerned, some advances are taking place. The Public Employment Service, through its National Observatory of Occupations, is carrying out a survey among companies to study training needs and future employment demand in the coming years in the renewable

⁷ In the context frame of this present article, renewable energy human resources' departments and associations have been contacted and asked for their opinions on the subject.

⁸ Ecoempleo (Employment Observatory and Environmental Training of the region of Valencia).

⁹ Economic Report of the President (2009).

energy sector. As a result, a strategy could be designed according to the necessities detected. Given that active labour market policies are a regional competence, the relationship with regional observatories should be strengthened to make potential programs more functional. Some regional employment services are already taking different specific actions related to economy greening, ranging from training to research. For instance, the Foral Community of Navarra has been carrying out an environmental training plan since 2002, and has recently expanded it until 2013, which has contributed to transforming the region into a renewable energy leader. The regional employment service of Extremadura, together with enterprises of the sector, is carrying out a programme to provide training and skills for solar energy designers. In the case of the Valencia Community, Ecoempleo is analysing the labour market issues related to economy greening.

However, it seems that, in the emergent green sectors in Spain (renewable energies and eco-industries), the level of anticipation by public bodies remains behind the needs of enterprises. More direct communication channels could improve the matching between demand and supply.

One initiative in this direction is the “empleaverde” (Hire green) programme, an initiative of the Biodiversity Foundation which establishes strategic alliances with non-profit institutions to implement projects whose objective is to increase environmental skills for SMEs and self-employed workers as well as for people setting up new businesses related to the green economy. Through annual calls, it manages the allocation of the budget of the Adaptability and Employment Operational Programme. Furthermore, an extraordinary plan for guidance, vocational training and labour insertion was launched in 2008 and has been renewed in 2009. Even if this measure is not specifically related to economy greening, it could improve the matching between demand and supply of labour in general, and in ‘green’ sectors, in particular.

Secondly, some of the economic recovery measures initiated in 2009 with the E-Plan are related to labour market policies. In addition to the Local Investment Fund implemented in 2009, master’s courses are being subsidised for the unemployed aged between 25 and 40. Environment-related master’s degrees are increasing due to the growing demand for skilled people in some sectors, such as renewable energies, water supply and treatment and waste management. As mentioned above, in 2010, the State Fund for Employment and Local Sustainability endowed with EUR 5 billion is going to cope with labour market needs and economy greening in 2010 by means of the promotion of environmentally-friendly projects.

Thirdly, regular vocational training is being improved. The definition of new professional certificates may raise skills thanks to better specialisation and training. This, along with a new learning cycle introduced in 2008, related to renewable energies and water, is also improving workers’ training and matching in the labour market.

Fourthly, the Draft Bill for a Sustainable Economy is expected to promote different measures with positive effects in the labour market. On the one hand, it foresees better integration of the three vocational training systems (the regular system, the

system of continuous vocational training and the training system for the unemployed). On the other hand, some sectors, such as construction and transport, are expected to be encouraged through measures related to economy greening. However, the future impact of these action lines will depend on further regulation.

Finally, the social partners are about to restart negotiations and some elements related to economy greening are expected to be introduced into the social dialogue. However, once again, impact will depend on further developments.

The Spanish labour market has experienced a hard setback over the last two years. It has passed from being the EU Member State creating the highest share of jobs to destroying them, equally fast. The main obstacles limiting greener labour market policies may come from the structural characteristics of the labour market, such as the volatility, the lack of functional and geographical mobility, etc. In general, the high unemployment rate causes a lack of motivation for job seekers. Trying to ensure current jobs instead of improving the workforce's skills for new jobs (maybe greener ones) may have negative consequence in the short and in the long term.

In order to contribute to a sustained greener growth, labour market actions should be more directed to sectors related to economy greening. Given that active labour market policies are a regional competence, labour market actions should take into account regional environmental concerns as well as skill shortages in activities related to those more sensitive sectors.

Thus, it seems that economy greening has experienced a significant boost, mainly thanks to the renewable energy companies which have responded to economic and regulation incentives and through some regional employment services. Additionally, it is foreseen that the State Fund for Employment and Local Sustainability will encourage local level actions, by financing green projects. Regarding the national level, adequate regulation for specific sectors should be ensured, as it has proved to be effective in particular sectors, such as the renewable energy sector.

At present, companies can profit from some tax refunds and subsidies for their research and development activities.

To sum up, among the existing active labour market instruments, training seems to be the most effective measure. However, the promising green sectors are those encouraged by sectoral regulation and investment such as the renewable energy and transport sectors. Thus, labour market policies should support the sectoral programs related to economy greening, such as the electric car plan or construction greening measures in order to allow some occupations to become more 'green' or for new green occupations to emerge.

4. Conclusions

Spain is currently developing several strategies to make its economy more environmentally sustainable, such as the Renewable Energy Plan (2005-2010), the Gas and Electricity Sector Plan (2008-2016), the Spanish Strategy on Climate Change and Clean Energy (2007-2012-2020), the Integral Plan for the Automobile Industry or the Action Plan on Energy Saving and Efficiency (2008-2011) as well as other actions that are in progress.

However, these plans do not systematically integrate training and/or labour market actions. Labour market policies do not specifically take into account the policies related to economy greening either. Thus, some gaps have appeared between labour supply and labour demand, even though these gaps do not seem to be the main obstacles for the Spanish economy turning greener.

The structural problems of the Spanish labour market do not help create a more flexible system, with workers able to adapt from one sector to another, or make their jobs more environmentally sustainable. Rigidity, segmentation and mismatching may be the main obstacles of the Spanish labour market, in relation to economy greening. Nevertheless, a labour market reform is expected to take place at the beginning of 2010 and, given the environmental concerns that all actors have declared, some measures could be adopted in the near future.

For instance, social security rebates in some sectors could lead the economy to a greener and more sustainable path. Instead of trying to make some groups of workers relatively cheaper, the incentives could be oriented to specific sectors. Additionally, a tax change from labour to energy could clearly work, given economic incentives to save energy and use more labour force. The Spanish economy is still relatively intensive in energy use and this resource seems scarcer than human resources.

Bibliography

European Commission, *Study on the competitiveness of the EU eco-industry*, DG Environment, 2009.

Government of Spain, *Spanish Strategy of Sustainable Development*, 2007. Internet:
<http://www.la-moncloa.es/NR/rdonlyres/B73920C0-8F78-4EFE-83D8-A570345ADBA4/0/EEDS.pdf>

Government of Spain, *Economic Report of the President*, 2009. Internet:
<http://www.la-moncloa.es/NR/rdonlyres/7885F207-1392-4DEC-8371-2BB2EBABCFEE/100325/IEPGLibro20091150.pdf>

ISTAS, *Research Study. Renewable energies and employment generation in Spain. Present and Future*, 2008.

Ministry of the Economy and Treasury, *Draft Bill of Sustainable Energy*, 2009. Internet:
<http://www.meh.es/Documentacion/Publico/GabineteMinistro/Varios/02-12-09%20LEY%20ECONOMIA%20SOSTENIBLE.pdf>

Official State Gazette, *Real Decreto-Ley 6/2009* (Royal Decree Law 6/2009), 2009. Internet:
http://www.mityc.es/energia/Tur/Normativa/DocumentosNormativa/RDL_6_2009.pdf

Spanish Wind Energy Association, *Macroeconomic Study on Wind Energy Sector Impact in Spain*, 2009. Internet:
http://www.aeeolica.es/userfiles/file/Macroeconomico_2009_baja.pdf