



*EEA Staff Position Note (September 2012)*

*SPN12/01*

**ENVIRONMENTAL FISCAL REFORM**  
**– ILLUSTRATIVE POTENTIAL IN SPAIN**

Prepared for a seminar on Environmental Fiscal Reform

Madrid, September 13<sup>th</sup> 2012

hosted by Ministerio de Agricultura, Alimentación y Medio Ambiente

By

Stefan Speck and Mikael Skou Andersen

**European Environment Agency**

# Environmental fiscal reform: illustrative potential in Spain

## **Summary**

Spain faces a fiscal challenge the addressing of which requires a combination of cuts in government expenditure and increases in taxation. Spain with its current level of taxation (including social security contributions), measured as a share of GDP, is among the lowest in the EU, i.e. it ranks according to Eurostat 18<sup>th</sup>. The tax system relies heavily on direct taxes and social security contributions and in contrast revenue from indirect taxes being the second lowest in the EU.

Recently Spain adopted ambitious reform programmes and it plans to achieve a general government deficit of 5.3% of GDP in 2012. Following the fiscal crisis the gross debt increased from an average of 39.8% of GDP (2005-2008) to 68.5% in 2011 and it is assumed that it will further increase to 87% by 2013 (EC, 2012).

To address this financial challenge, the government introduced several budgetary measures at the revenue as well as the expenditure side in 2011 and 2012. The stability programme foresees an increase in indirect taxes in 2013. There are many interesting ideas as to how the budgetary gap can be bridged, but so far no analysis as to how a broadening of the tax base with environmental taxes, levies and charges might contribute.

The focus of the paper is to provide a short overview of the current situation of the use of environmentally related taxes in Spain as well as to highlight the potential of environmental taxes in terms of their revenue raising potential based on established practice in EU Member States. The paper also debate the illustrative potential for a substantial environmental tax / fiscal reform, i.e. the shifting of the tax burden from labour towards consumption and environmental taxes as stated in the 2012 country specific recommendation for Spain by the Council of the European Union<sup>1</sup>: *Introduce a taxation system consistent with the fiscal consolidation efforts and more supportive of growth, including a shift away from labour towards consumption and environmental taxation.*

## ***The knowledge base for Environmental Fiscal Reform***

Climate change, biodiversity loss, ecosystem degradation, the human health impacts of chemical pollution , growing material resource scarcity, concerns about food, energy and water security, as well as national budget deficits and an increasingly ageing population are current challenges facing the European Union. At the same time, there is increased understanding of the linkages between many environmental, economic and social problems, pointing to the cost-effectiveness of integrated packages of policy measures (EEA, 2010).

---

<sup>1</sup> See: page 12 of the Council Recommendation on the National Reform Programme 2012 of Spain and delivering a Council opinion on the Stability Programme for Spain, 2012-2015, Council of the European Union, Brussels, 6 July 2012; <http://register.consilium.europa.eu/pdf/en/12/st11/st11273.en12.pdf>

A policy that shifts part of the tax base to environmentally damaging consumption activities can be a vital part of an overall policy package that aims to tackle these multiple challenges, as recommended in the “Europe 2020” strategy and in particular spelled out in the 2012 Country-specific Recommendations for countries including Austria, Belgium, France, Italy and Spain<sup>2</sup>.

Such a shift in policy measures that shift revenue-raising instruments from labour and capital to resource use and pollution taxes is often defined as an Environmental Tax or Fiscal Reform (ETR/ EFR). Experiences gained in several EU member states, such as Sweden, Denmark, Finland, Netherlands, Germany, UK, Estonia and the Czech Republic, which have implemented ETR in the 1990s and early 2000s, show broadly positive results.

The implemented EFRs have been regularly designed according to the revenue neutrality principle (i.e. increasing revenues from environmental taxes in order to reduce revenues from labour and capital taxes), or partially so, thus relieving the pressure on labour as a tax base.

Under the current circumstances of fiscal consolidation needs, a renunciation of the revenue neutrality principle seems to be an option to be considered. This aspect is explicitly highlighted in a recent report published by the International Monetary Fund (IMF):

*These pricing policies [carbon taxes or their cap-and-trade equivalents with allowance auctions] can also become a large new source of government revenue, which could make a significant contribution to meeting fiscal consolidation challenges and, more generally, to building more efficient and fairer tax system. .... Revenues from these fiscal instruments can contribute significantly to fiscal consolidation needs – if countries do not implement such policies, they will need to rely more heavily on other deficit reduction measures (IMF, 2012 p.v and p.ix).*

Between 1996 and 2005 the European Environment Agency (EEA) published four reports (EEA, 1996, 2000, 2005 and 2006) on market based instruments and the potential for environmental tax reform in the EU. More recently it has commissioned research into the impacts of environmental tax reform on the political feasibility of substantial ETR, on eco-innovation and on the distributional implications (Bassi et al., 2009, EEA, 2011a and 2011b).

Other bodies such as the OECD (OECD, 2001, 2006 and 2010), plus a wide range of EU and national research activities (for example, Andersen and Ekins, 2009, UK Green Fiscal Commission, 2010, and Ekins and Speck, 2011) have focused successfully on answering questions around the purpose, validity and effectiveness of many EFR instruments.

Studies by Lopez Guzman (2004), Gago et al. (2006), Labandeira et al. (2007), Labandeira (2011), Gago and Labandeiro (2012), Poncela, de Miguel and Manzano (2011) and Markandya et al. (2012) have assessed the environmental taxation system in Spain and addressed their potential. Whilst this considerable research into the multiple benefits of ETR/EFR has helped to stimulate the implementation of ETR/ EFRs in some EU and other countries, it is now recognised that the main barriers to ETR/EFR are largely political and institutional, requiring common understanding between

---

<sup>2</sup> See [http://ec.europa.eu/europe2020/making-it-happen/country-specific-recommendations/index\\_en.htm](http://ec.europa.eu/europe2020/making-it-happen/country-specific-recommendations/index_en.htm)

many stakeholders and appreciation of the different national contexts within which ETR/EFR can work.

### ***The economy and the tax system (in particular the environmental tax system) in Spain***

- Between 1995 and 2008 the GDP growth rate exceeded 3% and since 2008 Spain has been seriously affected by the financial crisis with negative GDP growth rates and an increase in unemployment forecasted to be about 25% in 2013.
- During the years of the financial crisis the decline in government revenues was accompanied by an increase in net borrowing leading to a further rise in government debt. Until 2008 the Spanish government reduced the gross debt to about 39.8% of GDP and it is forecasted that the gross debt will rise to 87% in 2013 (EC, 2012).
- The overall tax (including social security contribution (SSC)) to GDP ratio of Spain is below EU average (ranked 18<sup>th</sup> in EU-27) in 2010<sup>3</sup>. The share of revenues from labour taxes and social security contribution is close to EU average. However, the share of SSC paid by employers is relatively high (ranked 6<sup>th</sup> as compared to rank 24<sup>th</sup> for SSC paid by employees) (Eurostat, 2012).
- The share of indirect tax to GDP is one of the lowest in the EU (rank 26<sup>th</sup>) and the shares of VAT as well as environmental taxes to GDP are the lowest in the EU, i.e. ranked 27<sup>th</sup>). When expressed as a share of total taxation then Spain ranked 25<sup>th</sup> in case of environmental taxes in 2010. About 10 years ago the share of environmental taxes to GDP amounted to 2.3% and declined to 1.6% in 2010. The EU average is about 2.4% with Denmark and the Netherlands having a highest share of 4%. The fall in the share of environmental tax revenues to GDP did not only occur in Spain but more or less in many EU member states as this share dropped from 2.8% in 1999 to 2.4% in 2010 at the EU-27 level.
- There are several environmental taxes in place in Spain. Spain ranks 26<sup>th</sup> in EU-27 in terms of revenues generated from energy taxes and 18<sup>th</sup> when considering vehicle taxation as a share of GDP in 2010. The share of pollution and resource taxation is also one of the lowest in the EU.
- The Spanish energy taxation scheme heavily relies on taxes levied on transport fuels. However, petrol and diesel taxes are rather low when compared with the neighbouring countries: the tax rates are 43% (29%) higher in case of petrol (diesel) in France and the tax difference is lower when compared with Portugal (petrol 38% and diesel 11%)<sup>4</sup>. Natural gas used for heating is zero rated and the production and import of electricity is taxed with an *ad-valorem* tax, i.e. the tax rate is 5.113%.

---

<sup>3</sup> Eurostat, 2012, *Taxation trends in the European Union Data for the EU Member States, Iceland and Norway, 2012 edition*, Luxembourg, Publication Office of the European Union.

<sup>4</sup> Calculation is based on data presented in DG TAXUD 'Excise Duty Tables' as of July 2012

- The base for vehicle taxation for private vehicles differs between the acquisition of a vehicle and the annual vehicle tax. The former tax scheme is based on vehicles CO2 emissions and in the case of the latter the rate is set based on the engine rating. The tax rates are set at the national level but in addition the autonomous regional Governments are allowed to levy special taxes. The total revenue from vehicle taxation seems to be not overly high as the share of vehicle taxation revenues to GDP is higher in countries, such as Germany and the UK, which only levy an annual vehicle tax.
- The Spanish fiscal system allows autonomous regions (called Autonomous Communities) to regulate their own taxes with the limitation that they cannot set taxes when they already being introduced by the State Government. 14 out of the 17 autonomous regions are making use of this regulation and introduced environmental taxes (see Annex for an overview). Several autonomous regions introduced resource and pollution taxes in areas like water management, water pollution, waste and air pollution.
- Natural gas prices to consumers are generally low compared with other EU member states. This is in contrast to electricity prices to consumers which were the 6<sup>th</sup> highest for domestic consumers (households) and 10<sup>th</sup> highest for industrial consumers in the second half of 2011<sup>5</sup>. A specific feature in the Spanish retail electricity market is the so-called tariff deficit which arose as the result of tariff regulations by the Spanish Government. The tariff deficit amounts to about €24 billion (more than 2% of GDP) of which two thirds are guaranteed by the Government. Electricity tariffs comprise two elements: (1) a generation tariff that is set by market prices; and (2) an access tariff that is regulated set by the government to cover the fixed costs of the system, i.e. the costs of operating transmission and distribution networks as well as other costs such as Feed-in-tariffs, capacity payments and premiums paid to cogeneration plant. The reason for the tariff deficit is that the regulated tariffs do not always cover the costs (EC, 2012). In March 2012, the Government adopted different policy measures aiming to reduce the tariff deficit including an increase in the regulated tariff of up to 7%.
- The latest development in the taxation scheme of renewables is also important to highlight. The Spanish feed-in-tariff (FiT) scheme is in place for several years aiming to accelerate investments in renewable energy technologies. The basic structure of the scheme was established in 1998 and since then modified. At the beginning of 2012 the Spanish government temporarily suspended the FiT applications for renewable energy projects starting operations after January 2013. However, several autonomous regions introduced new taxes affecting electricity generation, including renewable electricity generation technologies. The Region of Castilla-la Mancha introduced in 2011 a new tax levied on wind turbines. The rate depends on the number of turbines of a wind farm and is set between €498 per turbine for a wind farm with turbines between 3 and 7 and €1233 per turbine for a wind farm with more than 15 wind turbines. Wind farms with less than 3 turbines are

---

<sup>5</sup> Source: Eurostat data nrg\_pc\_204: domestic consumers with a consumption between 2 500 kWh and 5 000 kWh and data nrg\_pc\_205: industrial consumers with a consumption between 500 MWh and 2 000 MWh

exempt from the tax. In addition, this region increased the rate of nuclear production of technology from €1.5 per MWh to €2.1 in 2011. The Region of Galicia introduced a tax on transmission and distribution activities in 2011. The tax rates is based on the length of each network. It is also reported that the Region of Castilla y Leon planned to introduce new taxes on electricity sector in 2012 including a tax on hydropower plants which should be based on the capacity of the reservoir as well as on the installed power. Another tax is planned to cover the network and in addition a tax on wind turbines. The tax base of the latter one is each wind turbine and the rates are set depending on the capacity reaching €12 000 for a 2 MW turbine .

- Spain faces large challenges in the fields of water and waste management and air pollution. For example, Spain is one of the 11 EU Member States that exceeded the international emissions ceiling in 2010, and among the two Member States (Spain and Denmark) that exceeded three ceilings (for nitrogen oxides (NO<sub>x</sub>), non-methane volatile organic compounds (NMVOCs) and ammonia (NH<sub>3</sub>))<sup>6</sup>. Furthermore, the EC reports that water tariffs in Spain *'are amongst the lowest in the EU. In particular, certain regional water pricing policies give farmers little incentive to reduce water use for irrigation.'*<sup>7</sup>
- Spain provides financial support to the energy sector. These support schemes are given to hard-coal mining as well as in form of fuel tax exemptions and reductions. The total sum of these financial support schemes were planned to amount to about €2,655 million in 2010 (OECD, 2011). This subsidy figure accounts for about 19% of total energy tax revenues in 2010.

### **The illustrative potential of environmental taxes in Spain - options for reform based on EU member states' established practice**

Spain is making use of environmental taxes but the revenues generated from them are low in comparison to the EU-27 average. Many Spanish tax rates are rather low and it could therefore be anticipated that they could be increased thereby improving the environmental effectiveness as well as raising the revenues. This aspect is addressed by the EC in the 2012 EC country recommendation for Spain as part of the Europe 2020 strategy:

- *Spain thus has some room to improve the efficiency of the tax system by shifting revenue towards the least distorting taxes such as those on consumption (in particular VAT) and environmental taxes, which would be consistent with fiscal consolidation efforts*<sup>8</sup>.
- *Growth-friendly fiscal consolidation would include improving the efficiency of the tax system by shifting the tax burden from labour towards consumption and environmental taxes, broadening tax bases and rationalising subsidies*<sup>9</sup>.

---

<sup>6</sup> See [http://www.eea.europa.eu/highlights/eleven-member-states-exceed-air?utm\\_source=EEASubscriptions&utm\\_medium=RSSFeeds&utm\\_campaign=Generic](http://www.eea.europa.eu/highlights/eleven-member-states-exceed-air?utm_source=EEASubscriptions&utm_medium=RSSFeeds&utm_campaign=Generic)

<sup>7</sup> [http://ec.europa.eu/europe2020/pdf/nd/swd2012\\_spain\\_en.pdf](http://ec.europa.eu/europe2020/pdf/nd/swd2012_spain_en.pdf)

<sup>8</sup> Reference: [http://ec.europa.eu/europe2020/pdf/nd/swd2012\\_spain\\_en.pdf](http://ec.europa.eu/europe2020/pdf/nd/swd2012_spain_en.pdf) (page 14)

The Government of Spain introduced different consolidation measures during the last years (EC, 2012). The fiscal consolidation process addresses the revenue as well as the expenditure side of the national budget. The main emphasis of this process was directed to the reduction of expenditures as this was often seen as to be more sustainable as compared to revenue-driven policies. However, during recent years the insights of having a more balanced approach between austerity and tax raising policies have been taken over as highlighted by scholars from the IMF: *Unlike previous research on fiscal consolidation, our findings show that raising tax revenue is key to successful debt reduction in countries with large fiscal adjustment needs. .... Measures to increase taxation should, however, be designed in a way that does not harm efficiency and minimizes distortion, particularly where taxes as a percentage of GDP are already high. Simplifying the tax system by reducing excessive tax rates and broadening the tax base could help enhance revenue collection while shifting the burden of taxes away from productive inputs. For example, financial sector and carbon taxation may help the budget while at the same time addressing efficiency concerns* (IMF, 2012)<sup>10</sup>.

Concrete steps have been implemented in European countries in overcoming the fiscal deficits by raising additional tax revenues also from environmental taxes. For example, Greece increased drastically the tax rates levied on unleaded petrol by 87% and diesel by 36% between January 2009 and May 2010 and Italy did the same as it increased the tax rates levied on transport fuels by 27% (unleaded petrol) and 43% (diesel) between April 2011 and June 2012. As part of the Irish fiscal consolidation strategy a carbon tax was introduced at the end of 2009. Initially the tax rate was set at €15 per tonne of CO<sub>2</sub> but a doubling of the tax rate to €30 until 2014 was announced in the Irish National Recovery Plan 2011-2014.

Several policies are already in place or have been announced by the Spanish Government during recent months. The EU Emission Trading System (EU ETS) is a cornerstone of the EU's climate policy and the auctioning of carbon allowances will be the rule starting with the third trading period in 2013. Spain like all other EU member states are required to introduce the mandatory auctioning although it has to be mentioned that auctioning, i.e. early auctions already started in 2012 in Spain in the form of 'early auctions', i.e. the auctioning of 2013-2020 allowance before the third trading period starts. They include the auctioning of ETS allowances, which will start from 2012. Other policies indicated are increases in energy taxes<sup>11</sup> and also plans to revise electricity tariffs by 7%<sup>12</sup> and to tackle the tariff deficit<sup>13</sup> as well as to suspend and reform the feed-in-tariff system for renewables.

---

<sup>9</sup> Reference: [http://ec.europa.eu/europe2020/pdf/nd/swd2012\\_spain\\_en.pdf](http://ec.europa.eu/europe2020/pdf/nd/swd2012_spain_en.pdf) (page 6)

<sup>10</sup> See also the report Restoring Fiscal Sustainability in Spain by Beynet et al. (2011)

<sup>11</sup> See: <http://uk.reuters.com/article/2012/07/14/uk-spain-economy-reforms-idUKBRE86C0WT20120714>

<sup>12</sup> See: [http://articles.marketwatch.com/2012-03-30/economy/31258687\\_1\\_budget-deficit-higher-taxes-government](http://articles.marketwatch.com/2012-03-30/economy/31258687_1_budget-deficit-higher-taxes-government)

<sup>13</sup> See:

[http://www.utilityweek.co.uk/news/news\\_story.asp?id=197061&title=Spain+plans+tariff+deficit+reforms](http://www.utilityweek.co.uk/news/news_story.asp?id=197061&title=Spain+plans+tariff+deficit+reforms)

When assessing the current environmental taxation scheme the following options could be anticipated:

- Increasing the taxes levied on energy products; i.e. Impuesto sobre Hidrocarburos (Tax on Hydrocarbon); Impuesto sobre Combustibles Derivados del Petróleo (Tax on Fuel Oil Derivatives); Impuesto sobre Ventas Minoristas de Determinados Hidrocarburos (Tax on Retail Sales of Specific Hydrocarbons).

As mentioned above, the taxes levied on transport fuels are lower than the ones levied in the neighbouring countries. In addition, the tax rates on petrol (diesel) were raised by 8% respectively by 13% since January 2002<sup>14</sup>. These increases in tax rates were quite low when compared with the situation in Portugal where the rates were increased by 70% and 49% during the same period - however the tax rates were lower in 2002. This means that the tax rates have declined in real terms and the share of taxes in petrol and diesel prices fall and are much lower than in neighbouring countries and other EU member states (see Tables 1 and 2 in the Annex).

- The potential of reforming the Spanish energy taxation is analysed in different research projects thereby illustrating the revenue potential of energy taxation. These scenarios are based on energy tax reforms which are more or less based on the proposal of revising the EU Energy Taxation Directive of 2003 (EC, 2003). The proposal was put forward by the EC in 2011 (EC, 2011) and is still under negotiations between the EC and EU member states.

The proposal foresees to modify the way energy products are taxed by considering their CO<sub>2</sub> emissions and energy content. This would mean that energy taxes would be split into two components: a CO<sub>2</sub> part and an energy part.

The simulation results of Labandeira (2011) are showing that revenues from energy taxes could be increased by up to €7.2 billion until 2018, i.e. an increase of more than 50% compared to the total energy tax revenues of about €14 billion in 2010.

Another study (Vivid Economics, 2012) estimates additional revenues from an energy tax reform of about €9 billion in 2018 increasing to more than €10 billion in 2020. This study also compares the macroeconomic impacts of the energy tax reform package with increased indirect or direct taxes. The authors are concluding that *energy taxes would cause less economic harm per unit of revenue than direct (i.e. income) or indirect taxes, while also producing other benefits* (Vivid Economics, 2012).

- The Spanish transport taxation scheme includes the following taxes: Impuesto Especial sobre Determinados Medios de Transporte (Duty on Specific Means of Transport); Impuesto sobre Vehículos de Tracción Mecánica (empresas - hogares) (Car registration tax: companies - households). As mentioned above, the overall revenues from these taxes can be described as low when expressed as a share of GDP.

---

<sup>14</sup> Calculation based on data published by DG Energy 'History from 2005 onwards' at [http://ec.europa.eu/energy/observatory/oil/bulletin\\_en.htm](http://ec.europa.eu/energy/observatory/oil/bulletin_en.htm) (accessed on August 20, 2012)



- Three Spanish autonomous regions (Andalucía, Aragon and Murcia)<sup>15</sup> introduced carbon taxes as part of their air pollution tax system. The overall design of these CO2 tax rates differ widely from carbon taxation schemes implemented in EU member states, such as Sweden, Finland, Ireland or Denmark. Furthermore, the CO2 tax rates in these three autonomous regions are also rather low compared to the EU member states considering for example, that the tax rate for 'dumping polluting gases into the atmosphere in Aragon' is equal to €200/kt (i.e. €0.2 per tonne of CO2 emitted) (Eurelectric, 2012a) as compared to the current Swedish CO2 tax rate of €118 per tonne of CO2.
- Several other Autonomous Communities implemented air pollution taxes levied on SO2 and NO2. Again the tax rates are and are in the range of €33 to €94 per tonne SO2 in Spain and rates are in the range of €50 to €140 per tonne NO2 in Spain<sup>16</sup>. These tax rates are only a fraction of SO2 tax rates implemented in Denmark €2,680 per tonne SO2 or in Sweden €5,370 per tonne NOx. It is noteworthy to state that this comparison provides a very rough indication of the differences and would require a more detailed analysis of the air pollution taxation schemes for making a complete assessment.  
The revenues from Spanish air pollution taxes dropped from €28 million in 2005 to €7 million in 2010 which is rather low when compared to the Danish situation where the sulphur and nitrogen tax raised about €10 million in 2010.
- Waste policy is another environmental policy area in which some Autonomous Communities introduced environmental taxes. For example, Catalonia levied a landfill tax on waste with a rate of €12 per tonne and with a higher rate of €21 per tonne waste from municipalities without separate waste collection schemes. In addition, municipal waste delivered to an incineration is subject to a tax of €16 per tonne<sup>17</sup>.  
European practice indicates that these taxes could be increased considering that the landfill tax rates in Ireland are currently amounting to €65 per tonne<sup>18</sup> and in the UK the standard rate is set at £64 (€82)<sup>19</sup>. The revenue of the Irish landfill tax rate amounted to €43 million in 2010 compared to €25 million in Catalonia (2009).  
All revenues accounted from any waste related taxes in Spain amounted to about €315 million in 2010, i.e. representing a share of 0.03% of GDP, as compared to landfill tax revenues in the UK of about £1 billion (€1.34 billion), a share of 0.06% of GDP.
- Water tariffs in OECD countries are presented in Figures 1 and 2 in the annex. It demonstrates that the Spanish water tariffs are one of the lowest in the OECD / EU member states. Different water related taxation schemes addressing water supply as well as

<sup>15</sup> Eurelectric, Taxes and Levies on Electricity in 2010.

<sup>16</sup> See the Eurelectric report for a more detailed discussion on the design of these taxes.

<sup>17</sup> See I. Puig Ventosa, Landfill and Waste Incineration Taxes-The Spanish Case.

[http://ec.europa.eu/environment/waste/pdf/strategy/5.%20Landfill%20and%20incineration%20taxes%20in%20Spain%20Ignasi%20Puig%20\(2\).pdf](http://ec.europa.eu/environment/waste/pdf/strategy/5.%20Landfill%20and%20incineration%20taxes%20in%20Spain%20Ignasi%20Puig%20(2).pdf) (accessed on August 20, 2012)

<sup>18</sup> See: [http://www.edie.net/news/news\\_story.asp?id=19770&channel=5&title=Landfill+ta](http://www.edie.net/news/news_story.asp?id=19770&channel=5&title=Landfill+ta)

<sup>19</sup> See:

[http://customs.hmrc.gov.uk/channelsPortalWebApp/channelsPortalWebApp.portal?\\_nfpb=true&\\_pageLabel=pageExcise\\_ShowContent&propertyType=document&id=HMCE\\_CL\\_000509#P311\\_23550](http://customs.hmrc.gov.uk/channelsPortalWebApp/channelsPortalWebApp.portal?_nfpb=true&_pageLabel=pageExcise_ShowContent&propertyType=document&id=HMCE_CL_000509#P311_23550)

sanitation services are in place in Spain – but not at the national level and instead at the autonomous regional level with large differences in design and tariff rates.

There would be significant revenue potential from introducing a general tax for all utilities abstracting water. Water abstraction taxes can tackle with different environmental challenges, such as leakage and spills for water supply. But if the tax applies to 90% of abstracted volumes, then there will be a strong incentive for utilities to reinforce their capacity to react quickly against spills, which may bring leakage rates down from rates of 30-40 per cent prevalent in many areas, see for example the experience in Denmark.

Urban waste water plants are not always complying with the standards for effluent discharges all year round, this is because full compliance can be technically demanding and require additional equipment. Introducing taxes for end-of-pipe discharges on each of the relevant emissions (N, P and COD), balanced against the estimated benefits of clean water, would provide incentives to improve on compliance. Similar taxes could be applied to major industrial emitters, where relevant. The Netherlands has been the pioneer with taxes for emissions to surface waters. Considering the importance of tourism in Spain, a clear measure to secure water quality will be likely to yield economic returns

- The phasing out of the financial support for the coal sector and the abolishment of fuel tax exemptions would also free up revenues and raise tax revenues which could be used for the fiscal consolidation process.

## Reference

Andersen, M.S. and Ekins, P. (eds.), 2009, *Carbon-Energy Taxation: Lessons from Europe*, Oxford University Press.

Bassi, S., ten Brink, P., Pallemarts, M. and von Homeyer, I., 2009, *Feasibility of Implementing a Radical ETR and its Acceptance*. Final Report (Task C) of the 'Study on tax reform in Europe over the next decades: implementation for the environment, for eco-innovation and for household distribution' commissioned by the European Environment Agency (EEA), Copenhagen.

Beynet P., A. Fuentes, R. Gillingham and R. Hagemann, 2011, *Restoring Fiscal Sustainability in Spain*, OECD Economics Department Working Papers, No 850, OECD Publishing. <http://www.oecd-ilibrary.org/docserver/download/fulltext/5kkg9mc37d8r.pdf?expires=1345529471&id=id&accname=guest&checksum=DB9E7AAC1E01623BFBA64376CAD719A3>

De Miguel C. and B. Manzano, 2011, *Gradual Green Tax Reforms*, WP 07/2011, Rede (Universidade de Vogo) y Economics for Energy, <http://www.eforenergy.org/docpublicaciones/documentos-de-trabajo/WP04-2011b.pdf>

Ekins, P. and Speck, S. (eds.), 2011, *Environmental Tax Reform: A Policy For Green Growth*, Oxford University Press.

Eurelectric, 2012a, *Taxes and Levies on Electricity in 2010*, February 2012, [http://www.eurelectric.org/media/26940/th\\_2010\\_-\\_final-2012-560-0002-01-e.pdf](http://www.eurelectric.org/media/26940/th_2010_-_final-2012-560-0002-01-e.pdf)

Eurelectric, 2012b, *Fiscal Flash Electricity 2012: Developments in Tax Policies Relevant to the European Electricity Industry in 2012*, June 2012, [http://www.eurelectric.org/media/41871/2012\\_fiscflash\\_report\\_-\\_final-2012-560-0004-01-e.pdf](http://www.eurelectric.org/media/41871/2012_fiscflash_report_-_final-2012-560-0004-01-e.pdf)

European Commission (EC), 2003, *Council Directive 2003/96/EC of 27 October 2003 restructuring the Community framework for the taxation of energy products and electricity*. Official Journal of the European Union, L283/51 (2003). (Online: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:283:0051:0070:EN:PDF>)

European Commission (EC), 2011, *Proposal for a Council Directive amending Directive 2003/69/EC restructuring the Community framework for the taxation of energy products and electricity*. COM(2011)169 Final (2011). (Online: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0169:FIN:EN:PDF>)

European Commission (EC), 2012, *Assessment of the 2012 national reform programme and stability programme for SPAIN Accompanying the document Recommendations for a COUNCIL RECOMMENDATION on Spain's 2012 national reform programme and delivering a Council opinion on Spain's updated stability programme, 2012-2015*, Commission Staff Working Document

SWD(2012)310final, Brussels, Belgium.

<http://register.consilium.europa.eu/pdf/en/12/st11/st11273.en12.pdf>

European Environment Agency (EEA), 1996, *Environmental taxes — Implementation and environmental effectiveness*, Copenhagen. <http://www.eea.europa.eu/publications/92-9167-000-6>

European Environment Agency (EEA), 2000, *Environmental taxes: Recent developments in tools for integration*, Copenhagen. [http://www.eea.europa.eu/publications/Environmental\\_Issues\\_No\\_18](http://www.eea.europa.eu/publications/Environmental_Issues_No_18)

European Environment Agency (EEA), 2005, *Market-based instruments for environmental policy in Europe*, EEA Technical report No. 8/2005, Copenhagen.

[http://www.eea.europa.eu/publications/technical\\_report\\_2005\\_8](http://www.eea.europa.eu/publications/technical_report_2005_8)

European Environment Agency (EEA), 2006, *Using the market for cost-effective environmental policy Market-based Instruments in Europe*, EEA Report No.1/2006, Copenhagen.

[http://www.eea.europa.eu/publications/eea\\_report\\_2006\\_1](http://www.eea.europa.eu/publications/eea_report_2006_1)

European Environment Agency (EEA), 2010, *The European Environment: State and Outlook 2010 – A Synthesis*, Copenhagen. <http://www.eea.europa.eu/soer/synthesis/synthesis>

European Environment Agency (EEA), 2011a, *Environmental tax reform in Europe: opportunities for eco-innovation*, EEA Technical report No. 17/2011, Copenhagen.

<http://www.eea.europa.eu/publications/environmental-tax-reform-opportunities>

European Environment Agency (EEA), 2011b, *Environmental tax reform in Europe: implications for income distribution*, EEA Technical report No. 16/2011, Copenhagen.

<http://www.eea.europa.eu/publications/environmental-tax-reform-in-europe>

Eurostat, 2012, *Taxation trends in the European Union Data for the EU Member States, Iceland and Norway, 2012 edition*, Luxembourg, Publication Office of the European Union.

[http://ec.europa.eu/taxation\\_customs/taxation/gen\\_info/economic\\_analysis/tax\\_structures/index\\_en.htm](http://ec.europa.eu/taxation_customs/taxation/gen_info/economic_analysis/tax_structures/index_en.htm)

Gago A., X. Labandeira, F. Picos and M. Rodriguez, 2006, *Environmental Taxes in Spain: A Missed Opportunity*, International Studies Program Working Paper 06-09, George State University, Andrew Young School of Policy Studies, January 2006. <http://webs.uvigo.es/xavier/publicacions/glprg.pdf>

Gago A. and X. Labandeira, 2012, *Un Nuevo de Reforma Fiscal Verde*, WP 03/12, Rede (Universidade de Vigo) y Economics for Energy, <http://www.eforenergy.org/docpublicaciones/documentos-de-trabajo/WP032012.pdf>

Green Fiscal Commission, 2009, *The Case for Green Fiscal Reform Final Report of the UK Green Fiscal Commission*, London,

[http://www.greenfiscalcommission.org.uk/images/uploads/GFC\\_FinalReport.pdf](http://www.greenfiscalcommission.org.uk/images/uploads/GFC_FinalReport.pdf)

Labandeira, X. 2011, *Nuevos entornos para la fiscalidad energética*, WP 07/2011, Rede (Universidade de Vigo) y Economics for Energy, <http://www.eforenergy.org/docpublicaciones/documentos-de-trabajo/PW07-2011.pdf>

Lopez-Guzman T., 2004, *Environment Taxes in Spain*, Roskilde University Research Papers from the Department of Social Sciences No. 5/04, Roskilde, Denmark.

Poncela A.C. (no year given), *Environmental Taxes in OCDE countries: recent developments*, <http://www.alde.es/encuentros/anteriores/xieea/trabajos/pdf/30.pdf>

IMF, (De Mooij R., I.W.H. Parry and M Keen (eds.)), 2012, *Fiscal Policy to Mitigate Climate Change A Guide for Policymakers*, International Monetary Fund, Washington.  
<http://www.imf.org/external/Pubs/FT/books/2012/climate/climate.pdf>

Markandya A., M. Gonzalez-Eguino and M. Escapa, 2012, *Environmental Fiscal Reform and Unemployment in Spain*, Basque Centre for Climate Change, BC3 Working paper series 2012-4, Bilbao.  
<http://www.google.com/search?q=%2C+Environmental+Fiscal+Reform+and+Unemployment+in+Spain&sourceid=ie7&rls=com.microsoft:en-gb:IE-Address&ie=&oe=>

Organisation for Economic Co-operation and Development (OECD), 2001, *Environmentally related taxes in OECD countries: Issues and strategies*, Paris.

Organisation for Economic Co-operation and Development (OECD), 2006, *The Political Economy of Environmentally Related Taxes*, Paris.

Organisation for Economic Co-operation and Development (OECD), 2010, *Taxation, Innovation and the Environment*, Paris.

Organisation for Economic Co-operation and Development (OECD), 2011, *Inventory of estimates budgetary support and tax expenditures for fossil fuels*, Paris.

Vivid Economics, 2012, *Carbon taxation and fiscal consolidation: the potential of carbon pricing to reduce Europe's fiscal deficits*, report prepared for the European Climate Foundation and Green Budget Europe, London, May 2012. <http://www.vivideconomics.com/index.php/publications/fiscal-consolidation-and-carbon-fiscal-measures>

## Annex

### *An overview of environmental taxes implemented in the Autonomous Communities*

- Andalusia – water management; coastal water discharge; air pollution (including CO2 emissions); hazardous waste; radioactive waste
- Aragon – air pollution (including CO2 emission); environmental damage caused by large department stores; environmental damage caused by the installation of cable transport; other transport; water management and pollution
- Asturias – water management
- Balearic Islands – water management
- Canary Islands – energy
- Cantabria – waste management; plastic bag; water management and water pollution
- Castille-La Mancha – water management and pollution; hazardous chemicals; electricity production (nuclear); air pollution
- Catalonia – water management and pollution; waste
- Extremadura – electricity production; water pollution
- Galicia – water management and pollution; air pollution; environmental damage caused by some uses of waters from reservoirs
- La Rioja – water management
- Madrid – waste; water pollution
- Murcia – air pollution; coastal water discharge; waste; water management
- Navarra – water management and pollution

Source: OECD/EEA database on instruments used for environmental policy and natural resource management (<http://www2.oecd.org/econstat/queries/index.htm>, accessed on August 7, 2012)

**Table 1: Percentage of taxes in diesel prices for non-commercial use (in%)**

	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>Spain</b>	56.2	52.7	46.7	44.9	45.3	40.5	49.6	46.3	42.5
<b>France</b>	65.8	63.5	57.2	55.1	55.4	50.1	59.1	53.8	49.1
<b>Portugal</b>	56.8	55	50	49.7	51	45.8	52.9	48.6	45.3
<b>Italy</b>	62.6	59.6	53.8	52.2	52.8	48.1	55.8	51.5	48.6
<b>UK</b>	74.1	72.4	66.7	64.5	65.3	57.8	65.4	62.8	58.6

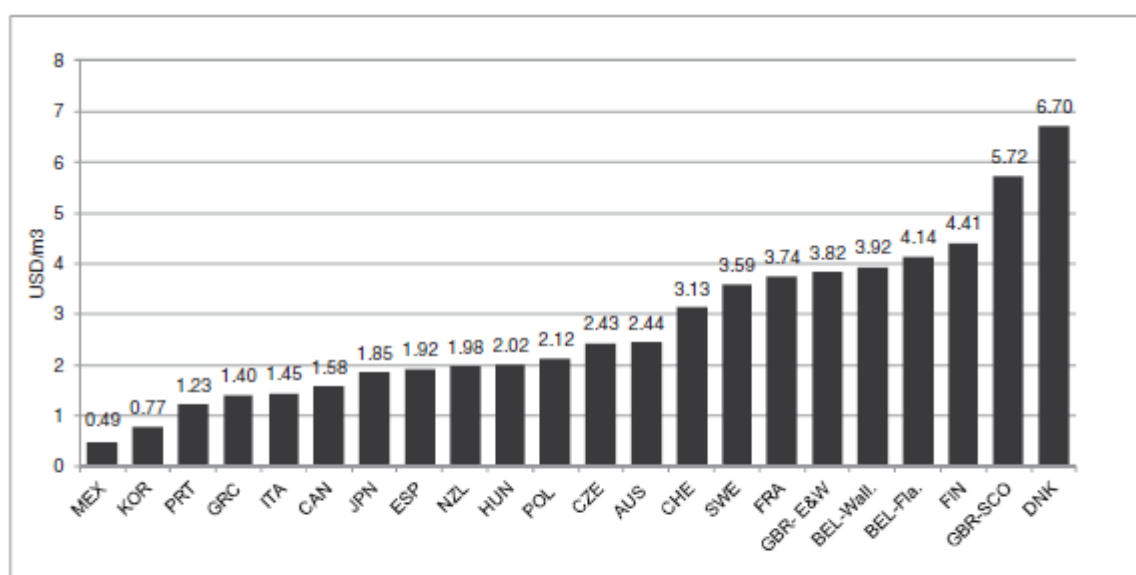
Source: IEA, Energy Prices & Taxes, 2<sup>nd</sup> Quarter 2012

**Table 2: Percentage of taxes in premium unleaded (RON 95) gasoline price (in%)**

	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>Spain</b>	62.3	59.4	55.3	52.6	52.1	49.5	55.9	52.2	48.8
<b>France</b>	74.3	71.9	67.1	64	63.7	61.1	66.6	61.5	57.1
<b>Portugal</b>	68.1	66.5	62.8	60.9	61.4	59	63.9	59.5	56.4
<b>Italy</b>	67.8	66.3	62.9	60.5	60.1	57.5	62.5	58	55.3
<b>UK</b>	75.5	73.6	69.2	66.6	66.7	61.9	67.8	63.8	60.3

Source: IEA, Energy Prices & Taxes, 2<sup>nd</sup> Quarter 2012

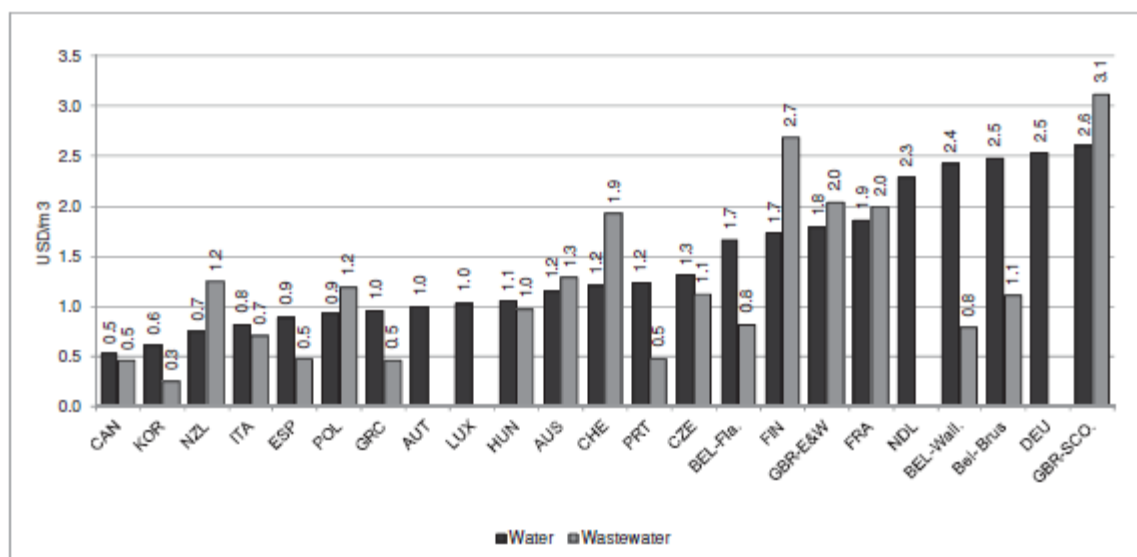
**Figure 1: Unit price of water supply and sanitation services to households including taxes, in OECD countries, 2008 (unit: USD per cubic metre)**



Source: OECD estimates based on country replies to the OECD 2007-08 Survey when available, or public sources validated by the countries.

Source: OECD, 2010, Pricing Water Resources and Water and Sanitation Services, Paris.

**Figure 2: Comparison of unit prices of water services and wastewater services to households, including taxes, in OECD countries, 2008 (unit: USD per cubic metre)**



*Notes:* The sum of the unit values may not match the total unit price of water supply and sanitation indicated in Figure 2.1, as Figure 2.1 data are mostly based on national averages communicated by the countries.

Source: OECD, 2010, Pricing Water Resources and Water and Sanitation Services, Paris.