Climate change diplomacy in Spain's future foreign policy

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Summary[1]

In the light of Spain's future foreign policy, it is necessary to develop a more pro-active climate diplomacy. This paper analyses Spain's climate diplomacy in line with the Elcano report titled 'Towards a Strategic Updating of Spain's Foreign Policy' and the State Foreign Action and Service Law (*Ley de la Acción y del Servicio Exterior del Estado*, LAESE). The paper seeks to provide policymakers with an analysis to support a more pro-active stance on climate policy, aligning Spain's interests and values. This should help Spain become a more influential global actor as regards climate change, both within the EU and internationally.

(1) Introduction

Climate change is a global externality with local consequences that requires concerted action by sovereign nations. Climate policy is an area in which national and international dimensions are blurred. It is also an area in which the concept of global public goods –the provision of a stable climate that is non-rival in nature and non excludable– crystallises. Actions to provide such goods arguably require that countries engaging in international climate agreements have normative values such as solidarity and responsibility. In practice, however, a bird's eye view of global climate policy shows that developed countries have sought to persuade developing countries to limit their emissions while shying away from significant emission cuts at home. Developing countries have repeatedly demanded aid to address climate change both through funds and technology transfers (Harris, 2009) in order to meets these demands. The EU has traditionally pushed for deep greenhouse gas (GHG) emission reductions, and Spain has accompanied EU climate policy, with greater or lesser enthusiasm and independence.

For countries like the UK, France and Germany, climate change became a foreign-policy priority, especially in the run-up to Copenhagen and before the economic

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crisis of 2008 was in full swing. Spain is a climate-vulnerable country, located in a climate-change hotspot, with key economic sectors that can be significantly affected by a changing climate. It has strong ties with Latin America, one of the most active areas in terms of renewable energy development (Bloomberg News Energy Finance, 2013), and it has expertise and technology that can effectively contribute to the expansion of renewable energy markets. Despite Spain's (self)-interest in successful globally-orchestrated mitigation, it has traditionally been considered a passive laggard as regards its climate-related foreign policy. This has been the case until at least 2004, when Spain took a more active role (Costa, 2006).

This paper analyses Spain's climate diplomacy[2] in line with the Elcano Royal Institute's report 'Towards a Strategic Updating of Spain's Foreign Policy' and the LAESE. It seeks to provide policymakers with analysis that supports a more pro-active stance towards climate-related foreign policy, aligning Spain's interests and values. This should help Spain become a more influential global actor as regards climate change, both within the EU and internationally.

The paper's structure is as follows: the second section reflects on global changes in the climate system and their consequences for Spain, a key issue for science-based policy making. Section three briefly presents some of the critical actions taken within Spain's climate diplomacy and then outlines the rationale and objectives for a more pro-active climate-related foreign policy. Section four analyses Spain's geographical focus in terms of climate diplomacy. Section five presents some conclusions.

(2) Climate change as a threat?: latest findings and the consequences for Spain

The Intergovernmental Panel on Climate Change's (IPCC) Fifth Assessment Report (henceforth AR) states that climate change is unequivocal and that human beings have undoubtedly influenced the climate system. The key impacts that will affect southern Europe include rising sea levels and coastal erosion, water scarcity and more frequent wildfires and heat waves. Economic activity will also be affected, especially in sectors like tourism, agriculture, forestry, fisheries, infrastructure, energy and health (IPCC, 2014). Table 1 below briefly summarises the main impacts of climate change in terms of temperature increases and rising sea levels, as well as effects on water, ecosystems, health and security.

2 Climate diplomacy can be defined as 'the interface between national interest debates and international cooperation… the practice and process of creating the international climate change regime and ensuring its effective operation' (Mabey, Gallagher & Born, 2013, p. 6).

Table 1. Expected key physical and socioeconomic climate change impacts and effects

Area	Climate change impacts and effects
Temperature increases	**Global:** the summary for policy makers of the AR states that there is high confidence that for a doubling of CO_2, the global *mean surface temperature* increase is likely to be in the range of 1.5ºC to 4.5ºC. According to the Potsdam Institute (2012), if no additional mitigation occurs, the world is likely to warm up by more than 3ºC compared with pre-industrial levels by the end of the century. This is well above the 2ºC mark that the scientific and policy community have agreed is the threshold above which there is a dangerous interference with the climate system. More frequent and extreme heat waves will accompany these mean temperature increases.
	Spain is located in a climate-change hotspot (Lopez-Gunn, 2009). Despite the uncertainty regarding future climate-change consequences, it is expected that Spain will experience significant mean seasonal warming that could range between 2ºC and 3ºC during the winter and could reach 6ºC in the summer by the end of the century, for higher anthropogenic emission scenarios (Pérez & Boscolo, 2010).
Sea level rise, surface temperature, hypoxia and acidification	**Global:** sea level rise data analysed in the AR has been narrowed down compared with previous analyses and is expected to increase between 0.4 and 0.63 metres on average by the end of the century.
	The EU: in addition to rising sea levels, the European Environment Agency (2014) states that EU waters are being particularly affected by climate change. Higher surface temperatures, hypoxia and acidification are the main effects of climate change. These have led to wide ranging extinctions in the past (EEA, 2014).
	Spain: coastal erosion is expected to affect Spain (IPCC, 2014). Additionally, in 2010 Spain was the third-largest fish importer worldwide and the ninth biggest exporter of fish and fish products in 2010, in value terms (FAO, 2012). Hence, Spain should pay special attention to the effects of climate change in this area.
Water	**Global:** in terms of mean annual precipitation, changes vary depending on the region. In many mid-latitudes and dry regions, mean precipitation is likely to decrease. Additionally, extreme precipitation will become more intense as global mean surface temperature increases. The area encompassed by monsoon systems will increase over the 21st century. There will also be a potential lengthening of the monsoon season in many regions. Countries located in the Mediterranean region are likely to suffer more severe climate change impacts than other EU nations (Bates *et al.*, 2008). Droughts could become more intense and frequent, and rivers' run-off may decrease (Fischer *et al.*, 2007; Lorenzo-LaCruz *et al.*, 2012).
	Spain: a study was commissioned by the OECC for a regional assessment on the likely impacts of climate change on water resources for different climate scenarios at the regional scale for Spain (1Km^{2}resolution). The mean annual precipitation is likely to decrease by up to -0.88 mm/year under an A2[3] scenario and -0.18 mm/year under a B2 scenario (CEDEX, 2012).
Ecosystems, food and agriculture	**Global:** ecosystems could lose up to 30% of plant and animal species for temperature increases ranging from 1.5ºC to 2.5ºC according to the IPCC's Fourth Assessment Report (AR). The structure and function of ecosystems are expected to be impacted. This could imply, among other things, reductions in the capacity of forests to absorb CO_2, impacts on coral reefs, and polar, glacier and alpine ecosystems disappearing. Adaptation of species is agreed to be increasingly difficult and costly beyond 2ºC. Food security could be threatened globally if temperature increases are above 4ºC (Potsdam Institute, 2012).
	Spain: according to Araújo *et al.,* (2011) half of the EU's biodiversity is found in Spain. Habitat modification is currently the main threat to Spain's biodiversity. Climate change is and additional factor driving biodiversity losses, with further impacts expected in the

3 See IPCC (2000) for a description of the scenarios.

	future. A contraction of species from the south or south-west of Spain to the north or north-east is expected and over 70% of the species studied could require adaptation and conservation measures. Related to the effects on ecosystems, as regards agriculture and food security, the Met Office (2011) foresees an increase in wheat production in Spain but a decrease in the area suitable for agricultural production.
Health	**Global:** according to the WHO, 'Climate change affects the social and environmental determinants of health –clean air, safe drinking water, sufficient food and secure shelter–. Many of the major killers such as diarrhoeal diseases, malnutrition, malaria and dengue are highly climate-sensitive and are expected to worsen as the climate changes'.[4]
	The EU and Spain: on average, 2% of heat related deaths in key EU cities could be attributed to climate change by 2030. This is especially relevant for cities in countries like Spain where the effects could be even greater (Ministerio de Sanidad, Servicios Sociales e Igualdad, 2013).
Security	**Global:** climate change is expected to be one of the variables[5] that might ignite or aggravate future conflicts. The intelligence community has furthermore warned that climate change will have a significant geopolitical impact worldwide. This implies 'contributing to poverty, environmental degradation, and the further weakening of fragile governments. Climate change will contribute to food and water scarcity, will increase the spread of disease, and may spur or exacerbate mass migration' (DoD, 2010, p. 85).
	Spain: countries in the Sahel region and other countries in the Sub-Saharan area are of paramount interest for Spain in terms of security linked to climate change (Gómez de Ágreda, pers. comm.)

Sources: Araújo *et al.,* (2011), Bates *et al.* (2008), CEDEX, (2011), DoD (2010), EEA (2014), Fischer *et al.* (2007), Garrido *et al.* (2012), IPCC (2014), IPCC (2013), IPCC (2007), Lorenzo-LaCruz *et al.* (2012), Met Office (2011), NIC (2009), Postdam Institute (2012).

The consequences of climate change, depicted in Table 1 above, provide Spain with strong reasons to pursue decisive action to mitigate GHG emissions and to adapt to the unavoidable effects of a changing climate.

(3) A vision: actions, goals, values, and interests in Spain´s climate diplomacy

Vision and actions: revisiting the European hot-house

The EU has historically pursued a leadership role in climate policy. The decision on a new policy framework for energy and climate will be made no later than October 2014 (European Council, 2014). Should the Commission's proposal for a 2030 framework for climate and energy policies be endorsed by the European Parliament and the Council, this would mean a 40% GHG emission reduction for the EU by 2030, a 27% target for renewable energy consumption[6] and the structural reform of the European Emissions Trading System (EU ETS). The reform would imply the

4 Climate change and health. Fact sheet N°266. Reviewed November 2013, **http://www.who.int/mediacentre/factsheets/fs266/en/.**

5 Other variables include: cultural tensions, resource scarcity, disease and rapid urbanisation of coastal regions.

6 For the whole of the EU (but freedom for member states to set their own targets) and with a wait stance on efficiency targets until the Commission Directive 2012/27/EU on energy efficiency is reviewed.

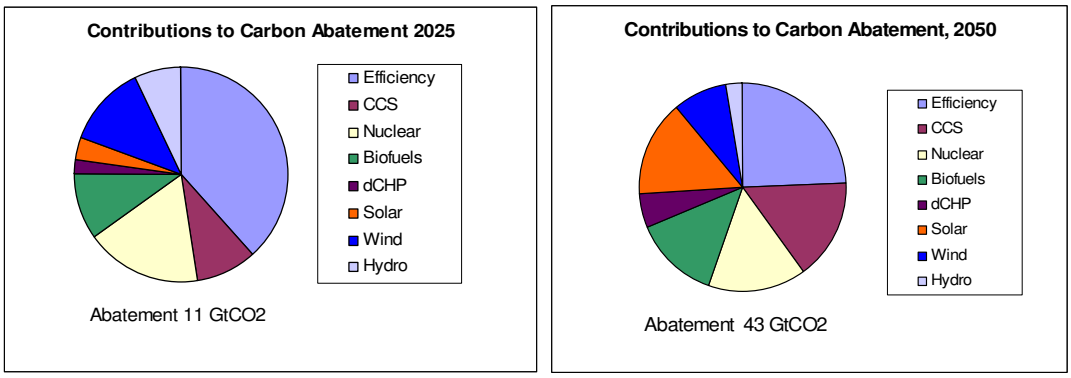
establishment of a market stability reserve post 2021 and provisions aimed at smoothing the process between trading phases, building on the experience gained in the transition from phase 2 to phase 3 of the EU ETS.[7]

According to the Spanish Climate Change Office (OECC in its Spanish acronym), Spain is currently wholeheartedly aligned with the EU's climate policy, especially as regards the revised post 2020 framework. At the international level, this implies trying to ensure that the 2ºC goal is met, supporting multilateralism, striving for full participation in future climate agreements and ensuring that commitments made by the various parties involved are transparent, quantifiable, comparable, verifiable and ambitious. The EU (and Spain) will also push for a strengthening of the multilateral rules-based regime (a robust set of rules on Monitoring, Reporting and Verification - MRV), accounting and compliance) and will support adaptation and implementation as a key part of the 2015 agreement. Additionally, Spain argues that we should build on existing institutions and processes, strengthen linkages and avoid inefficient duplication of efforts at the international level. In this regard, Spain welcomes the establishment of the Warsaw international mechanism for loss and damage associated with climate-change impacts, aimed at enhancing knowledge, coordination and support on this issue.

But achieving the 2ºC target is becoming increasingly difficult, if not impossible, given the current GHG reduction efforts. The task, in terms of mitigation, will require globally, at least three distinct and interconnected energy-related strategies. First, increase energy efficiency; a potentially low-cost option that can take us over a third of the way to the carbon reductions needed by 2025 and less than a quarter of the way to the GHG reductions needed by 2050. Secondly, reduced energy demand. Third, and particularly important for Spain, ensure renewable energy sources make a significant contribution to the energy mix. Graph 1 below illustrates how different technologies can contribute to mitigating CO_2 emissions for given amounts of energy demand, using Anderson's bottom-up analysis undertaken for the Stern Review (2007).

7 According to the EU Commission proposal for the establishment and operation of a market stability reserve, the reserve 'represents potentially a significant change to the design and operation of the EU ETS. Early lessons from operating the reserve rules may prove valuable and allow for improvements in the design of the reserve rules. At the same time predictability and stability are important for a successful carbon market. In order to strike the right balance the proposal foresees a review with particular focus on certain reserve parameters by 2026. The proposal also contains provisions aimed at smoothening auctioning supply in the years around transitions between trading phases in cases where the default would otherwise have resulted in sharp changes (**http://ec.europa.eu/clima/policies/ets/reform/docs/com_2014_20_en.pdf**).

Graph 1. Distribution of emission savings by technology



Source: Stern (2007), p. 230.

In Spain, the OECC has been entrusted, by way of article 3.1 of Royal Decree 401/2012, with representing the Ministry of Agriculture, Food and the Environment in international forums, especially at the United Nations Framework Convention on Climate Change (UNFCCC) and the IPCC. The rationale for the OECC's policies is that climate change is a global public bad that can threaten key sectors in Spain.

A key economic sector as regards climate-related foreign policy is the energy sector. In addition to the contribution that renewable energy sources (RES) can make to the reduction of greenhouse gas emissions, issues of energy dependence and energy security –which affect industrial production costs across the economy– are cited as reasons to promote renewables. Spain is already well positioned in terms of renewable targets. As Escribano (2014) outlines, Spain already surpassed the interim target set by the EU, reaching 15% in 2011. The most important strategy for Spain in terms of climate diplomacy arguably lies in ensuring energy security, an adequate level of interconnection with the EU and the establishment of a European energy market, which would increase competition, lower energy prices and allow consumers to enjoy greener energy. Pro-active policies in this area mean Spain could become an energy hub due to its geographical position, capitalising on its gas and renewable capacities (*Ibid.*).

In terms of Spain's geographical focus regarding climate diplomacy, Latin America can be a prime area of interest through the Ibero-American Network of Climate Change Offices (RIOCC[8] in its Spanish acronym). The RIOCC network was created in 2004 by the Ibero-American Ministries of Environment Forum. The RIOCC's main goals include exchanging experiences and information, and identifying priorities, challenges and opportunities. It also fosters the implementation of the UNFCCC decisions, especially as regards mitigation and adaptation and promotes the inclusion of climate action within Official Development Aid (ODA) strategies.

8 Red Iberoamericana de Oficinas de Cambio Climático (RIOCC) **www.lariocc.es.**

Climate change is increasingly considered a transversal goal for development projects in Spain (Corrales, 2008). In fact, the current plan (*Plan Director 2013-2016*)[9] includes climate change as one of its transversal goals. This inclusion of climate considerations in ODA projects in Spain is aligned with the Paris Declaration, the Accra Agenda (OECD, 2008) and the EU goal of policy coherence for development, which also sees climate change as a key global challenge (EC, 2007). In terms of funding climate-change initiatives within ODA, Spain contributed over €125 million in 2011 and €60 million in 2012 (MAGRAMA, 2013). As regards potential business opportunities, Spain's National Climate Change Adaptation Plan (PNACC) has meant the development of important transferable knowledge and know-how for cooperation.[10] In fact, many Spanish institutions and businesses have considerable expertise in the evaluation of impacts, vulnerability and adaptation, particularly in areas such as coastal and water resources management, among others.

The opportunity to strengthen the integration of climate change and poverty is also emerging internationally. At the global level, and for the first time in 15 years, the Millennium Development Goals are being revised. These are now going to be renamed Sustainable Development Goals. It is currently being debated how and to what extent climate change will be included in these goals. The agreements to be reached for the Sustainable Development Goals and the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC COP21), could provide a unique opportunity to reinforce global governance in poverty reduction and climate change.

Goals

The recently approved Law for Spain's Foreign Action and Service[11] (LAESE) recognises climate change as one of its objectives in Article 2. Additionally, Article 29 states that Spain's foreign policy as regards climate change will foster international climate agreements, strive for sustainable production and a sustainable energy model and protect ecosystems. It will also engage in capacity-building activities and render technical assistance to develop regulatory instruments and non-economic instruments such as awareness raising.

9 Ministerio de Agricultura, Alimentación y Medio Ambiente, La Integración del Cambio Climático en la Cooperación Española al Desarrollo, **http://www.magrama.gob.es/es/cambio-climatico/proyectos-de-cooperacion/cooperacion-internacional/la-integracion-del-cambio-climatico-en-la-cooperacion-al-desarrollo/Copy_2_of_default.aspx.**

10 Ministerio de Agricultura, Alimentación y Medio Ambiente, Proyectos de cooperación, **http://www.magrama.gob.es/es/cambio-climatico/proyectos-de-cooperacion/.**

11 See Congreso de los Diputados, Proyecto de Ley de la Acción y del Servicio Exterior del Estado, **http://www.congreso.es/public_oficiales/L10/CONG/BOCG/A/BOCG-10-A-51-1.PDF.**

Interests and values

This subsection reflects on some of Spain's main environmental concerns, economic interests, key stakeholder values and demands as regards climate-related foreign policy.

While Spain's climate diplomacy is largely embedded in the EU position, Spain's key interests and values regarding the environment sometimes differ from those of other EU countries. The northern EU countries have traditionally been concerned primarily with pollution issues. The focus of environmental concerns in southern countries such as Spain has been on water scarcity, wildfire soil erosion (Costa, 2006) and maritime pollution (Lázaro-Touza & Atkinson, 2013).

As regards climate-related foreign policy, according to Fride (2012), countries such as the UK, France and Germany, have a much greater involvement of their Ministries of Foreign Affairs in climate-change issues than Spain. Spain's leading role in renewable energies in a carbon-constrained world, along with the impacts of climate change on the tourist sector,[12] the wine and the milk industries, among others, are examples that serve to illustrate the powerful reasons for the Ministry of Foreign Affairs and Cooperation (MAEC in its Spanish acronym), in its commercial diplomacy capacity, to increase its interest and actions regarding climate change.

Concerning the values held by Spanish citizens interviewed by the European Commission, they are (self-reportedly) among the most concerned in the EU with climate change (EC, 2011),[13] although concern has significantly decreased as a result of the economic crisis (EC, 2014). However, the actual behaviour of citizens (or lack thereof) in Spain towards climate change is still seen as a barrier to success in the climate-change arena. There is thus a gap between the concerns and actions of Spanish citizens as regards climate change. Pilot projects that demonstrate the co-benefits of climate-conscious behaviour (eg, money saved in energy efficiency) could help bridge the gap between stated concern regarding climate change and behaviour.

The business sector, through its main association in Spain (*Confederación Española de Organizaciones Empresariales*, CEOE), is highly organised and cohesive in terms of voicing its demands as regards national and international climate policy. These demands include: first, to ensure there is a balanced agreement that includes both developed and developing countries. The business association hence opposes the current EU 2030 framework for climate and energy and will continue to do so until an inclusive, balanced and legally-binding international climate agreement is negotiated. The reason for this opposition according to the CEOE is that the

12 Tourism significantly contributes to Spain's GDP (10.9% in 2012) and employment (11.9% in 2012), see INE (2013).

13 Note that the Eurobarometer on climate change also affirms that 57% of Spanish interviewees saw the national government as the institution responsible for addressing climate change (EC, 2011). Additionally, Spanish citizens also recognise their knowledge regarding climate change is low (Arto *et al.,* 2013).

industry's competitiveness may be severely damaged. Recent literature on the existence of competitiveness losses and industrial flight provides some support for the intense lobbying on behalf of the CEOE as it has found a statistically significant effect on relocation partially derived from environmental regulations (Levinson, 2008). The pollution-haven hypothesis exists primarily for carbon-intensive industries like coal, oil, gas, cement, iron and steel, among others, which are heavily exposed to international trade. However, other variables such as labour costs, investment climate, regulatory stability and distance to markets, arguably have more weight in relocation decisions (Cole, 2004). Secondly, Spanish industries should be treated fairly. Third, subsidies to immature technologies should be limited. Fourth, greater attention should be paid to adaptation. And fifth, it should be ensured that there is regulatory stability that is conducive to long-term investments.

On the renewable energy front, the APPA (the renewable energy association for Spain) has demanded at the EU level, ambitious renewable energy targets (30% by 2030), expressing regret that the Spanish government did not support, and that the EU Commission did not adopt this target proposed by the European Parliament. Initiatives that facilitate decentralised energy production according to EU Directives are also demanded. Domestically, the APPA is eager to work alongside the government in the development of a long-term strategy for the power sector that can transcend political terms (ie, an Energy State pact). This strategy would have RESs play an increasingly important role subject to environmental, social and economic sustainability criteria. Further demands from the renewable sector include ensuring regulatory stability and avoiding retroactive measures which reduce investor confidence, and thus increase the risk of lower investments in renewables globally (Schoenberg, 2014) at a key point in the transition to low-carbon economies. For the transition to materialise the APPA demands a coherent energy policy that promotes RESs not only internationally, but also nationally.

There are a wide variety of environmental organisations in Spain. There is, to our knowledge, no common position that provides the Spanish government with Environmental Non-governmental Organisations' (ENGOs) demands on Spain's climate-related foreign policy. The requests, however, are fairly consistent. ENGOs' demands from the Spanish government (both nationally and abroad) include: further emission reductions, increases in forest protection initiatives and a climate-sensible energy policy (promoting decentralised renewable energy generation, saving energy and backing energy efficiency policies). The ultimate goal of these demands is that the international climate negotiation process abides by the 2ºC average temperature increase in accordance with the scientific consensus. The above demands by ENGOs should be met taking into account the different responsibilities and capabilities of developed versus developing countries. A just transition[14] towards a

14 Just Transition refers to 'the notion that the transition process to a greener economy has to be inclusive of all stakeholders, and that the unavoidable employment and social costs of the transition have to be shared by all' (Cunniah, 2010, p. 122).

low-carbon energy model both nationally and internationally is also seen as paramount. The transition implies not only moving away from fossil fuels but also embracing renewable alternatives. National policies should be integrated across government levels and stakeholders. Private firms should be part of the GHG abatement solution and should be transparently monitored. Citizens, in turn, should change their consumption patterns to reduce GHG emissions nudged by the 'choice editing'[15] role of governments (Assadourian, 2010). Equity is another key concern for ENGOs. This implies a fair burden-sharing agreement, making adaptation a priority and ensuring additional and adequate funding is disbursed to less developed countries by the international community. Additionally, technology transfers should be fostered to ensure the 'climate Kuznets Curve' can be tunnelled by rapidly developing countries. Table 2 below summarises some of the specific demands from the business sector and from civil society.

Table 2. Some key demands from Spanish stakeholders regarding climate policy and diplomacy

Topic	Business (CEOE)	Business (APPA)	ENGOs
GHG emission reductions	Further commitments should ensure a balanced agreement inclusive of developed and developing countries. No unilateral EU pledges are valid in the absence of such a balanced and inclusive agreement.	Further renewable energy targets are needed to meet climate-change targets.	Further commitments are needed to ensure average temperature increases are limited to 2ºC above pre-industrial temperatures.
Subsidies	Limit subsidies for 'immature technologies'.	Support is still needed in some technologies. For technologies losing subsidies adequate adaptation time should be granted.	Eliminate fossil-fuel subsidies and facilitate decentralised energy production from renewable energy sources.
Regulatory stability	Ensure regulatory stability to facilitate long-term and low CO_2 investment.		
Flexibility mechanisms	Use flexibility mechanisms[16] to increase efficiency. Limit the structural reform of the EU-ETS.	Flexibility mechanisms can potentially yield economic benefits (eg, through permits sold) if these mechanisms are designed and implemented carefully.	Abandon flexibility mechanisms. They have been ineffective in the past.
Climate	Pursue full participation. Commitments should be	Spain should keep supporting international negotiations under the	Pursue full participation. Make commitments

15 'Choice editing' refers to ways in which government shapes behaviour by using different policy instruments, from removing 'perverse subsidies and taxing unsustainable behaviours to outright bans of unsustainable technologies like the incandescent light bulb' (Assadourian, 2010, p. 6).

16 Flexibility mechanisms currently include three market-based mechanisms (Emissions Trading, Joint Implementation and Clean Development Mechanism) that conform the carbon market, and joint fulfilment. These mechanisms help countries meet Kyoto Commitments in an efficient way. See https://unfccc.int/kyoto_protocol/mechanisms/items/1673.php.

governance	comparable for developed countries. Commitments should be 'adequate' for developing countries. Make greater diplomatic efforts at international climate conferences. Increase the involvement of Heads of State and Ministers.	UN framework. Spain should be more active in voicing its demands and should further push for a renewable future. The EU should continue to be a climate policy leader despite economic downturns.	according to responsibilities and capabilities. Foster Environmental Policy Integration and multilevel climate governance.
Adaptation	Key nationally.	RES can also play a relevant role in national adaptation strategies (eg, providing low carbon electricity for future increases in energy demand in AC use associated with higher temperatures).	Key, especially in less-developed countries.

Source: Amigos de la Tierra, (2014), CEOE (2010), CEOE (2013a), CEOE (2013b), CEOE (2013c), Coalición Clima[17], Ecologistas en Acción, (2013), Ecologistas en Acción (2014a), Ecologistas en Acción (2014b), NRDC, (2014), ODI, (2013) and Jaume Margarit (pers. Comm.).

It is therefore in Spain's interest (in particular regarding the tourist sector, renewable energies and the agricultural sector), and in accordance with Spanish citizens' values, to foster action to curb GHG emissions and to adapt to changes that are already occurring.

(4) Spain's strategic climate alliances

Considering the goals of the recently-approved law (LAESE), as well as the interests and values described above, this section provides a brief analysis of the key geographical areas where Spain could focus its climate diplomacy efforts.

Strengthening the Latin climate connection

Spain can further contribute to the EU objective of cooperating with Latin American and Caribbean (LAC) partners to integrate climate change into development processes and strategies. The EU has adopted a relatively proactive stance under its EUROCLIMA project.[18] Spain can continue to build on these initiatives, reinforcing the synergies and complementarities with the RIOCC network and other regional initiatives promoted by Spanish Development Cooperation.

17 Coalición Clima. Principios y propuestas **http://www.coalicionclima.es/quienes-somos/principios-y-propuestas.**

18 EUROCLIMA 'is a regional cooperation programme between the European Union and Latin America, focused on climate change. The Programme's objective is to facilitate the integration of climate change mitigation and adaptation strategies and measures into Latin American public development policies and plans'. See **http://www.euroclima.org/en/euroclima/what-is-euroclima**.

In addition to the RIOCC initiative, that has strong political support at the highest level, Spain can continue to build on a range of rich and well-established relationships across the Atlantic. Civil society, the private sector, NGOs, academics and think tanks can enhance traditional Spanish climate diplomacy. These institutions diffuse the power from the state, bringing civil societies on both sides of the Atlantic closer together. In fact, climate change can provide a ready-made lab to test the concept of an integral system.[19] Latin America could be a good testing ground because of the many shared values around fundamental rights and freedoms, all of which could enhance existing links between political parties, trade unions, regional climate expertise, the media and NGOs; a true mesh of rich experience from diverse actors.

Our southern Mediterranean neighbours: in the same climate boat?

Security, migration, shared environmental problems and business opportunities are the key axes along which Spain's climate-related foreign policy could further develop in the Southern Mediterranean region.

While climate change has not been a significant factor directly driving migration in the recent past, it is however anticipated to be a relevant factor in the future (IPCC, 2014). This is particularly important considering the Mediterranean is a climate hotspot already affected by scarce water resources, dependency on food imports, a political winter after the Arab spring and significant income differences between its northern and southern shores. Spain's aid and adaptation strategy abroad could help limit the adverse threat multiplier effect of climate change, which is expected to result in further resource scarcity, social unrest, possibly an upsurge in extremism and an increased demand for military support to respond to humanitarian crises (NIC, 2009). As Kofi Annan, the former UN Secretary General, said: We will not enjoy development without security, and we will not enjoy security without development, and we will not enjoy either without human rights. Unless all causes are advanced, none will succeed'.

A further aspect that is inextricably linked to climate change in the Mediterranean region is food security (Luomi, 2012). This is so due to the fact that in these arid and semi-arid countries agriculture represents 80% to 90% of water consumption. Climate change implies a threat to the livelihoods of a population living in areas that are already some of the world's most water-scarce. Thus water, food and environmental security in the Mediterranean context are inextricably linked to climate change.

Concerning business opportunities, the Mediterranean region, in addition to being a hydrocarbon-rich area, also has significant renewable potential. This bodes well for Spanish expertise on renewables. Should energy markets be integrated across the

19 See Elcano (2014) for a definition and discussion of the integral system.

Western Mediterranean, this could also help reduce Europe's energy dependence while also helping to decarbonise its energy footprint. Initiatives like the DESERTEC project and the Mediterranean Solar Plan were, geopolitical and cost issues notwithstanding, potentially innovative solutions to improve conditions on the southern shores, ensuring security through shared development. Renewed political commitments on these projects would indicate Spain can develop a strategic vision for a key sector. This strategic vision seems particularly significant after the Ukrainian crisis and the energy opportunities opening up in Spain due to its geographical position in the Mediterranean. Spain is already actively engaged with Morocco and Algeria in bilateral relations (Elcano, 2014) and with the 5 + 5 initiative in the Western Mediterranean, where the 10 countries involved have included climate change as a thematic priority.[20]

It can therefore be argued that Spain's climate diplomacy with its southern neighbours should further focus on the food-water-energy-aid nexus, perhaps through a regional network of climate change offices *à la* RIOCC as well as through innovative initiatives in the renewable energy arena.

Looking East

The world axis of economic power continued shifting East in the aftermath of the 2008 economic crisis. Sixty per cent of the world population, three of the five biggest world economies and the second and third largest global investors are in Asia (Elcano, 2014). Asia will also be severely impacted by climate change, mainly because of its large population (much of it located in vulnerable areas such as deltas or cities in coastal regions) as well as by the economic consequences of climate change (Piao *et al.* 2010). Spanish foreign policy interests in this region remain mainly economic (Elcano, 2014) and this also applies to climate diplomacy. As for mitigation, for example, the Chinese market provides an opportunity for Spain's renewable energy technology, and as regards adaptation, through water resource management (López-Gunn & Stucker, 2014), Spain has considerable relevant experience and know-how.

(5) Conclusions and recommendations

Spain's future climate policy is likely to continue working towards an inclusive, ambitious and legally-binding international climate agreement that would aim to limit maximum global average temperature increases to 2ºC compared with pre-industrial levels. Spain will also back the use of flexibility mechanisms and will promote efficiency in the use of existing institutions at the international level. The above are all in line with the EU's climate policy. Independently of the EU, Spain will continue to nourish the Ibero-American Network of Climate Change Offices (RIOCC), building on our historical ties while contributing to the advancement of international climate negotiations.

20 See **www.remoc.org** for more information on the first meeting held on 26 February 2014.

As discussed throughout this paper, if the climate challenge is to be tackled decisively, the deployment of renewable energy *en masse* will be of paramount importance. The reasons for supporting the renewable energy sector in Spain include: its renewable endowment, past investments and leadership in renewables, the increase in energy independence brought about by a high penetration of renewable energy sources in the energy mix, the reduction in GHG emissions, the contribution of the renewable energy sector to Spain's GDP and its potential future contribution to economic growth.[21] In sum, Spain's past efforts in renewable energy development should not be wasted, a climate (and commercial) diplomacy strategy that would align Spain's values and interests.

The pending challenges for Spain's climate-related foreign policy as regards its geographical outreach include further coordinating national institutions such as the Spanish Climate Change Office with the Ministry of Foreign Affairs and Cooperation, and developing new networks *à la* RIOCC with its North African neighbours, to minimise threats such as climate change-related migrations and conflict. These new networks could support existing efforts in terms of Spain's security policy and humanitarian response. Additionally, regions where Spain has traditionally had less ties, such as countries across Asia, are likely to be looking for potential solutions, technologies and lessons learnt on the management of extreme events, coastal areas, water resources management, migration, etc. Spain can provide significant experience, technology and know-how to these regions, a strategy that could bring much needed business opportunities.

Table 3 below concludes by providing a set of suggestions for Spain's climate-related foreign policy.

Table 3. Suggestions for Spain's future on climate related foreign policy

Vision: Global Climate Governance	• Deepen the institutionalisation of climate-change policy, particularly in the area of climate-change adaptation, ensuring policy coherence between national and foreign policy actions. • Strengthen international law to develop the right institutional scaffolding to help cope with hydrological variability (eg, 1997 Convention on the Law of the Non-navigational Uses of International Watercourses). • Foster emerging third-generation rights like peace, prosperity and a clean and healthy environment, which are distinct as collective rights.
Policy opportunities, instruments and policy actors	• Create additional opportunities to export knowledge and know-how taking advantage of the strong technical expertise of some Spanish infrastructure firms in drought management and drought management plans. • Establish additional partnerships with other cities to further climate action. • Pursue opportunities for scientific and technical diplomacy[22] (see, for instance, the Antarctic Treaty). • Increase knowledge of potential scenarios (not just for climate change but

21 According to APPA (2012), the renewable energy sector in Spain amounted to 1% of Spain's GDP in 2012, it employed 113,899 people, avoided fossil fuel imports of 13.5 million tons of oil equivalent (Mtoe) (saving €2,429 million), avoided the emission of 215,5 tons of CO_2 from 2005 to 2012 (saving €3,000 million). In the same period, 2005-2012, the renewables sector avoided the emission of 171,752 tons of NO_x and 322,974 tons of SO_2.

22 The World Academy of Science for the Advancement os Science in developing countries, Science Diplomacy, **http://www.twas.org/science-diplomacy**.

		also for impacts on water, food and energy) as well as increase the information on no-regret strategies in terms of adaptation. • Analyse climate change-related human security impacts (migration, social instability, etc) in already insecure regions. • Map the potential for low-carbon growth and renewables in different regions to identify new business opportunities in the renewable energy and consulting sectors, among others. • For adaptation, increase existing knowledge on the water stewardship of scarce water resources in water scarce regions, eg, value ecosystem services like groundwater storage, etc. • Analyse food security implications of different climate-change projections and long-term strategic food-trade agreements. • Plan and fund energy-saving demonstration projects to help bridge the gap between concern and behaviour. • Reduce scientific uncertainty through research and/or develop systems that can operate under uncertainty. • Increase the weight of climate change in foreign and security policy. • Foster social capital in civil society as a fundamental, and often underestimated, element of adaptive capacity.
Strategic Areas and Objectives:	**Global**	• Establish ties *à la* RIOCC with other key partners in North Africa and Asia that can help appease energy security concerns, engage in future climate agreements and provide Spain with much needed business opportunities. • In line with current political processes on the SDGs, Spain could identify climate-smart targets[23] and policy coherence initiatives (Paris Declaration), with finance linked to the UNFCCC process (CDKN, 2014).
	NENA region (North Africa and Near East region)	• Support the development of adaptation measures in the NENA region. • Identify smart-climate policies, within a water-food-energy-aid security frame. • Develop infrastructure projects and water-treatment projects that will make both people and ecosystems healthier, one of the targets of the re-vamped Spanish foreign policy. • Ensure climate change features continue to be included in the on-going political initiatives in the region like the Barcelona process, the NATO Mediterranean Dialogue, the Union for the Mediterranean and the recently kick-started Initiative 5 + 5 on the Western Mediterranean.
	LAC	• Further development of NAMAS with projects undertaken by the Spanish Foreign Commerce Institute (ICEX, in its Spanish acronym).
	Other	• Stimulate mitigation measures in developing countries from 2020 onwards. • Diversify the current structure of the Clean Developing Mechanism (CDM), which is currently dominated by China, India, Brazil, Mexico, Malaysia, Indonesia and Korea.
Operational Objectives: Resources		• Strengthen coordination between OECC and MAEC to integrate climate policy across all foreign policy areas. • Increase the funds and personnel at the OECC in order to develop networks similar to the RIOCC.

23 A triple win of ending poverty, shifting to low/zero carbon development and enabling adaptation, disaster risk management and resilience to environmental shocks and stresses.

Bibliography

Amigos de la Tierra (2014), 'España no quiere apoyar un objetivo vinculante de renovables para 2030', **https://www.tierra.org/spip/spip.php?article1911**, last accessed 26/II/2014.

Araújo, M.B., F. Guihaumon, D. Rodrigues Neto, I. Pozoortego& R. Gómez Calmaestra (2011), 'Impactos, vulnerabilidad y adaptación al cambio climático de la biodiversidad española. 2. Fauna de vertebrados', Ministerio de Medio Ambiente, Medio Rural y Marino, MNCN and CSIC, **http://www.ibiochange.mncn.csic.es/atlascc/wp-content/uploads/2011/10/Atlas_cc_espana_fauna_Araujo_et_al.pdf**, last accessed 28/III/2014.

APPA (2012), 'Study of the Macroeconomic Impact of renewable Energy in Spain', **http://www.appa.es/descargas/Study_2012_English.pdf**, last accessed 25/IV/2014.

Arto, M.P., F. Heras, L. Iglesias, J.J. Lorenzo & P. Montero (2013), 'La respuesta de la sociedad española ante el cambio climático', Fundación Mapfre, Madrid.

Ashof, G. (2010), 'Triangular Cooperation: Opportunities, risks, and conditions for effective Development Outreach', World Bank Institute, p.22-26, **http://siteresources.worldbank.org/WBI/Resources/213798-1286217829056/ashoff.pdf.**

Assadourian, E. (2010), 'Cultural change for a bearable climate', ARI nr 163/2010, Elcano Royal Institute, **http://www.realinstitutoelcano.org/wps/portal/web/rielcano_en/contenido?WCM_GLOBAL_CONTEXT=/elcano/elcano_es/especiales/especial+cambio+climatico/publicaciones+rie/ari+y+dt/ari163-2010#.Uy9L161dVEI**, last accessed 23/III/2014.

Bates, B.C., Z.W. Kundzewicz, S. Wu & J.P Palutikof (2008), *Climate Change and Water*, Technical Paper of the Inter-Governmental Panel on Climate Change. IPCC Secretariat, Geneva, Switzerland.

Bloomberg New Energy Finance (2013), 'Climate scope 2013', **http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38168432**, last accessed 13/III/2013.

CEDEX (2012), *Evaluación del impacto del cambio climático en los recursos hídricos en régimen natural*, Madrid. **http://www.magrama.gob.es/es/agua/temas/planificacion-hidrologica/planificacion-hidrologica/EGest_CC_RH.aspx**

CEOE (2010), 'Ampliación del compromiso de reducción de la UE más allá de 20%', Documento de posición.

CEOE (2013a), 'Posición de CEOE sobre la comunicación de la Comisión. El acuerdo internacional de 2015 sobre el cambio climático: configuración de la política climática internacional después de 2020'.

CEOE (2013b), 'Posición de los sectores industriales de CEOE en relación a la retirada de derechos del Mercado de CO_2 (*backloading*)'.

CEOE (2013c), 'Posición de CEOE sobre la revisión de la lista de sectores y subsectores expuestos a un riesgo significativo de fuga de carbono'.

CEOE (2014), 'Posición de los sectores industriales de CEOE. Paquete clima y energía a 2030'.

Coalición Clima, **http://www.coalicionclima.es/quienes-somos/principios-y-propuestas**, last accessed 27/II/2014.

Cole, M.A. (2004), 'Trade, the pollution haven hypothesis and the environmental Kuznets curve: examining the linkages', *Ecological Economics*, nr 48, p. 71-81.

Congreso de los Diputados, Proyecto de Ley de la Acción y del Servicio Exterior del Estado, **http://www.congreso.es/public_oficiales/L10/CONG/BOCG/A/BOCG-10-A-51-1.PDF**, last accessed 2/III/2014.

Corrales, M. (2008), 'Cambio Climático y Cooperación al Desarrollo', 23/VII/2008, **http://www.fundacioncarolina.es/es-ES/areacomunicacion/noticias/noticias/Documents/Mónica%20Corrales.pdf**, last accessed 2/II/2014.

CDKN (Climate Change and Knowledge Development Network) (2014), *Integrating climate change in the post-2015 development agenda*, march, **http://cdkn.org/wp-content/uploads/2014/03/Integrating-climate-change-into-the-post-2015-development-agenda.pdf**, last accessed 26/III/2014.

Costa, O. (2006), 'Spain as an Actor in European and International Climate Policy: From a Passive to an Active Laggard?', *South European Society and Politics*, vol. 11, nr 2, p. 223-240.

Council of the European Union - Environment. Environment Council - Public Debate. 3 March 3 2014, **http://video.consilium.europa.eu/webcast.aspx?ticket=775-979-14062**, last accessed 31/III/2014.

Cunniah, D. (2010), 'Preface. Climate changeand labour: The need for a "just transition"', *International Journal of Labour Research*, vol. 2, nr 2, p. 121-123.

Department of Defence (DoD) (2010), 'Quadrennial Defense Review Report', February, **http://www.defense.gov/qdr/images/QDR_as_of_12Feb10_1000.pdf**, last accessed 2/III/2014.

EEA (2014), 'Marine messages. Our seas, our future. Moving towards a new understanding', **http://www.eea.europa.eu/publications/marine-messages/**, last accessed 21/II/2014.

EC (2007), 'EU Report on Policy Coherence for Development. Commission Working Paper COM(2007) 545 final and EU Report on policy Coherence for Development. Commission Staff Working PaperSEC(2007) 1202', **http://ec.europa.eu/development/icenter/repository/Publication_Coherence_DEF_en.pdf**, last accessed 25/IV/2014.

EC (2011), 'Climate Change. Report. Special Eurobarometer 372', **http://ec.europa.eu/public_opinion/archives/ebs/ebs_372_en.pdf**, last accessed 23/III/2014.

EC (2014), 'Climate Change. Report. Special Eurobarometer 409', **http://ec.europa.eu/clima/citizens/support/docs/report_2014_en.pdf**, last accessed 14/III/2014.

EC, Climate Action, **http://ec.europa.eu/clima/policies/ets/reform/index_en.htm**, last accessed 9/IV/2014.

EC, Green Paper 2030: Main outcomes of the public consultation. Commission Services Non Paper, **http://ec.europa.eu/energy/consultations/doc/20130702_green_paper_2030_consulation_results.pdf**, last accessed 7/III/2014.

EC, Proposal for a decision of the European Parliament and the Council concerning the establishment and operation of a market stability reserve for the Union greenhouse gas emission trading scheme and amending Directive 2003/87/EC, **http://ec.europa.eu/clima/policies/ets/reform/docs/com_2014_20_en.pdf**, last accessed 9/IV/2014.

Ecologistas en Ación (2013), 'La cumbre COP 19 en Varsovia: el clima secuestrado', **https://www.ecologistasenaccion.org/article26794.html**, last accessed 25/II/2014.

Ecologistas en Acción (2014a), 'Petróleo pesado: el fin de los compromisos climáticos europeos', **https://www.ecologistasenaccion.org/article27277.html**, last accessed 25/II/2014.

Ecologistas en Acción (2014b), 'Objetivos 2030 de la UE: insuficientes y de espaldas a la urgencia climática', **https://www.ecologistasenaccion.org/article27262.html**, last accessed 25/II/2014.

Elcano Report (2014), *Hacia una renovación estratégica de la política exterior española: elementos para conectar mejor el proyecto colectivo de país con el mundo globalizado*, Informe Elcano, March, **http://www.realinstitutoelcano.org/wps/wcm/connect/ec53e280430c03c1a760afc959dd21c2/InformeElcano15_PolExtEspana.pdf?MOD=AJPERES&CACHEID=ec53e280430c03c1a760afc959dd21c2**, last accessed 17/III/2014.

Energy and Environmental Security, **http://www.scoop.it/t/energy-and-environmental-security**, last accessed 1/IV/2014.

Escribano, G. (2014), 'La acción exterior española en un escenario energético en transformación', Estrategia Exterior Española 2/2014, Real Instituto Elcano, 6/II/2014, **http://www.realinstitutoelcano.org/wps/portal/web/rielcano_es/contenido?WCM_GLOBAL_CONTEXT=/elcano/elcano_es/programas/energiacambioclimatico/publicaciones/eee2-2014-escribano-accion-exterior-espanola-escenario-energetico-transformacion#.U2dSU62SzFA**, last accessed 5/V/2014.

EUROCLIMA, **http://www.euroclima.org/en/euroclima/what-is-euroclima**, last accessed 1/IV/2014.

European Council (2014), 'European Council Conclusions 20/21 March 2014'.

FAO (2012), 'The state of world fisheries and aquaculture 2012', **http://www.fao.org/docrep/016/i2727e/i2727e.pdf**, last accessed 23/III/2014.

Fischer, G., F.N. Tubiello, H. van Velthuizen & D.A. Wiberg (2007), 'Climate change impacts on irrigation water requirements: effects of mitigation, 1990-2080', *Technol. Forecast Soc.*, vol. 74, nr 7, p. 1083-1107.

Fride (2012), 'El cambio climático y la acción exterior de España: un necesario cambio de perspectiva', **http://fride.org/blog/el-cambio-climatico-y-la-accion-exterior-de-espana-un-necesario-cambio-de-perspectiva-2/**, last accessed 2/III/2014.

Garrido, A., B. Willaarts, L. Rey & E. López-Gunn (2012), 'Climate Variability and Change in Spain', in Stefano & Llamas (Eds), *Water, Agriculture and the Environment: Can we Square the Circle?*, Taylor & Francis, **http://www.fundacionbotin.org/file/44917/**.

Gómez de Ágreda, Á., (2010), 'Las variaciones en el clima y su influencia en la seguridad', *Revista de Aeronáutica y Astronáutica*, nr 794, June, p. 538-543.

Harris, P.G. (2009), *Climate change and foreign policy: case studies from East to West*, Routledge.

International Energy Agency (IEA), World Energy Outlook. Energy Subsidies, **http://www.worldenergyoutlook.org/resources/energysubsidies/**, last accessed 25/II/2014.

IPCC (2014), 'IPCC WGII AR5 Chapter 23. Europe', **http://ipcc-wg2.gov/AR5/images/uploads/WGIIAR5-Chap23_FGDall.pdf**, last accessed 2/II/2014.
IPCC (2013), 'Climate Change 2013. The Physical Science Basis. Summary for Policymakers', **http://www.ipcc.ch/report/ar5/wg1/docs/WGIAR5_SPM_brochure_en.pdf**, last accessed 20/II/2014.
IPCC (2007), 'Climate Change 2007: Synthesis Report', **http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_synthesis_report.htm**, last accessed 16/III/2014.
IPCC (2000), 'IPCC Special Report. Emissions Scenarios. Summary for Policy Policymakers', **http://www.ipcc.ch/pdf/special-reports/spm/sres-en.pdf**, last accessed 16/III/2014.
INE (2013), 'Cuenta Satélite del Turismo de España. Base 2008 Serie 2008-2012', Notas de prensa, 27/XII/2013, **http://www.ine.es/prensa/np829.pdf**, last accessed 22/II/2014.
Lázaro-Touza, L., & G. Atkinson (2013), 'Nature, roads or hospitals? An empirical evaluation of sustainable development preferences', *Ecological Economics*, nr 95, p. 63-72.
Lázaro-Touza, L., & E. López-Gunn (2012), 'Climate Change Policies – Mitigation and Adaptation at the Local Level: The Case of the City of Madrid (Spain)', in M. Tortora (Ed.), *Sustainable systems and energy management at the regional level: comparative approaches*, IGI Global, Hershey, p. 261-287.
Levinson, A. (2008), 'Pollution haven hypothesis', *New Palgrave Dictionary of Economics Online.*
Lopez-Gunn, E. (2009), 'Spain, Water and Climate Change in COP 15 and Beyond: Aligning Mitigation and Adaptation through Innovation', Working Paper nr 65/2009, Elcano Royal Institution, 24/XII/2009.
López-Gunn, E., & D. Stucker (2014), 'An introduction to adaptation to climate change through water resources management', in S. Stucker & E. López-Gunn (2014), *Adaptation to Climate Change through Water Resources Management: Capacity, Equity, and Sustainability*, Earthscan Publishers, London.
Lorenzo-Lacruz, J., S.M. Vicente-Serrano, J.I. López-Moreno, E. Morán-Tejeda & J. Zabalza (2012), 'Recent trends in Iberian stream flows (1945-2005)', *Journal of Hydrology*, p. 463-475.
Luomi, M. (2012), 'Middle East Food Security and Climate Change emissions', 17/I/2012.
Mabey, N., L. Gallagher & C. Born (2013), 'Understanding climate diplomacy. building diplomatic capacity and systems to avoid dangerous climate change', October, E3G, **http://cdkn.org/wp-content/uploads/2013/03/E3G-Understanding-Climate-Diplomacy.pdf**, last accessed 10/IV/2014.
Met Office (2011), *Climate: observations, projections and impacts*, **http://www.metoffice.gov.uk/media/pdf/k/i/Spain.pdf**, last accessed 23/II/2014.
Ministerio de Agricultura, Alimentación y Medio Ambiente (2013), 'Sexta Comunicación Nacional de España. Convención Marco de las Naciones Unidas sobre el Cambio Climático', December, **http://unfccc.int/files/national_reports/annex_i_natcom/submitted_natcom/application/pdf/131220_6cn[1].pdf**, last accessed 24/III/2014.
Ministerio de Sanidad, Servicios Sociales e Igualdad (2013), 'Impactos del Cambio Climático en la Salud. Resumen Ejecutivo', **http://www.oscc.gob.es/docs/documentos/04_Resumen_Ejecutivo_Camb_Climat_ESP.pdf**, last accessed 28/III/2014.

National Intelligence Council (2009), 'North Africa: the Impacts of Climate Change to 2030. Geopolitical Implications', **http://www.dni.gov/files/documents/climate2030_north_africa.pdf**, last accessed 2/II/2014.

Natural Resources Defence Council (NRDC) (2014), 'The Tar Sands Threat to Europe: How Canadian Industry Plans Could Undermine Europe's Climate Goals', **http://switchboard.nrdc.org/blogs/aswift/NRDC%20Tar%20Sands%20Threat%20to%20Europe%20Memo%20FINAL%20January%202014%20FINAL.pdf**, last accessed 25/II/2014.

Overseas Development Institute (ODI) (2013), 'Time to change the game. Fossil fuel subsidies and climate change', **http://www.odi.org.uk/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8668.pdf**, last accessed 25/II/2014.

OECD (2008), 'The Paris Declaration on Aid Effectiveness and the Accra Agenda for Action', **http://www.oecd.org/dac/effectiveness/34428351.pdf**, last accessed 25/IV/2014.

Pérez, F.F., & R. Boscolo (Eds.) (2010), 'Clima en España: pasado, presente y futuro. informe de evaluación del cambio climático regional, Red temática Clivar, **http://www.clivar.es/files/informe_clivar_final.pdf**, last accessed 17/II/2014.

Piao, S., *et al.,* (2010), 'The impacts of climate change on water resources and agriculture in China', *Nature*, vol. 467, nr 2, p. 43-51.

Potsdam Institute for Climate Impact Research and Climate Analytics (2012), 'Turn Down the Heat: Why a 4ºC Warmer World Must be Avoided', World Bank, **http://climatechange.worldbank.org/sites/default/files/Turn_Down_the_heat_Why_a_4_degree_centrigrade_warmer_world_must_be_avoided.pdf**, last accessed 20/II/2014.

Richardson, K., W. Steffen & D. Liverman (2011), *Climate Change: Global Risks, Challenges and Decisions*, Cambridge University Press, Cambridge.

Sachs, J. (2013), 'From Millennium Development Goals to Sustainable Development Goals', *Lancet*, nr 379, p. 2206-2211.

Stern, N. (2007), *The Economics of Climate Change: the Stern Review*, Cambridge University Press, Cambridge.

Schoenberg, M. (2014), 'A call to arms on emissions', Climate Change Capital, 17/IV/2014, **http://www.climatechangecapital.com/thinktank/articles/a-call-to-arms-on-emissions**, last accessed 25/IV/2014.

Schoenberg, M. (undated), 'The threat of wasted capital – why ETS reform needs to come into effect in 2017', Think Tank Thought Pieces, Climate Change Capital, **http://www.climatechangecapital.com/images/docs/The_threat_of_wasted_capital_-_why_ETS_reform_needs_to_come_into_effect_in_2017_-_Martin_Schoenberg.pdf**, last accessed 20/III/2014.

Skinner, C.J., & R.J. Dear (undated), 'Climate and tourism – an Australian perspective', **http://www.mif.uni-freiburg.de/isb/ws/papers/17_carol.pdf**, last accessed 23/II/2014.

United Nations framework Convention on Climate Change, The Mechanisms under the Kyoto Protocol: Emissions Trading, the Clean Development Mechanism and Joint Implementation, **https://unfccc.int/kyoto_protocol/mechanisms/items/1673.php**, last accessed 25/III/2014.

United Nations framework Convention on Climate Change (1992), **http://unfccc.int/essential_background/convention/background/items/2536.php**, last accessed 18/II/2014.

World Health Organization (2013), Climate change and health, Fact sheet N°266. Reviewed November 2013, **http://www.who.int/mediacentre/factsheets/fs266/en/**, last accessed 28/III/2014.

World Trade Organization (WTO), The environment: a specific concern, **http://www.wto.org/english/thewto_e/whatis_e/tif_e/bey2_e.htm**, last accessed 26/II/2014.