

# Spanish Law 7/2021, of 20 May, on Climate Change and Energy Transition: A Long Way Ahead to Achieve Tangible Results\*

Agustín García-Ureta  
*Professor of Law, University of the Basque Country*

Miren Sarasibar Iriarte  
*Lecturer in Law, Public University of Navarre*

Blanca Soro-Mateo  
*Lecturer in Law, University of Murcia*

Santiago Álvarez-Carreño  
*Lecturer in Law, University of Murcia*

Aritz Romeo Ruiz  
*Lecturer in Law, Public University of Navarre*

## Introduction

The consequences of climate change are apparent on a global scale. The earth's average temperature is rising, some natural processes are undergoing severe variations (eg species' migration or pollination), precipitation patterns are changing, glaciers are melting, sea levels are rising and 'natural' disasters abound. They all show that the consequences of climate change are frightful and that it is urgent to adopt measures to mitigate its effects and to adapt to this new scenario. Adaptation to climate change is not a singular option as opposed to reducing the causes that give rise to it but it may be regarded as a necessary supplement to mitigation policies.<sup>1</sup> In fact, adaptation and mitigation are intertwined as they constitute the essential pillars of the global fight against climate change.<sup>2</sup> Mitigation policy is aimed more at limiting the accumulation of greenhouse gas (GHG) emissions in the atmosphere by reducing them or improving sinks. Adaptation policy aims to minimise risks, vulnerability and impacts. Whilst mitigation actions require joint and coordinated responses at global level, adaptation must be taken at national or even local level, since climate change impacts touch every location; therefore, those measures must be undertaken in all spheres and at all territorial levels and with the involvement of all relevant stakeholders. Adaptation measures are therefore essential to cope with unavoidable climate impacts and the economic, environmental and social costs they entail.<sup>3</sup> This need for adaptation is especially acute in those sectors where the climate plays a relevant role, such as agriculture, forestry, health or tourism, among others, where the new panorama created as a result of climate change involves a radical alteration of their features.

\* This article has been financially supported by the Spanish Ministry for Economic Affairs and Digital Transformation: research projects PID2020-115505RB-C21 and PID2020-115505RB-C22.

## Spain and climate change

Owing to its geographical location, Spain (and in general the Iberian Peninsula) faces significant risks from climate change, affecting a wide range of natural resources, biodiversity, economic and social sectors. During the 20th century, temperatures in Spain have increased by a greater scale than the global average. Precipitation during that period tended to fall, especially in the southern part of the country and the Canary Islands. The State Meteorological Agency (AEMET) has indicated in its first annual report on the state of the climate in Spain (2019) that warming is not only not stopping but that it is accelerating, resulting in an increase of 0.3° Celsius in each decade since the 1960s. The report states that the current scenario is clearly warmer and with less water availability than in past decades.<sup>4</sup> For instance, the current summer is almost five weeks longer than at the beginning of the 1980s. The thermal increase projected for the Iberian Peninsula depending on whether (more or less) favourable scenarios are used (less or more emissions, respectively) is uniform throughout the 21st century, with an average trend of 0.4° C/decade in winter

1 A Sumi, K Fukushi and A Hiramatsu (eds) *Adaptation and Mitigation Strategies for Climate Change* (Springer 2010).

2 R Roggema 'Design adaptation to climate change' in M Grasso *Justice in Funding Adaptation under the International Climate Change Regime* (Springer 2010) 11–28.

3 M Grasso 'Adaptation to Climate Change' in M Grasso *Justice in Funding Adaptation under the International Climate Change Regime* (Springer 2010) 11–28; S Borrás Pentinat 'La adaptación al cambio climático en la Unión Europea' in S Borrás Pentinat (ed) *Retos y realidades de la adaptación al cambio climático: Perspectivas técnico-jurídicas* (Thomson Reuters 2013) 167–93; D Ellison 'Addressing adaptation in the EU policy framework' in E C Keskitalo (ed) *Developing Adaptation Policy and Practice in Europe: Multi-level Governance of Climate Change* (Springer 2010) 39–96; and J D Ford and L Berrang-Ford (eds) *Climate Change Adaptation in Developed Nations: From Theory to Practice – Advances in Global Change Research* (Springer 2011).

4 [https://www.aemet.es/documentos/es/conocermas/recursos\\_en\\_linea/publicaciones\\_y\\_estudios/estudios/Informes%20estado%20clima/Informe\\_estado\\_clima\\_2019.pdf](https://www.aemet.es/documentos/es/conocermas/recursos_en_linea/publicaciones_y_estudios/estudios/Informes%20estado%20clima/Informe_estado_clima_2019.pdf).

and 0.7° C/decade in summer for the least favourable scenario, and 0.4° C and 0.6° C/decade, respectively, for the most favourable scenario. In addition, the report indicates that '[w]ith a high level of certainty, it can be said that climate change will alter some of Spain's inland aquatic ecosystems from permanent to seasonal; some will disappear.<sup>5</sup> The biodiversity of many of them will be reduced and their biogeochemical cycles will be altered'. By 2030, average decreases in water contributions are expected to be between 5 and 14 per cent, whilst by 2060 an overall reduction in water resources of 17 per cent is forecast on average for the Iberian Peninsula. Spanish coasts (7,905 km) are to be badly affected owing to a probable rise in mean sea level and temperature. In the seas around the Spanish coast, the mean sea level, analysed over the last 60 years shows a generalised upward trend, with values ranging spatially between 1.5 mm/year in the Mediterranean Sea, 2 mm/year in the Cantabrian Sea and 2.5 mm/year in the vicinity of the Canary Islands. Over the past 30 years, more than 70 per cent of the littoral waters underwent significant warming with very heterogeneous rates of change, both spatially and seasonally.<sup>6</sup> According to the European Environment Agency, impacts of extreme weather and climate related events in Spain generated losses of €45,000 million in the period from 1980 to 2019.<sup>7</sup>

The confinement and additional restrictions during the SARS-CoV-2 pandemic brought short-lived relief to a largely upsetting future as there was an overall decrease in CO<sub>2</sub> equivalent emissions in 2020 (compared to the previous year) of 13.7 per cent (271.5 million tonnes of CO<sub>2</sub> equivalent by 2020).<sup>8</sup> The overall emissions level was minus 6.4 per cent compared to 1990 and minus 38.6 per cent compared to 2005. According to the Spanish Inventory of Greenhouse Gas Emissions,<sup>9</sup> the decrease had two main causes, namely the increase in electricity generation from renewable sources and the fall in the use of coal. According to Red Eléctrica de España SA (REE),<sup>10</sup> the contribution of renewable

energies to peninsular electricity generation in 2020 set a record high, reaching a share of 45.5 per cent of electricity generation (3.3 percentage points higher than the previous high recorded in 2014, when renewables accounted for 42.2 per cent of the energy mix). The higher share of renewable generation in 2020 was mainly attributable to the increase in hydro and solar photovoltaic production (23.9 per cent and 68.5 per cent higher than the previous year) as a result of weather conditions and the increase in installed capacity in the peninsular system.<sup>11</sup>

Activity and mobility constraints associated with the pandemic resulted in a 10.8 per cent drop in GDP but also in a decline in emissions from transport of 17.6 per cent, from industry of 11.4 per cent and from power generation of 34.9 per cent. The latter decrease is also explained by the strong increase in generation from renewable sources in 2020. Emissions from sectors subject to the European Emissions Trading Scheme, which account for 32.7 per cent of the total, decreased by 18.7 per cent and emissions from diffuse sectors by 10.4 per cent. Overall, the total energy sector accumulated a decrease in GHG emissions of 17 per cent. Emissions from industrial processes and product use decreased by 12.6 per cent. The activity sub-sector with the largest share of total emissions was transport (27.7 per cent), followed by industry (21.4 per cent), agriculture and livestock (14.1 per cent), electricity generation (10.3 per cent), fuel consumption in residential, commercial and institutional sectors (8.2 per cent) and waste management (5.1 per cent). Nevertheless, the previous figures cannot conceal the fact that Spain faces important challenges both in terms of adaptation/mitigation to climate change repercussions (increasing wildfires, desertification, higher temperatures affecting human health, loss of biodiversity and ecosystems, coastal erosion and/or alien invasive species) and energy transition (as reflected in currently skyrocketing electricity prices owing to a variety of factors such as the increase in CO<sub>2</sub> allowances, gas prices and taxation).<sup>12</sup>

5 Spanish glaciers, present only in the Pyrenees, are undergoing a marked process of regression as they occupy only 10% of the area they occupied at the beginning of the 20th century. See [https://www.miteco.gob.es/es/agua/temas/evaluacion-de-los-recursos-hidricos/Glaciares%20del%20Pirineo%20espa%C3%B1ol\\_tcm30-214928.pdf](https://www.miteco.gob.es/es/agua/temas/evaluacion-de-los-recursos-hidricos/Glaciares%20del%20Pirineo%20espa%C3%B1ol_tcm30-214928.pdf).

6 Spanish Ministry for the Environment 'Estrategia de adaptación al cambio climático de la costa española', 42 and 55, respectively. See [https://www.miteco.gob.es/es/costas/temas/proteccion-costa/estrategiaadaptacionccaprobada\\_tcm30-420088.pdf](https://www.miteco.gob.es/es/costas/temas/proteccion-costa/estrategiaadaptacionccaprobada_tcm30-420088.pdf).

7 <https://www.eea.europa.eu/data-and-maps/indicators/direct-losses-from-weather-disasters-4/assessment>.

8 [https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/sistema-espanol-de-inventario-sei-/avance-gei-2020\\_tcm30-528804.pdf](https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/sistema-espanol-de-inventario-sei-/avance-gei-2020_tcm30-528804.pdf).

9 [https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/sistema-espanol-de-inventario-sei-/avance-gei-2020\\_tcm30-528804.pdf](https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/sistema-espanol-de-inventario-sei-/avance-gei-2020_tcm30-528804.pdf).

10 REE is a business group that acts as the electricity system operator in the Spanish electricity market. It ensures the correct operation of the electricity supply system and guarantees the continuity and security of the electricity supply. REE manages the entire electricity transmission grid (high voltage). However, it does not carry out the distribution of electricity (low voltage). The Spanish government owns 20% of REE.

11 REE 'El sistema eléctrico español 2020' [https://www.ree.es/sites/default/files/publication/2021/06/downloadable/inf\\_sis\\_elec\\_ree\\_2020\\_0.pdf](https://www.ree.es/sites/default/files/publication/2021/06/downloadable/inf_sis_elec_ree_2020_0.pdf).

12 Banco de España 'El papel del coste de los derechos de emisión de CO<sub>2</sub> y del encarecimiento del gas en la evolución reciente de los precios minoristas de la electricidad en España' *Documentos Ocasionales* No 2120; <https://www.bde.es/f/webbde/SES/Secciones/Publicaciones/PublicacionesSeridas/Documentos/Ocasionales/21/Fich/do2120.pdf>.

## An analysis of key provisions of Law 7/2021

In January 2021, the Spanish government declared a climate emergency accompanied by 30 policy measures.<sup>13</sup> At the forefront was the submission of a climate change bill that was signed into law on 20 May 2021 (Law 7/2021, known as the LCCET, the object of this contribution).<sup>14</sup> The preamble to the LCCET indicates that Spain must offer supportive and inclusive responses to the groups most affected by climate change and the transformation of the economy, as well as provide the right signals to attract the confidence of investors and reduce financial risks associated with the increase of GHG emissions or greater vulnerability to the physical impacts of climate change. The law foresees that primary energy intensity of the Spanish economy is expected to improve annually by 3.5 per cent until 2030. Similarly, the country's energy dependence (74 per cent in 2017) is expected to fall to 61 per cent in 2030 as a result of the drop in coal and oil imports. The energy transition promoted by the law is expected to mobilise more than €200 billion of investment over the decade 2021–2030. Therefore, Spain's GDP would increase annually (compared to a baseline scenario without the measures promoted by the law) by between €16,500 million and €25,700 million per year.

The LCCET certainly includes ambitious objectives but also refers in general terms to matters that will necessarily require further detail and, in particular, effective implementing measures if its targets are to be timely achieved. It thus may be regarded as a programmatic law. For instance, it repeats the word 'promote' up to 27 times and 'facilitate' 11 times. It foresees the drafting of different plans subject to broad or open-ended criteria, and refers to 11 strategies touching upon a variety of matters.<sup>15</sup> Recourse to strategies is a current common feature in environmental policy. Arguably, it has the adverse result of diverting attention from what should be the basic axis for action, i.e. different legal and binding mandates adopted by

the legislature. Strategies tend to obscure mandatory rules which are, in the final analysis, disregarded by administrative documents in which objectives abound, but for which no one is finally responsible if goals are not actually met (as exemplified by the inability of EU institutions to halt biodiversity loss). Time will tell whether the LCCET strategies may be operative within the time spans prescribed or, instead, whether they will simply turn into large pieces of jargon. In the ensuing paragraphs, different provisions of the LCCET are examined. Owing to their variety and detail, some of them will receive more attention than others.<sup>16</sup>

### Overall objectives of the LCCET

Title I of the LCCET contains national targets for reducing GHG emissions, renewable energies and energy efficiency in the Spanish economy up to 2030 and 2050.<sup>17</sup> According to the LCCET, the following minimum national targets are established for the year 2030:

- to reduce GHG emissions from the Spanish economy as a whole by at least 23 per cent compared to 1990
- to achieve a deployment of renewable energies in final energy consumption of at least 42 per cent
- to achieve an electricity system with at least 74 per cent of generation from renewable energy sources and
- to improve energy efficiency by reducing primary energy consumption by at least 39.5 per cent compared to the baseline in accordance with EU legislation.<sup>18</sup>

Before 2050 and, in any event, 'in the shortest possible time', Spain must achieve climate neutrality, with the aim of complying with internationally assumed commitments, and the electricity system is to be based exclusively on renewable sources. The Spanish government is authorised to revise those targets but, as the LCCET indicates, such a review may only provide for an 'upward' update of existing GHG emission reduction and enhancement of removals by sinks.<sup>19</sup> However, the Law is silent on the consequences derived from a (not unthinkable) failure to achieve such goals.

13 [https://www.miteco.gob.es/es/prensa/declaracionemergenciadclimatica\\_tcm30-506551.pdf](https://www.miteco.gob.es/es/prensa/declaracionemergenciadclimatica_tcm30-506551.pdf).

14 Law 7/2021 entered into force on 22 May 2021.

15 Decarbonisation Strategy to 2050 (art 5); Strategy for energy rehabilitation in the building sector (art 8.4, second paragraph); Water Strategy for the Energy Transition (art 19.2); Strategy for the Adaptation of the Coast to the Effects of Climate Change (art 20); State Strategy for Green Infrastructure and Ecological Connectivity and Restoration (art 24); Strategy for the conservation and restoration of ecosystems and species especially sensitive to the effects of climate change (art 24.2); Just Transition Strategy (art 27); Strategies for the decarbonisation of the electricity sector (art 34); International climate finance strategy (third additional provision); Spanish Circular Economy Strategy (fifth additional provision); Strategy for the promotion of rail freight transport (sixth additional provision).

16 See Title VIII, which addresses education and training for sustainable development and climate protection, on the one hand, and research, development, and innovation, on the other, and Title IX, in which the governance of climate change and energy transition in Spain are not examined.

17 LCCET arts 3–6.

18 *ibid* art 3.1.

19 *ibid* art 3.3.

The LCCTE creates a National Integrated Energy and Climate Plan,<sup>20</sup> which is the national strategic planning tool that incorporates energy and climate policy reflecting Spain's contribution to the achievement of the objectives established within the EU in the field of energy and climate.<sup>21</sup> The first plan, already adopted on 25 March 2021, covers the period 2021–2030.<sup>22</sup> Its general objective is to promote coordinated and coherent action to address the effects of climate change in Spain in order to avoid or reduce present and future damage from climate change and to build a more resilient economy and society. To achieve this goal, nine specific objectives are defined contributing in a complementary way to the general objective. The plan makes explicit several principles that should guide adaptation policies and measures. These include the consideration of the social and territorial dimensions, the basis on the best available science and knowledge or mainstreaming and integration in the different fields of public management and institutional cooperation. In addition, the plan identifies four strategic components that facilitate the definition and development of effective adaptation initiatives: knowledge generation, integration of adaptation into sectoral plans, programmes and regulations, mobilisation of actors, and monitoring and evaluation. In order to facilitate the integration of adaptation actions in the different fields of public and private management, the plan further defines 18 areas of work, specifying objectives for each of them. These areas include: climate and climate scenarios; human health; water and water resources; natural heritage, biodiversity and protected areas; agriculture, livestock, fisheries, aquaculture and food; coasts and the marine environment; and forestry, desertification, hunting and inland fishing. To these sectors the plan adds: urban planning, and building; cultural heritage; energy; mobility and transport; industry and services; tourism; the financial system and insurance activity; disaster risk reduction; research and innovation; education and society; and peace, security and social cohesion. For each of the above-mentioned areas of work, the plan defines lines of action that specify the work to be carried out in order to achieve the objectives.

20 *ibid* art 4.

21 Total investments to achieve the objectives of the plan were estimated to reach 241 billion euros between 2021–2030. These investments can be grouped by measures and are distributed as follows: renewables: 38%, savings and efficiency: 35%, grids and electrification: 24% and other measures: 3%. A 'very substantial part' of the total investment would be made by the private sector (80% of the total) and the rest by the public sector (20% of the total). It is estimated that part of the public investment could come from European funds. Ministerio para la transición ecológica 'Impacto económico, de empleo, social y sobre la salud pública del borrador actualizado del plan nacional integrado de energía y clima 2021–2030' at 55 and 20, respectively.

22 [https://www.boe.es/diario\\_boe/txt.php?id=BOE-A-2021-5106](https://www.boe.es/diario_boe/txt.php?id=BOE-A-2021-5106).

The LCCET also includes a Decarbonisation Strategy to 2050 setting out a pathway for reducing GHG emissions and increasing removals by sinks in the Spanish economy up to 2050.<sup>23</sup> This strategy was adopted by the Spanish government on 3 November 2020.<sup>24</sup> It will be reviewed every five years and will include, at least, an indicative intermediate GHG emission mitigation target in 2040.

### **Bans applicable to hydrocarbons and radioactive materials**

In line with its objectives, the LCCET introduces several prohibitions concerning fossil fuels and radioactive materials applicable from its entry into force.<sup>25</sup> First, no new exploration authorisations, hydrocarbon research permits or exploitation concessions pursuing the same purpose will be granted, including the territorial sea, exclusive economic zone and continental shelf. Similarly, no new authorisations will be granted to carry out in Spain, including the territorial sea, the exclusive economic zone and the continental shelf, any activity for the exploitation of hydrocarbons in which the use of high-volume hydraulic fracturing is foreseen. Secondly, the LCCET forecloses the exploitation of radioactive materials. Accordingly, as from its entry into force, new applications for the granting of exploration permits, research permits or direct exploitation concessions, for radioactive minerals, are not to be granted, when such resources are extracted for their radioactive, fissionable or fertile properties. Similarly, no new requests for authorisation of nuclear fuel cycle radioactive facilities for the processing of such radioactive minerals will be accepted. Thirdly, the application of new tax benefits to energy products of fossil origin must be duly justified for reasons of social and economic interest or owing to the non-existence of technological alternatives.<sup>26</sup> It should be added that the LCCET conveniently avoids the adjective 'overriding' when referring to those reasons. During the last quarter of each calendar year, the ministry of finance must draw up a report on the tax regime applicable to fossil fuel energy products, identifying those aids and measures that favour their use. The ministry for ecological transition is to draw up a proposed timetable for the review of aid and measures favouring the use of fossil fuel energy products, compatible with the objectives set out in the LCCET, considering the reports issued by the ministry of finance. The review calendar will be ultimately approved by the council of ministers. The

23 LCCET art 5.5.

24 [https://www.miteco.gob.es/es/prensa/documentoelp\\_tcm30-516109.pdf](https://www.miteco.gob.es/es/prensa/documentoelp_tcm30-516109.pdf).

25 LCCET arts 9–10.

26 *ibid* art 11.

LCCET also provides that, within two years from its entry into force, the ministry for economic affairs, the ministry for finance, the ministry for industry, trade and tourism and the ministry for ecological transition will prepare a study and a proposed timetable for the state administration to divest of holdings or financial instruments of companies or entities whose business activity includes the extraction, refining or processing of energy products of fossil origin.<sup>27</sup>

By contrast, the LCCET includes other provisions aimed at promoting renewable gases, including biogas, biomethane, hydrogen and other fuels whose manufacture exclusively uses raw materials and energy of renewable origin or allows the reuse of organic waste or by-products of animal or vegetable origin.<sup>28</sup> However, it should be observed that, as in other provisions of the LCCET, it employs the verb ‘promote’ without specific targets or deadlines. Therefore, such promotion is to be based on future plans that are to include a series of measures that will require further and detailed rules, such as annual targets for the deployment of renewable gases, as well as the persons subject to the corresponding obligations, a certification system allowing for the supervision and control of obligations as well as flexibility mechanisms favouring maximum efficiency in the achievement of objectives, or regulations favouring the direct industrial use of gases, or their use for mobility solutions, as well as the injection of such renewable gases into the natural gas grid. Similarly, the LCCET foresees the setting out of annual targets for the integration of renewable energies and the supply of alternative fuels in transport, with special emphasis on advanced biofuels and other renewable fuels of non-biological origin.<sup>29</sup> Again, this provision will require further regulations. It is therefore difficult to determine their potential implementation and effectiveness.

More detail can be found in Article 15 of the LCCET regarding the installation of electric recharging points. According to this provision, three basic situations are regulated:

- Those who own the facilities for the supply of fuels and motor fuels to vehicles whose aggregate annual volume of sales of petrol and diesel A in 2019 was greater than or equal to 10 million litres must install, ‘for each of those facilities’, at least one electric recharging infrastructure of power equal to or greater than 150 kW in direct current, which must be in service within 21 months from the entry into force of the LCCET. Those whose aggregate annual volume of sales

was greater than or equal to 5 million litres but less than 10 million litres, must install, also for each of the facilities, at least one electric recharging infrastructure with power equal to or greater than 50 kW within the same time lapse as the previous case.

- In the event that in a province, autonomous city or island there is no facility for the supply of fuels and motor fuels to vehicles whose aggregate annual volume of sales in 2019 was greater than or equal to 5 million litres, the owners of such facilities which, together or individually reached at least 10 per cent of the total annual sales in the above-mentioned geographical areas in 2019, must install, for each of these facilities, at least one electric recharging infrastructure with a power equal to or greater than 50 kW to be in service within 27 months from the entry into force of the law.
- From 2021, those who own new installations for the supply of fuel and motor fuels to vehicles or who undertake a refurbishment of their installation, regardless of the aggregate annual volume of sales of petrol and diesel of the installation, must install at least one electric recharging infrastructure with a capacity equal to or greater than 50 kW in direct current, which must provide service from the commissioning of the installation or completion of the refurbishment of the installation.

In the case of buildings, the Technical Building Code, which is the regulatory framework that establishes the basic quality requirements for buildings and their installations, will set out obligations relating to the installation of electric vehicle charging points in new buildings and in interventions in existing buildings. Nevertheless, before 1 January 2023, all buildings for use other than private residential use with a parking area of more than 20 parking spaces, either inside or in an assigned outdoor space, must comply with the requirement relating to the minimum provisions for electric vehicle charging infrastructure established by the Technical Building Code.

### Measures of adaptation to climate change impacts

Under the heading ‘Measures to adapt to the effects of climate change’, Title V of the LCCET enumerates a series of provisions devoted to a variety of sectors. Nevertheless, before dealing with them, it is necessary to refer to the National Plan for Adaptation to Climate Change (or PNACC, in the Spanish acronym).<sup>30</sup> This is the basic

<sup>27</sup> *ibid* second additional provision.

<sup>28</sup> *ibid* art 12.

<sup>29</sup> *ibid* art 13.2.

<sup>30</sup> *ibid* art 17 <https://www.codigotecnico.org/>.

planning instrument to promote coordinated and coherent action to address the effects of climate change in Spain. It defines the objectives, criteria, areas of application and actions to promote resilience and adaptation to climate change. It also includes adaptation to impacts taking place in Spain but arising from climate change occurring beyond its borders. The PNACC is not to be confused with the National Integrated Energy and Climate Plan examined above. However, the LCCET does not draw a link between both plans despite sharing common, albeit differentiated, matters. The objectives of the PNACC include the elaboration of regionalised climate scenarios for the Spanish geography, the collection, analysis and dissemination of information on vulnerability and adaptation to climate change in different socio-economic sectors, ecological systems and territories, the promotion and coordination of the participation of all the agents involved in adaptation policies, including the different levels of public administrations, social organisations and citizens as a whole, a definition of a system of indicators of impacts and adaptation to climate change facilitating the monitoring and evaluation of public policies in this regard, and the preparation of periodic monitoring and evaluation reports on the PNACC and its work programmes. The PNACC is not a comprehensive document but the framework for the approval of other plans, which is common to the structure of the LCCET. Thus, it indicates that it will be developed through work programmes, to be implemented in five-year periods. These programmes are to define the priority axes and lines of action for the development of the objectives established in the plan. In addition, the PNACC is to be developed through sectoral adaptation plans that will identify the main risks derived from climate change in the corresponding sectors, and define appropriate response measures to avoid or limit them. The current PNACC was adopted on 22 September 2020 as there was a former version of 2006.<sup>31</sup>

### **Water resources**

As already indicated, climate change will affect water uses in the different Spanish hydrographic basins.<sup>32</sup> Rising

temperatures, altered rainfall patterns and reduced water availability will surely have repercussions on the conditions that define the exercise of rights to exploit and use the resource. As regards this matter, the Spanish Constitutional Court has held that the regulation of such rights can take into account not only the individual interest but also the general interest inherent in the public nature of water resources.<sup>33</sup> Article 19 of the LCCET states, in accordance with EU law,<sup>34</sup> that water planning and management must include among its objectives water security in a context of adaptation to climate change, as well as including an appropriate treatment of physical risks arising from climate change (extreme floods and droughts, increased water temperature and rising sea levels). Furthermore, in accordance with Article 7 of the LCCET, new concessions granted on the public water domain for the generation of electricity should give priority to supporting the integration of non-manageable renewable technologies into the electricity system, promoting reversible hydroelectric power plants. In order to progress in new technological developments in the field of renewable energies and to contribute to the achievement of the objectives set out in the law, the use of urban water cycle uses for the generation of electricity from the flows of urban supply and sanitation systems is to be promoted, always subject to the fulfilment of the objectives of these systems when technically and economically feasible.

### ***Biodiversity, climate change and the location of renewables affecting species***

Broadly speaking, the LCCET does not add substantive rules for the protection of biodiversity in the provision dealing with this matter.<sup>35</sup> Instead of adding protection measures, except for those that combat climate change in other ways, the LCCET insists on the need to increase knowledge of its effects. Without denying the (obvious) importance of this facet, the LCCET omits to establish other protection measures in addition to those contemplated in Law 42/2007, on the natural patrimony and biodiversity. Furthermore, following the dominant trend in this matter (and in others relating to the environment), the LCCTE focuses on the adoption of a strategy as the central element for adaptation. This is to be drafted within three years after its entry into force. Although this period certainly does not have to be

31 For the English version of the current PNACC 2020–2030 see [https://www.miteco.gob.es/es/cambio-climatico/temas/impactos-vulnerabilidad-y-adaptacion/pnacc-2021-2030-en\\_tcm30-530300.pdf](https://www.miteco.gob.es/es/cambio-climatico/temas/impactos-vulnerabilidad-y-adaptacion/pnacc-2021-2030-en_tcm30-530300.pdf).

32 As regards the current hydrological year 2020–2021, the latest data published at the beginning of September 2021 indicate that the total reserve of water stored in the basins of the Atlantic slope amounts to 16,114 hm<sup>3</sup>, below the 19,505 hm<sup>3</sup> in August 2020 and the 23,726 hm<sup>3</sup> average total reserve of these basins in the last 10 years. This decline also occurs in the Mediterranean basins, with the reserve having fallen from 8,095 hm<sup>3</sup> in 2020 to 7,218 hm<sup>3</sup> in September 2021, a figure which, however, is not far from the average of the last 10 years (7,272 hm<sup>3</sup>).

33 Spanish Constitutional Court Judgment 37/1987.

34 See G Escribano Francés and others 'Climate change policy and water resources in the EU and Spain: A closer look into the Water Framework Directive' (2017) 69 *Environmental Science & Policy* 1 <https://doi.org/10.1016/j.envsci.2016.12.006>.

35 LCCET art 24.

exhausted, it is questionable considering the objective of approving a strategy that already has previous instruments and that, owing to its nature, will also require a long implementation period. In short, it could be asked whether the provisions of the LCCET, at least in relation to the protection of biodiversity, did not deserve greater precision than those that would involve the design of new strategies. The LCCET provides for the development of a strategy aimed at the conservation and restoration of ecosystems and species particularly sensitive to the effects of climate change. According to the Law, this strategy will contain the basic guidelines for the adaptation to climate change of natural terrestrial ecosystems, marine ecosystems, and Spanish wild species, as well as the basic lines for their restoration and conservation, with special reference to aquatic or water-dependent ecosystems and mountain ecosystems. Within the same timeframe (three years from the entry into force of the LCCET), an evaluation of the medium and long-term representativeness of the networks of protected natural areas and Natura 2000 Network sites, in the different possible climate scenarios, is to be submitted to the so-called Sectoral Conference on the Environment (an umbrella body comprising the state and the autonomous communities).<sup>36</sup> The LCCET does not clarify which administration will be in charge of such an assessment, what process will be followed for its elaboration, whether it will require the collaboration of the autonomous communities, what specific content it will have, at the expense of a later development of the LCCET, and what consequences, if any, will be derived from it.

Another issue that is gaining importance owing to the deployment of renewable energies is that of their effects on biodiversity. Article 21.2 of the LCCET includes a regulation on new energy production facilities based on renewable energy sources, with the aim of ensuring that there is no ‘severe impact on biodiversity and other natural values’. To this end, a zoning

identifying areas of ‘sensitivity and exclusion’ owing to their importance for biodiversity, connectivity and provision of ecosystem services, as well as other environmental values, is foreseen. With reference to this zoning, the LCCET indicates that it will ensure that the deployment of renewable energy projects is carried out, ‘preferably in locations with less impact’. The objective of the zoning provided for in Article 21.2 LCCTE is that new energy production facilities from renewable sources do not produce a severe impact. As can be seen, the threshold established by the LCCET is rather high, even though it does not add a definition of ‘severe’. By reference to environmental impact assessment legislation, it would be a kind of impact requiring long-term preventive or corrective measures.<sup>37</sup> The LCCET does not clarify whether the reference to that threshold is to be considered as a whole or on a case-by-case basis. Neither does the LCCET foresee the adaptation of existing installations, which implies that they are subject, where appropriate, to other provisions, such as Article 6.2 of Directive 92/43 (the Habitats Directive) and the obligation to avoid the deterioration of natural habitats and the habitats of species, as well as the alterations that have an impact on the species that have motivated the designation of the Natura 2000 network sites, or even a new environmental impact assessment, or the regularisation of those previously carried out. It should be observed that, as regards Article 6.2 of the Habitats Directive, the CJEU has stated that a ‘high density of wind power installations’ can cause significant disturbance and deterioration of the habitats of protected bird species.<sup>38</sup> The LCCET seeks to avoid severe impacts by means of the tool it contemplates. However, it does not impose a prohibition on the execution of such installations, although it does opt for the deployment of infrastructures to be carried out in locations ‘with less impact’,<sup>39</sup> which necessarily leads to the examination of different alternatives. Apart from the provisions that may be established by the regulations of the autonomous communities, the specification of such threshold will have to come from the corresponding environmental impact procedures.

36 The website of the ministry for ecological transition indicates that between 2009 and 2011 a project was developed, promoted by the Ministry of Agriculture, Food and Environment, to carry out a first assessment of the foreseeable impact of climate change on biodiversity in Spain. The project was co-directed by the Ministry’s units responsible for biodiversity, on the one hand, and climate change, on the other, and involved experts from the National Museum of Natural Sciences (CSIC) and the University of Extremadura. The work modelled the potential areas – based on climate niche models – of a large part of the Spanish vertebrate fauna and a set of significant species of the Spanish flora, including endangered species and those which, owing to their size (trees and shrubs) constitute the structure of the vegetation. [https://www.miteco.gob.es/es/biodiversidad/temas/inventarios-nacionales/inventario-especies-terrestres/ieet\\_efectos\\_cambio\\_climatico.aspx](https://www.miteco.gob.es/es/biodiversidad/temas/inventarios-nacionales/inventario-especies-terrestres/ieet_efectos_cambio_climatico.aspx) (last accessed 7 June 2021).

37 Law 21/2013, of 9 December, on environmental assessment, Annex VI. (Environmental impact study, technical concepts and specifications relating to the works, facilities or activities included in Annexes I and II, Part B.j)

38 Case C-141/14 *Commission v Bulgaria* ECLI:EU:C:2016:8 paras 59, 74–77.

39 LCCTE art 21.2 (second sentence).

### Forestry

Adaptation of forest areas is regulated in Article 25 of the LCCET.<sup>40</sup> According to this provision, measures will be established to reduce the vulnerability of agricultural land, forests and woodlands to climate change and to facilitate their preservation, including the preparation of a vulnerability map. Similarly, the goal is the evaluation and promotion of sustainable agricultural systems and forest management practices to increase their resilience to climate change, which will in any case promote synergies with the reduction of GHG emissions in these ecosystems. The programmatic character of the LCCET is again revealed in these provisions, since it only establishes objectives, lines of action or general principles without envisaging any type of obligation or more coercive measure. The creation of a vulnerability map is very positive. However, if no further actions are adopted, the results derived from this goal may finally be blurred.<sup>41</sup>

### Carbon sinks

An illustration of the use of broad and inadequate mandatory language in the LCCET can be found in the provision dealing with carbon sinks. According to Article 26 of the LCCET, the competent public authorities shall promote the identification, classification, mapping, enhancement and improvement of carbon sinks, including blue carbon sinks as defined by the Intergovernmental Panel on Climate Change, as well as their assessment and accounting based on existing information sources.<sup>42</sup> However, the LCCET lacks any timeframes. In a similar

fashion, it adds that the authorities shall adopt 'appropriate actions' to encourage the participation of individuals and public and private owners and managers, especially those in the agricultural and forestry sector, in increasing the CO<sub>2</sub> capture capacity of carbon sinks. Undefined actions are to be promoted to highlight the positive externalities provided by terrestrial and marine carbon sinks, especially those provided by the agricultural and forestry sector, as well as the use of biomass of primary origin as a source of materials, forest products from forests as raw materials with an optimal life cycle, ecosystem services and energy of renewable and sustainable origin. It would have been desirable that, in addition to measures of promotion, other types of measures had been contemplated, compelling actions to preserve forest areas, for example, or sanctioning certain behaviours contrary to the very postulates of the LCCET. This is not to say that coercive or punitive measures are the best means, particularly because the collaboration of all concerned stakeholders is acutely needed to achieve the LCCET's objectives. However, it would certainly be naïve to rely on the goodwill of those whose activities are clearly contributing to climate change.

### *The role of local authorities: low emission zones and town planning*

On a practical level, local authorities are expected to play a very important role in achieving the mitigation and adaptation objectives set out by the LCCET. However, the LCCET devotes little attention to them albeit they are at the forefront of action on climate change,<sup>43</sup> given the increasing urbanisation and, correspondingly, the abandonment of the countryside.<sup>44</sup> The competences of the local authorities in the area of climate change are not clearly defined, being dependent on the laws adopted by the state and the autonomous communities as the LCCET has not established any particular provision in this respect. However, local authorities can already undertake important mitigation and essentially adaptation policies through the exercise of their powers concerning urban planning, the supply of drinking water, wastewater disposal

40 See Opinion of the European Economic and Social Committee on the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions 'Building a climate-resilient Europe: The EU's new strategy for adapting to climate change' (COM (2021)82 final).

41 MA Altieri and C Nicholls 'The impacts of climate change on peasant and traditional farming communities and their adaptive responses' (2008) 3 *Agroecología* 7; B Smit and MW Skinner 'Adaptation options in agriculture to climate change: a typology' (2002) 7 *Mitigations and Adaptation Strategies for Global Change* 85; and A Trouwborst 'The adaptation of flora and fauna to climate change in a fragmented landscape and European nature conservation law' (2011) 2(2) *Revista Catalana de Dret Ambiental* 1.

42 The Spanish Cities for Climate Network includes 314 municipalities, which are home to more than 23.6 million people (50.3% of the national population) and occupy an area of 4.6 million hectares (9% of the total national surface area). The municipalities of the network are home to a forested area equivalent to 1.1 million hectares, according to data from the Third National Forest Inventory (1997–2007), representing 24.3% of the total municipal surface area and 6.15% of the forest surface area of Spain. It is estimated that the carbon stored in its forests is equivalent to a total of 53.23 million tonnes of CO<sub>2</sub>. See <https://www.redciudadesclima.es/sites/default/files/c2dd700737802664a97469104e56f17d.pdf>. In 2014, the Spanish government adopted Royal Decree 163/2014 of 14 March creating the registry of carbon footprint, offsetting and carbon dioxide absorption projects.

43 I Michallet 'De l'action locale au droit global: l'engagement climatique des villes' (2017) *Revue juridique de l'environnement* 105; B Soro Mateo 'Marco jurídico general de la cuestión climática: Algunas reflexiones a la espera de la aprobación de la Ley española de cambio climático y transición energética' in F Hernández González (ed) *El derecho ante el reto del cambio climático* (Aranzadi 2020) 111–57; L Tolívar Alas and E M Menéndez Sebastián 'El cambio climático y los municipios' in A Rodríguez Castaño *Estudios sobre la modernización de la administración local: teoría y práctica* (Dykinson 2009) 1143–59.

44 According to INE (the Spanish Statistical Institute) as at 1 January 2021, 39.9% of the Spanish population (47,394, 223) lives in municipalities with more than 100,000 inhabitants and 5,002 municipalities (out of 8,131) have fewer than 1,000 inhabitants.



and treatment, road infrastructures and other municipal facilities, traffic, vehicle parking and mobility, and urban public transport.

Article 14 of the LCCET refers to local authorities in relation to the promotion of zero-emission mobility by indicating that the state, autonomous communities, and the local authorities, within their respective purviews, shall adopt measures to achieve a fleet of passenger cars and light commercial vehicles without direct CO<sub>2</sub> emissions by 2050, in accordance with the provisions of EU regulations. To this end, the National Integrated Energy and Climate Plan will set targets for the year 2030 for the deployment of vehicles registered with zero or low direct CO<sub>2</sub> emissions, according to their different categories. Municipalities with more than 50,000 habitants and the islands must adopt sustainable urban mobility plans by 2023 including the following matters: (a) the establishment of low-emission zones by 2023; (b) measures to facilitate walking, cycling or other means of active transport, associating them with healthy lifestyles, as well as intra-urban green corridors connecting green spaces with large peri-urban green areas; (c) measures for the improvement and use of the public transport network, including multimodal integration measures; (d) measures for the electrification of the public transport network and other fuels without GHG emissions, such as biomethane; (e) measures to encourage the use of private electric means of transport, including recharging points; (f) measures to promote shared electric mobility; (g) measures to promote sustainable freight delivery and mobility to work; (h) the establishment of specific criteria to improve air quality around schools, health centres or other particularly sensitive areas, when necessary in accordance with air quality regulations; and (i) integrate specific last mile electrification plans with municipal low emission zones.<sup>45</sup>

Article 14 of the LCCET does not, however, establish any deadline for the competent authorities (autonomous regions and local authorities, where applicable) to comply with these obligations, except in the case of the setting out of low emission zones (no later than 2023). This deadline is binding on municipalities with more than 50,000 inhabitants and island territories in any case, and will require urgent modification of urban planning rules. As regards this latter matter, the LCCET modifies Article 20.1(c) of the State Town law (approved by Royal Legislative Decree 7/2015) which regulates the basic criteria for land use. According to the new wording of that provision, the public authorities, and in particular those

responsible for territorial and urban planning must take into account the risks derived from climate change, inter alia, those derived from marine and coastal flooding, and sea level rise, from extreme meteorological events on infrastructures and essential public services, mortality and illness risks arising from high temperatures and, in particular, those affecting vulnerable populations, disaggregating these data by sex, risks associated with the loss of ecosystems and biodiversity and, in particular, of deterioration or loss of essential ecosystem goods, functions and services and, finally, fire risks, with special attention to risks in the urban-forest interface and between infrastructures and forest areas. This is an all-encompassing obligation that will surely affect the design of territorial planning, the taking of decisions with territorial impacts and the discretion of the public authorities.

In line with the previous modification of town legislation, Article 21 of the LCCET reiterates the need to consider climate change in territorial and urban planning and management, as well as in interventions in the urban environment, in building and in transport infrastructures. However, the LCCET indicates that the rules mentioned above relating to the consideration of climate change in planning and management of urban development, will not be applicable to plans, programmes and studies whose approval was completed at the time of entry into force of the law. Nevertheless, modifications of such plans may be subject to strategic environmental assessment and therefore to the appraisal of climate change effects.

### Just transition measures

Just transition measures cover three basic matters in the LCCET: (a) a just transition strategy; (b) just transition agreements; and (c) the cessation of domestic coal production.<sup>46</sup> The strategy is a state-level instrument aimed at optimising opportunities in the transition to an economy low in GHG emissions and at identifying and adopting measures guaranteeing fair and supportive treatment for workers and territories in this transition. According to the LCCET, the strategy will include the following matters: (a) identification of groups, sectors, companies and territories potentially vulnerable to the process of transition to a low-carbon economy; (b) analysis of the opportunities for the creation of economic activity and employment linked to energy transition; (c) industrial, agricultural and forestry policies, research and development, innovation, promotion of economic activity and employment and occupational training for just transition; (d) instruments for monitoring the labour market in the framework of energy transition through the participation of the social

<sup>45</sup> This provision shall apply to municipalities with more than 20,000 inhabitants when the limit values of pollutants regulated in Royal Decree 102/2011, of 28 January, on the improvement of air quality, are exceeded.

<sup>46</sup> LCCET arts 27–29.

partners, as well as in social dialogue roundtables; and (e) the framework for the development of just transition agreements. These latter agreements are designed to promote economic activity and its modernisation, as well as the employability of vulnerable workers and groups at risk of exclusion in the transition to a low-carbon economy, in cases of closure or conversion of installations. The agreements are to be signed between the ministry for ecological transition, and local authorities in geographical areas vulnerable to the transition to a low-carbon economy (eg those where coal mining has traditionally been carried out) but companies, business sector organisations, trade unions, universities, educational centres, environmental NGOs and other interested or affected stakeholders may also participate in the agreements. The basic content of such agreements includes: (a) an assessment of the state of vulnerability of the geographical area or group affected; (b) commitments of the parties to the agreement, including undertakings benefiting from transition support measures; (c) fiscal measures, financing, support for R&D&I, digitalisation, entrepreneurship, employment, social protection and training activities to encourage the adaptation of workers, subject to the fulfilment of the objectives established in the agreement; (d) a timetable for the adoption of the measures, with measurable targets and monitoring mechanisms; and (e) priority access to part or all of the electricity network, as well as the priority right to the use and volume of water of concessions extinguished after the closure of electricity generation facilities. Just transition agreements may in no case exceed the initial duration of seven years. The signatories may agree to extend them for a period of up to seven additional years.

As regards the cessation of domestic coal production, the LCCET indicates that the granting of operating authorisations, permits, concessions, extensions, or transfers of coal resources included in Spain's Closure Plan for Non-Competitive Coal Mining<sup>47</sup> shall be subject to the repayment of the aid granted under Decision 2010/787/EU, corresponding to the entire period covered by the closure plan. The amount payable and accrued interest must be repaid prior to any possible authorisation by the competent authority. The above-mentioned provisions shall apply to all applications for exploitation authorisations, permits or concessions regulated by Spanish mining legislation, as well as to extensions or assignments that may be processed at the time of the LCCET's entry into force.

<sup>47</sup> This plan has been adopted within the framework of Decision 2010/787/EU, on state aid to facilitate the closure of uncompetitive coal mines. The plan was authorised by European Commission Decision of 27 May 2016, C (2016)3029 final, State Aid SA 34332 (2012/NN).

## Resources against climate change, public procurement and governance

Title VII contemplates specific aspects in the mobilisation of resources in the fight against climate change and energy transition. The LCCET stipulates that at least a percentage of Spain's Budget, equivalent to that agreed in the EU's Multiannual Financial Framework, must have a positive impact on the fight against climate change.<sup>48</sup> The Spanish government is to revise this percentage upwards before 2025. Finally, the LCCET Revenues from the auctioning of GHG emission allowances are to be used to meet climate change and energy transition objectives. Spain's annual budget will include the corresponding credits, allocating at least €450 million to the promotion of renewable energies. Up to 30 per cent of the total income may be allocated to measures with social impact to alleviate situations caused by the transition to a decarbonised economy, or related to vulnerability to the impacts of climate change. In addition, each year, up to 25 per cent of the revenue from the auctioning of GHG emission allowances may be used to offset the effects of indirect costs of CO<sub>2</sub> emissions linked to electricity consumption for installations at risk of carbon leakage.

Finally, the LCCET devotes Article 31 to public procurement,<sup>49</sup> following the path of the European Green Pact and the Spanish Strategy for the Circular Economy 2030 that establishes the need to 'promote actions to implement Green Public Procurement, establishing measures or developing criteria to be used by the different contracting bodies'. However, Article 31 of the LCCET is only applicable to the state administration. The incorporation of social and environmental clauses is becoming increasingly important in Spanish public procurement regulations (Law 9/2017, LCSP). In line with EU public procurement directives and case law,<sup>50</sup> Article 31 of the LCCET reiterates the obligation to incorporate environmental and energy sustainability criteria in all public procurement, as a mandatory and cross-cutting requirement. The case law requires that social and environmental clauses must be related to the subject matter

<sup>48</sup> LCCET art 30.

<sup>49</sup> X Lazo Vitoria 'Cambio Climático y Contratación Pública: estado de la cuestión y perspectivas de futuro' in J M Gimeno Feliú and C Guerrero Manso (eds) *Observatorio del Contratos Públicos* (Thomson Reuters 2021).

<sup>50</sup> This case law doctrine has been shaped by the following judgments: Case C-31/87 *Gebroederes Beentjes* ECLI:EU:C:1988:422; Case C-225/98 *Commission v France* ECLI:EU:C:2000:494; Case C 513/99 *Concordia Bus Finland Oy Ab* ECLI:EU:C:2002:495; Case C 346/06 *Rüffert* ECLI:EU:C:2008:189; and Case C 402/18 *Tedeschi* ECLI:EU:C:2019:1023. See also A Romeo Ruiz 'Contratación pública social y Derecho de la Unión Europea' in M Razquin Lizarraga and J F Alenza García *Nueva Contratación pública: mercado y medio ambiente* (Aranzadi 2019) 405–522.

of the contract, inhibit unconditional freedom of choice to the public authorities, be expressly mentioned in contract documents or in the contract notice, and respect all the fundamental principles of EU law, in particular the principle of non-discrimination. The main difference between the LCCET and the LCSP lies in the fact that the latter generically urges public authorities to incorporate social, environmental or innovation clauses in contract specifications, whilst the LCCTE specifically requires environmental criteria to be incorporated. Therefore, it will be mandatory to integrate, at least, environmental clauses.

Article 31 of the LCCET draws a distinction between two cases: on the one hand, a general provision for all tenders, and on the other hand, the cases of contracts for the drafting of projects, works and works concessions. In the first case, Article 31 only incorporates a generic obligation for the state administration to incorporate criteria for reducing emissions and carbon footprint, specifically aimed at combating climate change. However, it does not specify what type of criteria should be incorporated. It merely refers to the future preparation of a catalogue that must be drawn up within one year of the LCCET entry into force, and which will include the services that must take into account such criteria; and the criteria for combating climate change and reducing emissions and carbon footprint. Article 31.1 in fine compels the contracting authorities to control compliance with environmental obligations during the execution of contracts, a reminder that, although not superfluous, really adds little to the existing legal framework.

The second part of Article 31 of the LCCET refers to contracts for the drafting of projects, works and works concessions. In line with the LCSP, it refers to the award criteria, and in particular to those aimed at assessing the best value for money of the bids.<sup>51</sup> Specifically, Article 31.2 refers to award criteria that must be aimed at achieving one of the following purposes: (a) Requirements of maximum energy rating of the buildings to be tendered; (b) energy saving and efficiency that promote a high level of thermal insulation in buildings, renewable energies and low emissions from installations; (c) use of sustainable building materials, taking into account their useful life; (d) measures to reduce emissions of GHG emissions and other atmospheric pollutants in the different phases of the public works construction process; (e) climate change adaptation measures; and (f) minimisation of waste generation. In addition, Article 31.3 of the LCCET provides that technical

specifications may include sustainability criteria in the management of forest resources: (a) the wood used in the constructions comes from sustainably managed forests, taking into account their ecological footprint; (b) reforestation actions with native species, as a compensatory measure to mitigate the carbon footprint resulting from the execution of the work or service subject to tender. However, this is more of a programmatic provision than a real obligation for public authorities, since, given the non-compulsory nature of this precept, its actual application will depend on what the contracting authority decides when establishing the content of particular technical specifications.

The LCCTE contemplates state planning figures, a committee of experts on climate change and energy transition and a few brief references to regional energy and climate plans, and to active and passive participation and transparency, which add little to the path of multilevel and participatory governance.<sup>52</sup>

## Concluding remarks

The transition to a low carbon economy is a daunting task both in economic and social terms. However, avoiding up to a certain extent the upsetting consequences derived from climate change requires bold measures encompassing complex and not easily acceptable changes to current economic cycles and everyday lifestyle.<sup>53</sup> The LCCET aims to set out a pathway for such transition. Whilst certain of its measures may be attained others remain in a state of uncertainty as the law merely provides for the adoption of plans and programmes that will require further implementing measures. As indicated in the introduction to this contribution, the law creates a wide range of strategies, that is to say, policy documents setting objectives and lines of action. However, all these forecasts must necessarily be reflected in tangible changes in economic and human activity patterns, such as the use of fossil fuels, the (overwhelming) deployment of renewable energy sources, or measures in terms of mobility of people, transport or supply chains much closer to industrial installations and consumers. Although the LCCET aims to establish a *prima facie* coherent framework to facilitate such transition, profuse recourse to scheduling mechanisms may lead to a rather too distant finish line.

<sup>52</sup> LCCET arts 37–39.

<sup>53</sup> A Moreno Molina 'Perspectivas y desarrollos recientes en el derecho del cambio climático' in A García-Ureta and M C Bolaño Piñeiro (eds) *Nuevas perspectivas del Derecho ambiental en el siglo XXI/ New perspectives on environmental law in the 21st century* (Marcial Pons 2018) 127–62, 160–62.

<sup>51</sup> M Razquin Lizarraga and J Vázquez Matilla *La adjudicación de contratos públicos en la nueva ley de contratos del sector público* (Aranzadi-Thomson Reuters, 2017).