

## ADAPTATION TO CLIMATE CHANGE IN THE EUROPEAN UNION: Between Supranational Action and State Reluctance

Beatriz Pérez de las Heras\*

**Abstract:** Within the European Union, the issue of climate change adaptation, as opposed to mitigation, has been addressed too little too late. A number of member states have been reluctant to adopt national adaptation plans; some are even opposed to the EU's adopting binding legal instruments. The EU has sought to counter these political and legal limitations by integrating adaptation measures in other policies within its competence. Greater receptivity among local authorities to the EU's supranational initiatives has also helped compensate for inertia at national level. In contrast to this scenario at an internal level, the EU has become the chief promoter of national adaptation plans in third countries through its policy on development aid. This international cooperation constitutes a potentially very valuable instrument, generating multilateral effects that could facilitate the adoption of a global post-2020 climate order.

### Introduction

Adaptation to climate change has become one of the primary concerns at global, European, state, regional and local level. Repeated occurrences of extreme meteorological phenomena –such as hurricanes, floods, droughts and other climate-related natural catastrophes– are now constantly leading to major losses in all the world's regions. There is clear continuity and a direct relationship between the climate changes observed and those projected into the future.<sup>1</sup> As a result, not only is mitigation required to reduce emissions of greenhouse gases (GHGs); adaptation is also needed to anticipate future changes, reduce the risk and cost of

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\* Professor of European Law at the University of Deusto (Bilbao, España), Jean Monnet Chair Holder on European Integration and Principal Researcher of the *European Integration* Research Team. [beatriz.perez@deusto.es](mailto:beatriz.perez@deusto.es)

<sup>1</sup> Intergovernmental Panel on Climate Change (IPCC), *Impacts, Adaptation and Vulnerability*. Working Group II Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (Cambridge University Press 2014) 4-11.

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losses arising from adverse natural phenomena and explore potential benefits linked to climate change.<sup>2</sup>

Within the international framework, the need for additional adaptation to the impacts of climate change is expressly set out in *the United Nations Framework Convention on Climate Change (UNFCCC)*.<sup>3</sup> Multilateral initiatives, such as the UNFCCC, are important to push national adaptation agendas forward, but not enough on their own. Successful adaptation policy requires, a multi-level governance dialogue and strategy, given the unpredictable and cross-sectoral impact of climate change. Indeed, in any country or place, effective implementation of adaptation policies requires coherent coordination between the different levels of political responsibility and integration of appropriate measures in the sectors affected.<sup>4</sup> Yet such coordination does not always occur.

In Europe, scientific and political attention to adaptation has been late in coming, largely because in recent decades efforts to combat climate change have focused on limiting GHG emissions. The advantages of developing an EU-wide policy of adaptation – as opposed to mitigation – were not clearly understood in the 1990s. Indeed, apart from some isolated responses to serious natural disasters in 2002 and 2003, adaptation – as a visible and articulated strategy – did not first appear on the European agenda until 2007.<sup>5</sup> More than

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<sup>2</sup> See European Environment Agency, *Adaptation in Europe. Addressing Risks and Opportunities from Climate Change in the Context of Socio-Economic Developments* (Publications Office of the European Union 2013) 115-122.

<sup>3</sup> Article 4 (1, e-f) of United Nations Framework Convention on Climate Change, 1771 UNTS 107. More specifically, adaptation is covered in the Bali Action Plan (2007) and in the Cancun Adaptation Framework (2010). Texts available at: <<http://unfccc.int/adaptation/items/5852.php>> accessed 8 January 2015.

<sup>4</sup> H. Corina Keskitalo (ed.), *Developing Adaptation Policy and Practice in Europe: Multi-Level Governance of Climate Change* (Springer 2010) 4-7; Lasse Peltonen et al., *Governance of Climate Change Adaptation: Policy Review* (BaltCICA 2010) 4.

<sup>5</sup> Before that year, there was no coordination at EU level. The UK and Dutch EU Presidencies of 2004 contributed to accelerating a more concerted adaptation policy. In its conclusions of December 2004, the Council referred to the European Environment Agency 2004 report, which warned about the visible impact of climate change across Europe. In 2005, the European Commission also mentioned the need for adaptation in its Communication 'Winning the Battle against Global Climate Change', while encouraging member states to take adaptation policies. The debate on a European policy evolved then within a specific working group in the Second European Programme on Climate Change. See Tim Rayner and Andrew Jordan, 'Adapting to a Changing Climate. An Emerging

seven years later, the EU has still proven incapable of developing coordinated action with its member states, some of which are reluctant to adopt a national adaptation strategy.<sup>6</sup>

In light of these premises, this paper poses the following question: to what extent has the EU been able to implement comprehensive adaptation measures?

To answer this question, the first section of this article analyses the current distribution of political power between the EU and the member states in the environmental area. It highlights how the lack of a specific EU competence in the area of adaptation and the cross-sectoral dimension of adaptation policy explain largely the reluctance of some EU member states to adopt binding measures, beyond those covered by the EU's traditional coordination and guiding role. The second section maintains that these limitations are, to some extent, offset by the integration of measures of adaptation through other European policies and by the greater receptivity of sub-state authorities to the EU's initiatives. Finally, the last section evaluates the EU's external action in the area of adaptation, highlighting how in contrast to its poor development in the internal area, the EU has become the main donor of aid and promoter of national adaptation strategies in developing countries. This international cooperation generates multilateral effects that may favour dialogue on a new post-2020 global climate order.

### **From the Green Paper to the Adaptation Strategy: A Soft Law Approach**

The treaties currently governing the EU's political and legal framework do not provide specific legal grounds for the EU to adopt binding legislation on adaptation, other than those related to its environment policy.<sup>7</sup> Indeed, the only explicit legal basis for EU action in matters of climate change is Article 191 of *the Treaty on the Functioning of the European*

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European Union Policy?' in Andrew Jordan *et al.*(eds), *Climate Change Policy in the European Union* (Cambridge University Press 2010) 148-149.

<sup>6</sup> Andrew Jordan *et al.*, 'Understanding the Paradoxes of Multi-Level Governing: Climate Change Policy in the European Union' (2012) 12 *Global Environmental Politics* 51; European Environment Agency (n 2) 1, 68.

<sup>7</sup> Adaptation is predominantly discussed in terms of environmental policy, though other recent framings of adaptation take into account the economic impacts of climate change and the need to include actors engaged in economic activities into planning adaptation. Lasse Peltonen *et al.* (n 4) 4-5.

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*Union (TFEU)*, under Title XX 'Environment'.<sup>8</sup> Paragraph 1 states that one of the objectives of EU policies on the environment shall be 'promoting measures at international level to deal with regional or worldwide environmental problems, and in particular combating climate change'.

However, the environment is an area of shared responsibility between the EU and its member states, as classified in Article 4.2 (c) of TFEU and this may provide the route to EU action. With regard to its international dimension, Article 191.4 of TFEU stresses the shared character of this area, when providing that the EU and the member states each intervene 'within their respective spheres of competence'. Accordingly, by virtue of Articles 2.2 of TFEU and 5 of *the Treaty on the European Union (TEU)*,<sup>9</sup> the EU has the power to adopt legally binding acts in the environmental area under the principle of subsidiarity. Introduced for the first time in the field of environmental policy by *the Single European Act*<sup>10</sup> and extended to all areas of shared competence by the Maastricht Treaty establishing the EU in 1993, this principle ensures that the EU does not take action unless it justifies that it will be more effective than action taken at national, regional or local level. This requirement means that when the European Commission submits a legislative proposal, it has to demonstrate that the act will have the added value of European legislation.<sup>11</sup>

Given the transboundary effects of environmental challenges, there is no doubt that the EU action may be more appropriate and effective than that undertaken individually by member states. However, subsidiarity does not preclude the EU from addressing environmental issues which do not have a cross-frontier nature, such as urban noise or household waste. In this case, given the different extent and level of stringency among member states' environmental policies, EU harmonisation has to ensure a high level of environmental

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<sup>8</sup> As a result of the Treaty of Lisbon, in force since 1st December 2009, the Treaty establishing the European Community became the Treaty on the Functioning of the European Union. [2007] OJ C306/1. The consolidated version of the TFEU is published in [2012] OJ C326/47.

<sup>9</sup> [1992] OJ C191/01. The consolidated version of the TEU is published in [2012] OJ C326/13.

<sup>10</sup> [1987] OJ L169/1.

<sup>11</sup> Subsidiarity is closely bound up with the principle of proportionality, which requires that EU action does not exceed what is necessary to achieve the objectives of the European dimension. See, among the abundant literature, Antonio Estella de Noriega, *The EU Principle of Subsidiarity and its critique* (Oxford University Press 2002); Philip Kiiver, 'The Conduct of Subsidiarity Checks of EU Legislative Proposals by National Parliaments: Analysis, Observation and Practical Recommendations' (2012) 12 ERA Forum 4, 535-547.

protection, as provided by Article 191.2 of TFEU. Yet, pursuant to Article 193 of TFEU, member states always retain the power to introduce measures more stringent than those adopted by the EU. Therefore, minimum harmonisation can be said to be the *modus operandi* of the EU environmental policy.<sup>12</sup> Consequently, European legislation on climate change issues is adopted on this basis as well.

With regard to this specific issue, EU action has been developed in a slower and more gradual way, in comparison with other environmental issues, such as water or biodiversity.<sup>13</sup> Indeed, it was after 2005 when the EU started to develop internal policies aiming to comply with *the Kyoto Protocol*.<sup>14</sup> Nevertheless, the extent and approach of the EU's action has been different, depending on whether mitigation or adaptation is involved. Thus, in the case of mitigation, over the last 10 years the EU has been adopting relevant legislation and legal instruments, such as the emissions trading scheme and the climate-energy package.<sup>15</sup> In contrast, not only has action on adaptation come later; it has been addressed from a soft law approach. That is, it has been addressed through non-legally binding measures such as the adoption of a White Paper. A soft law approach is used largely due to opposition from some member states to the development of a supranational adaptation policy that could intrude into policy areas which remain under state power (e.g. spatial planning and infrastructure development), given the cross-sectoral dimension of adaptation measures. Consequently, instead of trying to act in a hierarchical and regulatory way, the European Commission has opted for a looser way of governance, closer to the 'policy coordination method'. More specifically, the so called 'Open Method of Coordination', defined as an instrument by *the Lisbon Strategy (2000)*, provides a framework for cooperation among member states in order to direct their national policies towards certain common objectives. In practice, it is an intergovernmental method under which member states are mutually evaluated, the European Commission being limited to surveillance, while the European Parliament and the

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<sup>12</sup> Nicolas de Sadeleer, 'Principle of Subsidiarity and the EU Environmental Policy' (2012) 9.I Journal for European Environmental Planning Law 63-70.

<sup>13</sup> Andrew Jordan *et al.* (n 6) 50; Frans Berkhout *et al.*, 'How Do Climate Policies Work? Confronting Governance Dilemmas in the European Union' in Mike Hulme and Henry Neufeldt, *Making Climate Change Work for Us* (Cambridge University Press 2012) 143-150.

<sup>14</sup> 2302 UNTS 162.

<sup>15</sup> See, for example, Marjan Peeters and Kurt Deketelaere, *EU Climate Change Policy. The Challenges of New Regulatory Initiatives* (Edwar Elgar Publishing 2007); Don Bredin and Cal Muckley, 'An Emerging Equilibrium in the EU Emissions Trading Scheme' (2011) 33 Energy Economics 353-362; Patrick Criqui and Silvana Mima, 'European Climate –Energy Security Nexus: a Model-Based Scenario Analysis' (2012) 41 Energy Policy 827-842.

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Court of Justice have no role in the process. Relying largely on this method, the European Commission has limited itself to adopting guidelines or strategic documents on adaptation.<sup>16</sup>

In this line, the 2007 Green Paper marked the first step of any importance on adaptation in Europe.<sup>17</sup> No member state initially opposed the EU's becoming involved in adaptation initiatives. At that time, however, broad sectors of civil society and representatives of sub-state authorities were already clamouring for a more proactive role by the EU. An example of this movement was the platform set up by local authorities participating in the Eurocities network to press for a directive on adaptation. The proposal met with strong opposition from some member states, including the UK and the Netherlands.<sup>18</sup>

Nonetheless, the Green Paper and the intense debate it sparked among different interest groups led to the White Paper on adapting to climate change.<sup>19</sup> In this document, the European Commission justified why EU adaptation action is necessary. Among the main reasons, the White Paper pointed out the cross-border dimensions of climate change impacts and adaptation measures, the effects of these impacts on certain sectors which are integrated at EU level through the single market and common policies (e.g. agriculture, fisheries, energy, etc), the need to set up solidarity mechanisms to ensure that the most disadvantaged regions will be able to adopt the necessary adaptation measures, and the relevance of the support to member states' resources for adaptation.<sup>20</sup> The Commission's document also proposed to integrate adaptation actions in key areas, a process known as 'mainstreaming', rather than adopting a directive or other specific legal instrument on adaptation. Specifically, the proposal included 33 actions, most of which have already been put into action, such as the establishment of the European Biodiversity Clearing House Mechanism (EB-CHM),<sup>21</sup> the publication of numerous documents offering guidance on

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<sup>16</sup> Rayner and Jordan (n 5) 156. About the open method of coordination, see information available at: <[http://ec.europa.eu/invest-in-research/coordination/coordination01\\_en.htm#](http://ec.europa.eu/invest-in-research/coordination/coordination01_en.htm#)> accessed 8 January 2015.

<sup>17</sup> European Commission, 'Green Paper of 29 June 2007 on Adapting to Climate Change in Europe- Options for EU Action' COM (2007) 354 final.

<sup>18</sup> Rayner and Jordan (n 5) 149.

<sup>19</sup> European Commission, 'White Paper. Adapting to Climate Change: Towards a European Framework for Action' COM (2009) 147 final.

<sup>20</sup> *Ibid* 6.

<sup>21</sup> In reality, EB-CHM constitutes an information network promoting technical co-operation and technology transfer between Europe and the rest of the world. Managed by the European Environment Agency, the mechanism forms part of the Biodiversity Information System for Europe

incorporating adaptation measures in different sectoral directives and the European Climate Adaptation Platform (Climate-Adapt), set up in March 2012.<sup>22</sup>

The White Paper paved the way and set the bases for the adoption of *the EU's Strategy on Adaptation to Climate Change* on 16 April, 2013.<sup>23</sup> In line with *the European Strategy 2020*, the Adaptation Strategy is intended to act as a comprehensive framework that will help the EU make the transition to a low-carbon, climate-resilient economy. It stresses the need to improve the capacity to respond to the impacts of climate change at all levels of political power (EU, national, regional and local) through a coherent and coordinated approach.<sup>24</sup>

One of the priority objectives established for 2020 is to increase climate resilience amongst the most vulnerable sectors. In operating terms, it is planned to consistently extend the integration of adaptation measures in key EU policies, prioritising projects and actions that address key cross-sectoral, trans-regional and/or cross-border issues and which promote, among others aims, green infrastructures and innovative adaptation technologies.<sup>25</sup> Planned actions to achieve these aims range from soft measures (orientations, impact studies, support frameworks, etc.) to legislation and direct intervention.<sup>26</sup>

Despite the significance of the Adaptation Strategy as a more comprehensive and more ambitious framework, the most important challenge facing the EU is undoubtedly to encourage member states to adopt a national adaptation strategy in consonance with the European one. The instrument generally recommended by *the UNFCCC* is a national adaptation plan (NAP). Unlike mitigation, however, adaptation lacks diplomatic discipline, assessment and deadlines imposed by binding, international treaties along the lines of the Kyoto Protocol. When *the European Adaptation Strategy* was adopted, only 15 of the then

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(BISE). Extensive information on its activities can be found at: <<http://biodiversity.europa.eu/chm-network>> accessed 13 March 2015.

<sup>22</sup> This platform offers extensive information on guideline documents in different sectors and actions at all tiers of government <<http://climate-adapt.eea.europa.eu/>> accessed 8 January 2015.

<sup>23</sup> European Commission, 'An EU Strategy on Adaptation to Climate Change' (Communication) COM (2013) 216 final.

<sup>24</sup> Ibid 5.

<sup>25</sup> Ibid 9.

<sup>26</sup> See Commission Staff Working Group, 'Summary of the Impact Assessment' SWD (2013) 131 final, 4-7.

27 EU member states had an NAP. To date, 16 member states have adopted an NAP.<sup>27</sup> Uncertainty surrounding trends in GHGs and the unpredictable nature of climate change impacts also nourish state inertia. In addition, private agents are also undertaking their own adaptation measures in most countries, making it difficult to see to what extent this area should be the responsibility of national government.<sup>28</sup> Likewise, as noted above, member states are reluctant to accept adaptation action being taken by the EU, since they consider it may interfere in areas they deem to fall under their jurisdiction, such as land use, infrastructure and planning in general. These reasons explain why some member states oppose the adoption of any binding EU legal instrument that would require them to adopt a national adaptation strategy.<sup>29</sup> Nonetheless, the Commission,<sup>30</sup> contradicting its White Paper, plans to propose precisely such legislation in 2017, if no progress has been made by member states in adopting NAPs by that time.<sup>31</sup>

Because of these limitations, the EU is currently concentrating its efforts on integrating adaptation measures in the sectoral policies over which it has powers by 2020. Likewise, the greater receptivity of local bodies to its supranational initiatives can serve not only to compensate for state inertia, but also to stimulate, from the bottom up, action among national governments, thus contributing to the Europeanization of this multi-level policy.

### **Horizontal Integration and Bottom-Up Initiatives: Towards the Europeanization of the Adaptation Policy**

As mentioned above, mainstreaming is a key pillar of the current *EU Adaptation Strategy*, in line with the White Paper and consistently with Article 3.3 of TEU, which sets out sustainable development as an overarching and long-term goal of the EU. This objective was first introduced by *the Treaty of Amsterdam (1997)*<sup>32</sup> and, since then, mainstreaming

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<sup>27</sup> Action at national level is formulated in different ways, ranging from states with broad strategies and individual legislation for different policy areas to countries with specific adaptation legislation. For an overall overview, see European Environment Agency (n 2) 69.

<sup>28</sup> Climate Action Network (CAN). Europe, Climate Change Adaptation and the Role of the Private Sector' (CAN 2013) 8-14.

<sup>29</sup> Commission Staff Working Group (n 26) 6.

<sup>30</sup> The Commission, though consisting of individuals from member states, is designed to act independently of the EU Members, and is instead to act in the interests of the EU as an institution.

<sup>31</sup> Commission (n 23) 6.

<sup>32</sup> [1997] OJ C340/01.

environmental considerations has become a requirement for all EU areas. Specifically, Article 11 of TFEU sets out the integration principle of environmental protection in all EU policies.<sup>33</sup> In other words, environmental protection must be considered as a relevant factor in the definition and implementation of all EU legal initiatives and activities. It is also a policy goal of the EU's external action, as provided by Article 21.2 (d) of TEU. Consequently, one may assert that adaptation mainstreaming is not a mere choice for the EU, but a political and legal requirement imposed by member states themselves through the treaties.

In line with this requirement, the EU has been introducing climate change impact resilience measures in different domains under its competence over the last few years, although their scope varies from sector to sector. For example, adaptation is already included in legislation on the marine environment,<sup>34</sup> transport,<sup>35</sup> forestry,<sup>36</sup> energy,<sup>37</sup> environment,<sup>38</sup> management and prevention of hazards and disasters,<sup>39</sup> integrated coastal management and maritime spatial planning,<sup>40</sup> invasive species.<sup>41</sup> Adaptation actions are also planned in the areas of

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<sup>33</sup> The Sustainable Development Strategy (2001) provides the policy framework to address this legal commitment. After its review in 2009, it continues to be the long-term vision for EU policies until 2050. The implementation of this objective has led to the setting up of multiple impact assessment processes, such as the Commission-wide Impact Assessment for all EU legislation with internal impacts and the Sustainability Impact Assessment for DG Trade, as concerns other countries and international organizations. See [http://europa.eu/legislation\\_summaries/environment/sustainable\\_development/l28117\\_en.htm](http://europa.eu/legislation_summaries/environment/sustainable_development/l28117_en.htm) accessed 8 January 2015.

<sup>34</sup> European Parliament and Council Directive 2008/56/EC of 17 June 2008 establishing a framework for community action in the field of marine environmental policy [2008] OJ L164/19.

<sup>35</sup> European Parliament and Council Regulation (EU) 1315/2013 of 11 December 2013 on Union guidelines for the development of the trans-European transport network and repealing Decision 661/2010/EU [2013] OJ L348/1.

<sup>36</sup> European Parliament and Council Regulation (EU) 2152/2003 of 17 November 2003 concerning monitoring of forests and environmental interactions in the Community [2003] OJ L324/1.

<sup>37</sup> European Parliament and Council Regulation (EU) 1316/2013 of 11 December 2013 establishing the Connecting Europe Facility [2013] OJ L348/129.

<sup>38</sup> European Parliament and Council Directive 2014/52/EU of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment [2014] OJ L124/1.

<sup>39</sup> European Parliament and Council Decision 1313/2013/EU of 17 December 2013 on a Union Protection Mechanism [2013] OJ L347/924.

<sup>40</sup> European Parliament and Council Directive 2014/89/EU of 23 July 2014 establishing a framework for maritime spatial planning [2014] OJ L 257/135.

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farming and forestry,<sup>42</sup> public health,<sup>43</sup> green infrastructures<sup>44</sup> and the new forestry strategy.<sup>45</sup> Infrastructures are covered by the Eurocode harmonisation standards established by the European Committee for Standardization to which all projects must conform.<sup>46</sup>

Mainstreaming is also a relevant element of the new *2014-2020 Multiannual Financial Framework (MFF)*, which includes a share of climate-related expenditure of 20% of the EU budget.<sup>47</sup> Finally, the recent inclusion of a conditionality clause making access to European

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<sup>41</sup> European Parliament and Council Regulation (EU) 1143/2014 of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species [2014] OJ L 317/35.

<sup>42</sup> The list of specific recommendations can be consulted at: [http://ec.europa.eu/agriculture/cap-post-2013/legal-proposals/index\\_en.htm](http://ec.europa.eu/agriculture/cap-post-2013/legal-proposals/index_en.htm) accessed 13 March 2015.

<sup>43</sup> For example, in 2013 the European Commission adopted a roadmap to prevent the introduction and spread of new pests and diseases on plants, to protect forests and to ensure food security. Available at: [http://ec.europa.eu/smart-regulation/impact/planned\\_ia/docs/2013\\_sanco\\_002\\_eu\\_plant\\_health\\_law\\_en.pdf](http://ec.europa.eu/smart-regulation/impact/planned_ia/docs/2013_sanco_002_eu_plant_health_law_en.pdf) accessed 13 March 2015. See also <http://www.climate-adapt.eea.europa.eu/web/guest/health> accessed 8 January 2014.

<sup>44</sup> European Commission, 'Green Infrastructure (GI). Enhancing Europe's Natural Capital' (Communication) COM (2013) 249 final.

<sup>45</sup> European Commission, 'A new EU Forest Strategy: for forests and the forest-based sector' (Communication) COM (2013) 659 final.

<sup>46</sup> European Parliament and Council Regulation (EU) 305/2011 of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC [2011] OJ L88/5. Extensive information on the Eurocodes is available at: <http://eurocodes.jrc.ec.europa.eu/showpage.php?id=1> accessed 8 January 2015.

<sup>47</sup> About 190 billion euro. This financial framework sets the maximum amount of commitment appropriations in the EU annual budget for broad policy areas ('Headings'). It sets an overall ceiling on payment and commitment appropriations. Council Regulation lays down the multiannual financial framework for the years 2014-2020 [2013] OJ L347/884. Specifically, adaptation actions will be implemented through the programmes financed by different funds: the Cohesion Fund, the European Regional Development Fund, the European Social Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund. The LIFE programme and the new Horizon research programme also include adaptation as a priority area for intervention. See European Commission, *Multiannual Financial Framework 2014-2020 and EU Budget 2014. The Figures* (Publications Office of the European Union 2013) 7-13, 19; [http://ec.europa.eu/budget/mff/index\\_en.cfm](http://ec.europa.eu/budget/mff/index_en.cfm) accessed 8 January 2015.

funds conditional on the implementation of adaptation measures may become a useful tool to encourage countries that have not yet adopted a national adaptation strategy.<sup>48</sup>

For the moment, in contrast to the foot-dragging at national level, some local authorities have proved much more receptive and driven in preparing their own strategies and drawing on the institutional and financial opportunities offered by the EU's supranational action. In this context, and because the EU legislation uses the term local authorities to refer to cities and towns, rather than to national regions,<sup>49</sup> the discussion focuses upon the responses of cities to climate change. It is worth noting then that, alongside population aging, migratory pressure and growing dependency on communication technologies, European cities view climate change as one of the most important threats they currently face. The effects of global warming are already visible in numerous urban nuclei, with retreating coastlines, coastal erosion, flooding, overflowing rivers, heat waves and water shortages. Europe's future therefore depends to a great extent on the adoption of proactive climate change resistance measures at local level.<sup>50</sup>

Aware of these risks, many European cities have begun developing adaptation strategies or action plans, of varying scope. Generally speaking, however, very few cities have the capacity to implement comprehensive adaptation strategies at this time, – Copenhagen and Rotterdam are examples – although there is also a small core of cities with the capacity to achieve this position in two years. If this is confirmed, they could become a potential instrument for disseminating capacity-building within and among the various cities.<sup>51</sup>

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<sup>48</sup> This condition is expressly set out in Article 8 of the European Parliament and Council Regulation (EU) 1303/2013 of 17 December 2013 laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) 1083/2006 [2013] OJ L347/320; European Environmental Agency (n 2) 65-66.

<sup>49</sup> Although cities are the main center of power and action for adaptation, the term 'local authorities' used by the EU documents refers to the body responsible for the government either of a city or town.

<sup>50</sup> Ecologic Institute et al., *Adaptation to Climate Change: Policy Instruments for Adaptation to Climate Change in Big European Cities and Metropolitan Areas* (Committee of the Regions 2011) 5-8.

<sup>51</sup> Ricardo-AEA, *Adaptation Strategies for European Cities. Summary Report* (European Commission 2013) 9.

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For the moment, many of the adaptation measures implemented in cities such as Stuttgart, Ghent, London and Vienna can be seen to have arisen out of research studies and projects. This demonstrates that knowledge and learning are relevant factors that enable political leaders to see the importance of climate change adaptation to the city's socio-economic development, to understand better the cost and benefits, and to encourage the implementation of city level adaptation strategies. Clearly, then the scientific community is contributing to generating leadership among policy makers and economic and social agents.<sup>52</sup>

In all events, intervention by regional and national authorities is essential to justify the resources required to develop the cities' adaptation strategies. Indeed, regional governments have a key role to play, especially when the necessary adaptation measures transcend the boundaries of any one municipal authority. However, the scope of regional action will vary depending on the respective political structures of each state. In federal countries such as Germany or Austria, for example, the regional governments enjoy broad political decision-making powers. The German programme KLIMZUG is an example of effective coordination in the field of adaptation between research centres, administrative authorities and interested sectors at a regional level. Its implementation has been of key importance in developing specific strategies for cities such as Dresden, Hamburg and Bremen. The programme was co-financed by the authorities in the seven participating regions, together with a number of private companies, although the majority of funding has come from the federal government.<sup>53</sup> In countries with a more unitary structure, decision-making and legislative capacities are normally in the hands of the central government, although in some cases (e.g. Sweden) regional and local authorities also have extensive powers. Nonetheless, adaptation is not always developed as a priority strategy in the most vulnerable cities, even those that have the administrative capacity to put it into action. Other factors, such as political leadership and the specific economic circumstances, can also act as a catalyst.<sup>54</sup>

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<sup>52</sup> Birgit Georgi *et al.* 'Knowledge and Information for Resilient Cities' in Konrad Otto-Zimmermann (ed.), *Resilient Cities 2: Cities and Adaptation to Climate Change Proceedings of the Global Forum 2011* (Springer 2012) 251-260.

<sup>53</sup> See Ecologic Institute (n 50) 28.

<sup>54</sup> See H. Corina Keskitalo, 'Connecting Multi-Levels of Governance for Adaptation to Climate Change in Advanced Industrial States' in Jurian Edelenbos, Nancy Bressers and Peter Scholten (eds.) *Water Governance as Connective Capacity* (Ashgate 2013) 71, 87.

From a perspective of multi-level governance, the national level provides the ideal direct link with the EU's supranational action. It is therefore essential to set out a comprehensive national strategy, specifying rules on adaptation in different sectors that are consistent with and supportive of local initiatives. The promotion of adaptation measures at local level also offers the national authorities a chance for political learning;<sup>55</sup> the cities' experience with direct implementation can provide useful lessons and best practice that can help improve national strategies and procedures.<sup>56</sup>

In general terms, however, we can see that adaptation strategies are not adopted by cities in response to prior mandatory national requirements, albeit the majority appear to be linked to an existing NAP (Denmark, Spain, France, Hungary, Germany) or one in preparation (Czech Republic, Italy, Latvia, Portugal, Sweden). Moreover, some NAPs impose additional requirements on local authorities that are not backed by the necessary financial coverage. In other cases, the NAPs focus exclusively on aspects of a national dimension, without sufficiently taking into account local needs. As a result it is often not clear how the NAPs are coordinated with local and regional strategies and in general a lack of consistency between the different levels can be observed.<sup>57</sup> At the same time, in states which have yet to adopt an NAP, the local authorities operate within a legal vacuum. This often results in a lack of coordination between different cities and a deficient adaptation response. As a result of these inadequacies at the national level, some cities and towns are bypassing the national perspective and taking the EU as the direct reference point for their actions.<sup>58</sup>

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<sup>55</sup> See European Environment Agency, *Urban Adaptation to Climate Change in Europe. Challenges and Opportunities for Cities together with Supportive National and European Policies* (Publications Office of the European Union 2012) 98-99.

<sup>56</sup> In France, for example, since 1982 building insurance has covered damage resulting from natural disasters. Insurance and reinsurance firms are required to set aside 12% of premiums for such contingencies. In the event of bankruptcy of the principal reinsurer, the state meets 100% of the coverage. The consequence of this state-backed guarantee has been that people have continued to settle in areas with potential risk of flooding. The experience observed at a local level led the national government to change the regulatory framework in 1995. Since then, natural risk prevention plans limit urban growth in areas of risk in order to minimise the possible damage. See Celine Grislain-Letremy and Cédric Peinturier, *Le Régime d'Assurance des Catastrophes Naturelles en France Métropolitaine entre 1995 et 2006* (Commisariat Général au Développement Durable 2010) 19.

<sup>57</sup> European Environment Agency (n 55) 101.

<sup>58</sup> Ricardo-AEA (n 51) 13.

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A number of initiatives (including the Sustainable Cities and Towns Campaign), networks and associations (e.g. the Council of European Municipalities and Regions and Eurocities) offer direct interaction between cities and the European Commission. Many municipalities are also participating in transnational environmental networks, such as the Global Cities Network (ICLEI) and the Climate Alliance. These networks partner cities taking pioneering steps on climate issues. They thus also form a focus of knowledge generation and political innovation. At the same time, they enable the European Commission and national governments to interact with a broad spectrum of local authorities.<sup>59</sup>

These channels through which local authorities can gain direct access to EU levels reflect the growing Europeanization of the politics of climate change. They are also an example of the relevant role cities can play in the drawing up of European policies. The European Commission, in particular, views cities not only as the place where adaptation takes place; as agents actively participating in climate governance, they also offer feedback on the effectiveness of European proposals and thus assume a key role in assessment and compliance-monitoring. *The European Adaptation Strategy* has confirmed the important contribution local authorities can make in the supranational context of the Union. Within this framework, the strategic target is that by 2020 all cities with a population of over 100,000 will have their own adaptation strategy.<sup>60</sup>

Others forms of horizontal interaction in the European context amongst the territorial authorities themselves include interregional strategies, such as the Baltic Sea<sup>61</sup> and Danube

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<sup>59</sup> Kristine Kern and Harriet Bulkeley, 'Cities, Europeanization and Multi-Level Governance: Governing Climate Change through Transnational Municipal Networks' (2009) 47 *Journal of Common Market Studies* 324.

<sup>60</sup> Commission (n 23) 3. 41% of the EU population lives and works currently in cities, while only 23% in rural areas and 35% live in intermediate regions. Urban spaces are a major source of GHG. The process of urbanisation is expected to increase in the forthcoming years, so it is at city level where climatic threats will have the most severe effects, hence adaptation efforts are mainly focused on cities. See Committee of the Regions, *Climate Change Adaptation: Empowerment of Local and Regional Authorities, with a Focus on their Involvement in Monitoring and Policy Design* (European Union 2013) 9.

<sup>61</sup> European Commission, 'European Union Strategy for the Baltic Sea Region' (COM) 2009 248 final. More information available at: <<http://www.interreg-baltic.eu>> accessed 9 February 2015.

strategies.<sup>62</sup> These initiatives promote direct cooperation between local and regional governments and have EU funding for developing adaptation measures.<sup>63</sup>

The inclusion of adaptation in numerous EU policies also has a direct impact on sectors of key importance for regional and local authorities. Perhaps the most important for these tiers of government is the cohesion policy, to which an important share of the EU budget is devoted. The cohesion policy encompasses programmes such as INTERREG and URBACT, which co-finance regional and local adaptation projects. For example, initiatives financed by the Regional Development Fund, such as BaltCICA in Helsinki and ASTRA in Riga, are of major importance for promoting the first initiatives and developing local capacities.<sup>64</sup> Likewise, in the area of environmental policy, following its recent amendment, the Environmental Impact Assessment (EIA) Directive could become an important instrument for promoting adaptation. Compulsory national implementation of this institutional legislation could prove relevant for local authorities.<sup>65</sup> The same is true of the Floods Directive<sup>66</sup> and the Water Scarcity and Droughts Strategy,<sup>67</sup> currently under review by the European Commission. All this EU legislation can directly promote and support the activities

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<sup>62</sup> European Commission, 'European Union Strategy for Danube Region' COM (2010) 715 final. More information available at: <<http://www.danube-region.eu/>> accessed 9 February 2015.

<sup>63</sup> European Commission, 'Report from the Commission to the European Parliament, the Council, the Social and Economic Council and the Committee of the Regions concerning the governance of macro-regional strategies' COM (2014) 284 final.

<sup>64</sup> Ecologic Institute (n 50) 28.

<sup>65</sup> For example, Article 6.1 of the EIA Directive, as amended by Directive 2014/52/EU (n 37) provides that member states shall have to consult the local and regional authorities in order to give them the opportunity to express their opinion on the information supplied by the developer of a project. The newly amended EIA Directive 2014/52/EU came into force on 15 May 2014, but member states have three years for its transposition (until 15 May 2017). The new provisions bind member states to simplify their environmental assessment procedures of the potential effects of projects on the environment. It also aims to improve the level of environment protection, by trying to make business decisions on public and private investments more predictable and sustainable in the long term. Areas, such as climate change and disaster prevention are now better reflected in the assessment process. For a general overview, see European Commission, 'Review of the Environmental Impact Assessment (EIA) Directive' (2014) <<http://ec.europa.eu/environment/eia/review.htm>> accessed 8 January 2015.

<sup>66</sup> European Parliament and Council Directive 2007/60/EC of 23 October 2007 on the assessment and management of floods risks [2007] OJ L288/1.

<sup>67</sup> European Commission, 'Report on the Review of the European Water Scarcity and Droughts Policy' COM (2012) 672 final.

of the regional and local authorities. *The Floods Directive*, for example, has already provided numerous cities with the basis for drafting plans for adapting to flooding risks.<sup>68</sup>

Another recent initiative, launched by the Commission in March 2014 to develop adequate adaptation capacity among local authorities, is the 'Mayors Adapt'. Cities choosing to sign up to this voluntary initiative undertake to draw up their adaptation plans in consonance with *the European Adaptation Strategy* and to review it every two years. In exchange, participating authorities receive technical advice, guideline documents and information on best practice and networking activities. Mayor Adapt complements the mitigation work being carried out by European cities under the auspices of the Covenant of Mayors, one of the most significant of all European climate governance initiatives. The Covenant directly involves local and regional authorities in meeting emission reduction and sustainable energy targets.<sup>69</sup>

We may therefore conclude that, unlike some member states, regional and local authorities, in particular, are determined to contribute to meeting the EU's climate change and energy targets. This determination clearly indicates that there is greater potential for implementing the EU's supranational actions at sub-state level.

Paralleling its actions in the internal area, the EU has rolled out a whole series of initiatives to help developing countries to address the effects of global warming. These actions help reinforce the important international outreach of European action on climate change.

### **Climate Resilience in EU External Action: Promoting National Adaptation Plans in Developing Countries**

One of the most important challenges faced by the EU and the international community at large is to identify the best way of financing the costs of climate adaptation in developing

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<sup>68</sup> European Environment Agency (n 55) 102, 104.

<sup>69</sup> More than 3000 cities and municipalities in the 28 member states and a further 19 third countries have now signed up to the Covenant of Mayors. Within this framework, some regions are playing an important role as territorial coordinators and catalysts of the necessary funds for the investments required. Extensive information is available at: <<http://mayors-adapt.eu/>> accessed 13 March 2015.

countries. Recent estimates suggest that around 380 billion dollars are required per year to properly attend to adaptation shortfalls in Third World countries.<sup>70</sup>

The primary international sources of financing for adaptation projects in these countries are currently the UN and the EU.<sup>71</sup> Indeed, despite the economic recession still gripping the eurozone, the EU continues to be the primary source of funding for climate-related actions in poorer countries. EU aid is channelled through a number of external policies, including its *Trade and Neighbourhood policies*, but *the Development Co-operation policy* is particularly significant in this regard. The ultimate aim is to promote sustainable economic growth in poorer countries, in keeping with the multilateral legal framework currently provided by *the UNFCCC* and the future post-Kyoto climate order currently being negotiated. From this perspective, the EU can be said to be helping bring these countries into the international climate governance regime.

The strategic document used by the EU as the basis for launching this initiative 10 years ago was *the Climate Change Action Plan*, in the context of Development Co-operation 2004-2008.<sup>72</sup> *The Action Plan* was in consonance with the Millennium Development Goals and the results of the World Summit on Sustainable Development (Johannesburg 2002).<sup>73</sup> Its strategic aims were to give greater political importance to climate change in development co-operation, to support adaptation and mitigation initiatives in poorer countries and to develop their capacities for climate resilience. Within this framework, the most important measure was undoubtedly the assistance provided for assessing vulnerability and in the consequent preparation of NAPs. In financial terms, the EU has contributed to preparing and implementing NAPs from its own funds and those provided by member states.

Indeed, the EU and its member states share powers not only in environmental matters, but also in development co-operation. Together they constitute the world's largest provider of

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<sup>70</sup> Manuel Montes, 'Climate Change Financing Requirements of Developing Countries' (2013) 1 Climate Policy Brief 4.

<sup>71</sup> Alice Caravani, Sam Barnard, Smita Nakhooda and Liane Schalatek, 'Climate Finance Thematic Briefing: Adaptation Finance' (2014) 3 Climate Finance Fundamentals 1.

<sup>72</sup> European Commission, 'Climate change in the Context of Development Co-operation' (Communication) COM (2003) 85 final.

<sup>73</sup> United Nations, 'World Summit on Sustainable Development. Declaration on Sustainable Development' A/Conf. 199/20 (2002) <<http://www.un-documents.net/jburgdec.htm>> accessed 13 March 2015.

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development aid, accounting for over 50% of global aid.<sup>74</sup> During COP15 in Copenhagen, the EU and its member states committed to contributing 7.2 billion euro of an estimated 20 billion euro provided for fast-start financing in the period 2010-2012. They eventually exceeded that initial commitment, contributing a total 7.34 billion euro, despite the serious economic recession faced by the eurozone from 2010. They are currently preparing to meet the commitment assumed by developed countries to devote 100 billion dollars per year until 2020 to help underdeveloped countries identify vulnerabilities, priorities and strategies for action.<sup>75</sup>

As well as bilateral funding, another outlet for adaptation financing by the EU and its member states are the multilateral instruments specifically established for this purpose. These include the Adaptation Fund, the Special Climate Change Fund and the Least Developed Fund.<sup>76</sup> At present, most of the bilateral and multilateral funds allocated prioritise adaptation measures, since mitigation is less relevant in poorer economies.<sup>77</sup>

Following the conclusion of *the Action Plan* in 2008, the principal instrument through which the EU and the member states now channel their aid to developing countries is the Global Climate Change Alliance (GCCA).<sup>78</sup> The GCCA is an EU initiative specifically designed to reinforce dialogue and cooperation with the countries that are most vulnerable to climate change, particularly least-developed countries and small island developing states. It was set

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<sup>74</sup> Following two years of declining figures, aid from the EU and its 28 member states jointly came to 56.5 billion euro in 2013, up from 55.3 billion in 2012. See Organization for Economic Cooperation and Development, 'Aid to Developing Countries Rebonds in 2013 to Reach an All Time High' (2014) <<http://www.oecd.org/newsroom/aid-to-developing-countries-rebounds-in-2013-to-reach-an-all-time-high.htm>> accessed 8 January 2015.

<sup>75</sup> European Commission, 'European Union Climate Funding for Developing Countries in 2014' (2014) 3 <[http://ec.europa.eu/clima/publications/docs/funding\\_developing\\_countries\\_2014\\_en.pdf](http://ec.europa.eu/clima/publications/docs/funding_developing_countries_2014_en.pdf)> accessed 8 January 2015.

<sup>76</sup> The creation of these funds was decided during the COP 7 in Marrakech (2001). Currently, there are more than 10 multilateral funds devoted to financing climate-related policies in developing countries. Dessai Svraje and Emma Lisa, 'The Marrakech Accords to the Kyoto Protocol: Analysis and Future Prospects' (2007) 26 *Global Environmental Change* 149-153; Climate Funds Update, 'The Funds' (2014) <<http://www.climatefundsupdate.org/the-funds>> accessed 8 January 2015.

<sup>77</sup> According to this trend, the multilateral funding for adaptation increased in a 57% during the period 2013-2014. Caravani *et al.* (n 71) 1.

<sup>78</sup> Extensive information is available at <<http://www.gcca.eu>> accessed 8 January 2015.

up in 2008 with four countries. In 2015, 35 States and 8 regions and sub-regions are participating in this multilateral initiative, in which over 45 national and regional programmes are being implemented, with a combined budget of close to 300 million euro.<sup>79</sup>

Through the GCCA the EU and its member states provide technical and financial support in five priority areas: mainstreaming climate change into poverty reduction and development efforts, adaptation, reduction of emissions from deforestation and forest degradation (REDD+), improvement in the clean development mechanism (CDM) and disaster risk reduction. Based on the number of interventions, the priority area at this time can perhaps be identified as being adaptation.<sup>80</sup> Projects are being carried out in sectors that are especially vulnerable to the impact of climate change, such as agriculture and fishing, land management, water and waste, forests and natural resources. Most of the programmes and projects are being implemented in countries in Africa, the Caribbean and the Pacific.<sup>81</sup> To be eligible for European aid, the beneficiary countries must adopt national climate change resistance strategies. Through this element of conditionality, the EU is trying to generate sufficient capacity in these countries to enable them to receive and in the long term, effectively manage funding for combatting the effects of global warming. At the same time, this approach serves the EU itself as a catalyst for mainstreaming the climate factor in its development aid, thus producing a multiplier effect.<sup>82</sup>

As well as the GCCA, the European Investment Bank (EIB) –which is financed by EU member states– is one of the international financial institutions that is providing most financing for climate actions, inside and outside Europe, especially in developing and emerging countries. In 2013, the EIB spent 19 billion euro on climate change projects worldwide. Of this amount 2.2 billion was invested in developing countries.<sup>83</sup> Finally, the fight against climate change is extensively covered in the current multiannual financial framework 2014-2020. As mentioned above, during that period it is planned to devote 20% of the EU's annual budget to climate-related projects and actions, representing a total amount of 190

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<sup>79</sup> Commission (n 75) 7.

<sup>80</sup> <<http://www.climatefundsupdate.org/listing/global-climate-change-allianc#TOC-Graphs-and-statistics>> accessed 8 January 2015.

<sup>81</sup> Detailed information about projects, sectors and regions is available at <<http://www.gcca.eu/technical-and-financial-support>> accessed 8 January 2015.

<sup>82</sup> See European Commission, *Paving the Way for Climate Compatible Development: Experiences from the Global Climate Change Alliance* (European Commission, GCCA 2012) 29-40.

<sup>83</sup> Commission (n 75) 8.

billion euro. This ambitious financing target includes cooperation policies, with 1.7 billion euro allocated to climate measures in this area in the period 2014-2015 alone.<sup>84</sup> In this context and period, climate relevant activities in developing countries and economies in transition will be funded through different instruments, such as the Development Cooperation Instrument, which will support environmental sustainability and climate change-related projects within the thematic programme 'Global Public Goods and Challenges'. Countries included in the Organisation for Economic Cooperation (OECD) Development Assistance Committee (DAC) list of Official Development Assistance (ODA) may be recipient of this funding.<sup>85</sup> The European Neighbourhood Instrument will also provide funding for climate-related projects in the 16 target countries,<sup>86</sup> while the new Partnership Instrument will support environmental sustainability efforts in EU traditional partners and emerging global actors, such as US, China, Brazil, South Africa and India.<sup>87</sup>

Despite the well-known problems of coordination between the EU and its member states in the field of development assistance and notwithstanding the inconsistencies sometimes observed between European development co-operation and climate change policies,<sup>88</sup> there can be no doubt that all these collective efforts are valuable in terms of generating mutual relationships of trust and collaboration between the EU and developing countries. Joint experience in turn fosters a common understanding and a shared strategic vision in the search for global solutions to climate change. This interaction extends beyond the current international framework and could contribute to facilitating the adoption of a new post-2020 global climate order.

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<sup>84</sup> Within the current multiannual framework, development cooperation is part of Heading 4. Global Europe. This EU policy has a budget of 66.2 billion euro, which represents a 6.12% of the overall budget for 2014-2020. See European Commission (n 47) 21-22.

<sup>85</sup> The current DAC list is available at: <<http://www.oecd.org/dac/stats/daclist.htm>> accessed 13 March 2015.

<sup>86</sup> Algeria, Armenia, Azerbaijan, Belarus, Egypt, Georgia, Israel, Jordan Lebanon, Libya, Moldova, Morocco, occupied Palestinian Territory, Syria, Tunisia and Ukraine. <<http://ec.europa.eu/eurostat/web/european-neighbourhood-policy/overview>> accessed 8 January 2015.

<sup>87</sup> See Alisa Herrero and Hanne Knaepen, 'Run-up to 2015: A Moment of Truth for EU External Climate Action?' (2014) 67 ECDPM Briefing Note 9-12.

<sup>88</sup> One example is the EU policy on biofuels and their harmful effects for developing countries. European Parliament, 'Report on the EU 2013 Report on Policy Coherence for Development' (2014) 6-7 <<http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+REPORT+A7-2014-0161+0+DOC+PDF+V0//EN>> accessed 13 March 2015.

## Conclusion

The future effects of global warming will be felt differently and with varying intensity in the different regions of Europe. However, the cross-sectoral dimension and the transnational implications of adaptation measures require the EU to take a supranational coordinating role. As this study has shown, there is at this time no organised multi-level governance in the area of adaptation, in particular, between the state framework and the supranational EU framework, since numerous member states have not even adopted an NAP and some oppose the adoption of binding EU legislation. As a result, the EU will only be able to respond effectively to the challenges of climate change if all those involved in the different tiers of government in Europe learn to work together and recognise that adaptation must be supported as part of the EU's political agenda.

By contrast, and in some way compensating for the above limitations, the gradual integration of adaptation measures in other sectors of European competence and the important drive for sustainability from the local level as factors demonstrated in this paper can promote a more holistic and effective multi-level adaptation framework over the coming years. However, despite this potential, in the short term the EU must face the challenge of establishing synergies between its mitigation and adaptation actions, and therefore the adoption of binding legislation will in all events be necessary in order to respond in a coherent fashion to the global challenges of climate change.

Where the EU has had more success is in supporting adaptation measures in developing States. Adaptation to climate change is an inescapable priority in developing countries; financing that adaptation is one of the greatest challenges facing the international community. Through the GCCA, the EU contributes one of the main sources of financing for adaptation projects in developing countries. The conditions laid on eligibility for these funds are acting as a catalyst for adoption of NAPs in these countries. At a global level, the experience of the GCCA offers useful lessons and case studies that can serve to channel international negotiations, particularly with regard to developing countries' potential to participate actively in the future climate post-Kyoto framework. Such joint dialogue can therefore go beyond bilateral relations in facilitating a shared strategic vision that will help drive forward the transition towards a more sustainable global climate order.