

Opinion of the Committee of the Regions on 'Adaptation to climate change and regional responses: the case of coastal regions'

(2012/C 391/05)

THE COMMITTEE OF THE REGIONS

- is convinced that, economically and socially, there is an urgent need to promote adaptation in coastal regions, not least in view of the greater burden imposed by the "failure to act" scenario and in spite of the continuing sovereign debt crisis in some eurozone countries; considers that the degree of detail in the future European adaptation strategy needs to be sufficient to allow for specific regional situations;
- acknowledges that the Integrated Coastal Zone Management (ICZM) tool is essential both for facilitating policy integration in coastal regions, particularly on issues which have not yet been fully systematised such as erosion, climate change adaptation and green infrastructure, and for promoting regional cooperation between local actors through initiatives such as the Sardinia Charter in the Mediterranean basin;
- points out that developing tools which can assess the costs and benefits of adaptation could effectively push forward the local and regional political processes which underpin planning and implementing on the ground and lay the groundwork for shaping more cost-effective strategies;
- reiterates that it should be regularly consulted on European and international climate negotiations and therefore calls for the Committee (i) to be involved in a European working group on adaptation focusing on regions with permanent handicaps, including those caused by the effects of climate change and so covering coastal regions, islands and mountain regions and the Outermost Regions; and (ii) to be granted observer status with the Adaptation Committee.

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I. POLICY RECOMMENDATIONS

THE COMMITTEE OF THE REGIONS

A. Adaptation to climate change and its local dimension

1. points out that local and regional authorities must be proactively involved in climate change adaptation and the process of identifying adaptation options (adaptation assessment) ⁽¹⁾ ⁽²⁾, as regards **both the planning and implementation phases**. The Committee therefore reiterates ⁽³⁾ that **these authorities have a key role to play** in tackling the effects of climate change, welcomes the European ⁽⁴⁾ and global ⁽⁵⁾ recognition of this role, and recommends that the future European adjustment strategy recognise this role explicitly;

2. recalls that climate change and its consequences are among the key challenges facing the local and regional authorities in the European Union in the coming years. In this context, the first priority must be to take the necessary steps to try and limit, as far as possible, the rise in global average temperature (mitigation), but also to prepare at the different levels for those changes which are inevitable (adaptation);

3. supports the conclusions of the Rio+20 Conference, whereby adaptation to climate change is an **immediate and urgent global priority** and the strategies for reducing risks from natural disasters and for climate change adaptation need to be better integrated and coordinated ⁽⁶⁾. The Committee however **points out that the burden of this global priority falls on the local level**: local and regional authorities have responsibility for risk management and prevention, while harm to the environment, the economy, the society and cultural identity of the communities affected are also local issues;

⁽¹⁾ IPCC, 2012: *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change*.

⁽²⁾ *Adaptation assessment*: "the practice of identifying options to adapt to climate change and evaluating them in terms of criteria such as availability, benefits, costs, effectiveness, efficiency, and feasibility"; *Adaptation*: "In human systems, the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities. In natural systems, the process of adjustment to actual climate and its effects; human intervention may facilitate adjustment to expected climate" (definitions from the glossary referred to in footnote 1).

⁽³⁾ CdR 118/2007 fin, CdR 72/2009 fin.

⁽⁴⁾ COM(2007) 354 fin; COM(2009) 147 fin; Memorandum of Understanding between the Committee of the Regions and UNEP, 21 June 2012.

⁽⁵⁾ Cancún Agreements, 2010: <http://cancun.unfccc.int/>.

⁽⁶⁾ *The Future We Want*: document adopted at Rio+20 on 19 June 2012.

4. considers that adaptation at local level should be seen **not as a temporary response to a single call for action but as a gradual and sustainable adjustment** to a number of inter-related factors. The Committee accordingly supports the Commission's legislative proposal for 2014 to 2020 whereby climate change adaptation should be a key aspect of partnership agreements and operational programmes under the five funds of the Common Strategic Framework, in line with the principles of sustainable development and on an equal footing with environmental protection, resource efficiency, mitigation, resilience to disasters and risk prevention and management ⁽⁷⁾;

5. notes that the **impact of climate change varies** according to place and time, and that common adaptation solutions are rarely effective. The Committee therefore considers that common strategies and "no regrets" measures shared by several Member States should dovetail into strategies **based on assessments carried out at regional and local level and tailored to each type of action, scale (proportion) and cost-benefit ratio**;

6. notes the **sheer cost of the effects of climate change**, and also points out that between 1998 and 2015 regional authorities will have shouldered the burden of around one third of the cost of protecting Europe's coasts ⁽⁸⁾. The Committee argues ⁽⁹⁾ that **financing adaptation continues to be a critical and crucial factor in implementation at local level**;

B. Scale and specific features of adaptation in coastal regions

7. emphasises **coastal regions' vulnerability to climate change** ⁽¹⁰⁾; these regions are already subject to strong pressure through the concentration of economic activities, infrastructure and urban centres. 12 % of Europe's coastal regions, located within 10km of the coastline, are less than 5m above sea level and are therefore very vulnerable to flooding, while 20 % of coastal regions suffer badly from erosion, losing an

⁽⁷⁾ COM(2011) 615 final/2, 14 March 2012.

⁽⁸⁾ Policy Research Corporation (2009), *The economics of climate change adaptation in EU coastal areas*.

⁽⁹⁾ CdR 72/2009 fin.

⁽¹⁰⁾ "Coastal regions" are defined as third-level territorial units (NUTS3) with a coastline or at least half of their population living less than 50km from the sea. Hamburg is a coastal region although it does not meet these criteria because it is considered to be profoundly influenced by the presence of the sea.

estimated 15 km² of land surface each year⁽¹¹⁾. Erosion is considered to be the main cause of the disappearance of coastal ecosystems between 2000 and 2006 (65 % of the total loss)⁽¹²⁾, while some estimates suggest that 35 % of the EU's wetlands could be lost by 2100 compared to 1995 levels⁽¹³⁾;

8. notes that the **type of impact differs widely between regions**. In the Baltic Sea, marine fauna could be affected by the anticipated rise in water temperatures; North Sea regions and the coastal regions of the Atlantic are more exposed to risks of flooding as a result of rising sea levels; in the Mediterranean, erosion and the scarcity of fresh water owing to rising saltwater intrusion and extended periods of drought are the main concerns; erosion is also a problem in the Black Sea, while outlying areas are generally vulnerable to all types of impact, from flooding to drought as well as extreme events such as cyclones⁽¹⁴⁾. **The impact will also vary depending on the degree of vulnerability and the natural systems' response capacity, as well as the structure of human systems** such as the organisation of healthcare services or mechanisms for curbing (or giving advance warning of) risks from natural disasters, including tsunamis;

9. underscores **the scale of the problem at European level**, with 447 coastal regions scattered across 22 Member States and six main maritime basins. 41 % of Europe's population lives in these regions, also accounting for 41 % of the EU's active population⁽¹⁵⁾. 35 % of the gross domestic product (GDP) of the 22 countries with coastal regions, the equivalent of EUR 3,5 trillion, is generated within 50 km of the coast and the value of economic goods situated within 500 m of the coastline has been estimated at around EUR 500-1 000 billion⁽¹⁶⁾. This **highlights the importance of coastal regions in terms of production and their economic and social value in the region's development and cohesion**, values which must imperatively be preserved or consolidated in the process of adapting to climate change;

10. is therefore convinced that, **economically and socially, there is an urgent need to promote adaptation in coastal regions, not least in view of the greater burden imposed by the "failure to act" scenario** and in spite of the continuing sovereign debt crisis in some eurozone countries. Recent

studies⁽¹⁷⁾ show that failure to provide additional protection compared to the situation in 1995 will cost the EU an average of EUR 11,7 billion per year from 2041 to 2070 and EUR 17,4 billion per year from 2071 to 2100; the number of people exposed to the risk of flooding each year could rise by around 40 000 and 80 000 over the same reference periods. The annual cost of adaptation however is estimated at around EUR 1 billion between 2041 and 2070 and EUR 0.7 billion between 2071 and 2100, thus demonstrating that the benefits of adaptation greatly exceed the burden of "failure to act". The Committee also notes that this study suggests that, **regardless of climate change, adaptation is necessary**, simply as a consequence of the socio-economic development of coastal regions and thus of the increased value of the goods and investments to be protected;

11. also emphasises that the costs, both of damage and of adaptation, vary considerably between Member States in proportion to their GDP and that **islands in particular must pay a premium for implementing measures** at local level owing to their special geographical situation;

12. points out that coastal regions include **important natural habitats and help preserve biodiversity**⁽¹⁸⁾, **landscapes, delicate ecosystems** such as wetlands **and the enjoyment of ecosystem services** – these regions' pulling power, economic sustainability and cultural identity depend on their conservation. The Committee also notes that the NATURE 2000 network protects a large share of coastal⁽¹⁹⁾ and marine regions;

13. emphasises that **adaptation in coastal regions is a complex and cross-cutting process**. These regions are an interface between land systems (urban centres, industry, agriculture, forests and rivers) and marine systems (fishing, aquaculture, port activities, maritime transport and tourism). Furthermore, management responsibilities in these regions (including risk from flooding, the supply of drinking water and land use) are often distributed across several tiers of governance⁽²⁰⁾;

⁽¹¹⁾ EEA data and EuroSION project in Policy Research Corporation (2009), *The economics of climate change adaptation in EU coastal areas*.

⁽¹²⁾ EEA (2010), *10 Messages for 2010 – Coastal ecosystems*.

⁽¹³⁾ S. Brown, R.J. Nicholls, A. Vafeidis, J. Hinkel and P. Watkiss (2011). The European Science Foundation estimates the loss of wetlands caused by climate change at around 17 % along the Atlantic coast, 31-100 % along the Mediterranean coast and 84-98 % along the Baltic coast (source: European Commission, DG Environment (2012), LIFE and coastal management).

⁽¹⁴⁾ Policy Research Corporation (2009), *The economics of climate change adaptation in EU coastal areas*.

⁽¹⁵⁾ Eurostat regional yearbook 2011, Chapter 13 – coastal regions.

⁽¹⁶⁾ Policy Research Corporation (2009), *The economics of climate change adaptation in EU coastal areas*.

⁽¹⁷⁾ *ClimateCost (the Full Costs of Climate Change)*: <http://www.climatecost.cc/home.html>. S. Brown, R.J. Nicholls, A. Vafeidis, J. Hinkel and P. Watkiss (2011). The data refer to the stabilisation scenario ENSEMBLES E1 (van der Linden and Mitchell, 2009: Lowe *et al.*, 2009a), which assumes that sea levels will rise by 18cm by 2050 and 26cm by 2080, and that the temperature will rise by less than 2 °C compared to pre-industrial levels or that current global climate change mitigation policies will be effective. This scenario allows for better cost-benefit ratios.

⁽¹⁸⁾ The annexes of the Habitats Directive provide a list of 50 types of coastal habitats and 150 species (in addition to birds) which prefer coastal ecosystems (source: EEA (2010), *10 Messages for 2010 – Coastal ecosystems*).

⁽¹⁹⁾ European Environment Agency (2010), *10 Messages for 2010 – Coastal ecosystems*.

⁽²⁰⁾ Policy Research Corporation (2009), *The economics of climate change adaptation in EU coastal areas*.

C. The European approach, subsidiarity and proportionality

14. praises the Commission's determination to frame an **integrated European strategy and joint adaptation mechanisms** and believes that a European approach to adaptation to present and future climate change could **confer added value on actions taken by Member States or local and regional authorities without contravening the subsidiarity principle**, not least owing to the fact that the impact of climate change is inherently transnational;

15. nonetheless considers that the **degree of detail** in the future European adaptation strategy **needs to be sufficient to allow for specific regional situations** in terms of (i) type of impact; (ii) degree of risk and long-term effects; (iii) economic conditions (for example, goods and resources at risk); (iv) social structure (for example, population density and capacity of human systems); and (v) structural characteristics (for example, whether it is in an outlying area or has handicaps such as the high degree of vulnerability to climate change specific to coastal regions, islands and mountain areas⁽²¹⁾ and the Outermost Regions);

16. also points out that the future strategy should identify **adaptation measures which, along with financing instruments**, are sufficiently **flexible** to adapt to regional diversity and to the continually evolving process of adaptation. These measures should also be **aligned with mitigation measures** in order to avoid maladaptation which could increase greenhouse gas production or vulnerability;

17. considers that the EU's role in the adaptation of coastal regions should focus on initiatives in the following areas: (i) **coordination and cooperation** between the various tiers of governance where the impact or the measures have a cross-border dimension; (ii) **training**; (iii) creating knowledge in order to plug gaps which for coastal regions often involve complex dynamics and the need for multidisciplinary approaches; (iv) **spreading knowledge, best practice and success stories**; (v) **technical and financial support** for drawing up and implementing integrated regional and local adaptation strategies; (vi) research and development of **innovative adaptation techniques**; and (vii) **framing and providing technical and financial support for transnational cooperation programmes for macroregional adaptation**;

18. also considers that the Commission should play a key role in **coordinating and assessing the many research and investment projects which are partly funded by European funds**, avoiding overlaps, building on synergies and promoting the distribution and large-scale application of best practices and mechanisms. In this regard, the European Commission should ensure coordination of joint actions between neighbouring states or coastal areas and the implementation of joint research and investment projects;

⁽²¹⁾ CdR 89/2012 fin.

19. reiterates⁽²²⁾ **the need to work towards greater coherence between European policies, particularly with environment policy**. The Committee notes for instance that the implementation of the Habitats Directive (92/43/EEC) and the Birds Directive (79/409/EEC) may be jeopardised by adaptation measures, particularly in the area of infrastructure, and points out that in this context it is important to develop effective and transparent local consultation mechanisms for deciding on recovery and/or compensation measures for Sites of Community Interest which will be adversely affected or harmed following adaptation measures;

20. acknowledges that the Integrated Coastal Zone Management (ICZM) tool is essential both for facilitating policy integration in coastal regions, particularly on issues which have not yet been fully systematised such as erosion, climate change adaptation and green infrastructure, and for promoting regional cooperation between local actors through initiatives such as the Sardinia Charter in the Mediterranean basin⁽²³⁾. The Committee therefore welcomes the review of the 2002 recommendation, a process which takes account of the more joined-up European policy framework established in recent years for the management of marine and coastal areas⁽²⁴⁾. On this point, the Committee hopes that this review will provide an **opportunity to steer the ICZM tool closer towards adaptation processes**;

21. is pleased that European financial support is set to increase substantially under the forthcoming multiannual financial framework for 2014-2020, with at least 20 % of total expenditure earmarked for climate-related activities. However, the Committee stresses the need to ensure that **finance responsibilities are shared out fairly and realistically between the various tiers of governance**, taking account of local and regional authorities' current economic difficulties and complying fully with the principles of complementarity and additionality, as well as the need to **help identify alternative resources**;

22. reiterates its proposal⁽²⁵⁾ here that part of the **revenue generated by the EU Emissions Trading Scheme should be set aside for local and regional authorities** for the implementation of adaptation (and mitigation) measures. Furthermore, the Committee urges the Commission to prepare **recommendations for involving the private sector** (including insurance companies) in risk-assessment and risk-sharing as well as in raising awareness;

⁽²²⁾ CdR 118/2007 fin.

⁽²³⁾ Agreed in Alghero, Sardinia in July 2008, the Charter sets out the principles and objectives of a network for dialogue and exchange in the Mediterranean on ICZM initiatives (ICZM Mediterranean Dialogue).

⁽²⁴⁾ Particularly the Integrated Maritime Policy (COM(2007) 575) and the Marine Strategy Framework Directive (2008/56/EC).

⁽²⁵⁾ CdR 269/2011 fin; CdR 5/2011 fin; CdR 245/2010 fin; CdR 72/2009 fin.

D. Conditions for taking up challenges and proposing adaptation solutions

23. emphasises that it is vital not to see the adaptation process solely in terms of costs, but also and above all in terms of opportunities and benefits compared to the "failure to act" scenario and insists⁽²⁶⁾ that it be considered one of the potential tools for developing competitive, green regional economies. However, the Committee stresses that it is a **precondition to have local government which is aware of the risks and effects of climate change, which has responsibility for the measures which need to be adopted and which is able to integrate policies and measures at local level and to access available funds;**

24. points out that while some regions are actively involved in tackling climate change, **insufficient awareness of the scope of the problem is a widespread danger.** The Committee therefore considers that it is important to organise **information campaigns** illustrating the cause and effect linking climate change to problems experienced on the ground, such as water scarcity, falling water marks, heat waves, flooding and landslides, while also providing information and practical examples or success stories of the application of the available adaptation and mitigation tools⁽²⁷⁾;

25. considers that the European Social Fund is the key to **creating the local and regional capacity and flexibility needed to manage adaptation, in both the public and private sectors.** For example, local governance needs to be strengthened in order to integrate adaptation strategies into the relevant sectoral policies or to foster the development of appropriate regional legislation. On the other hand, the private sector's planning and building responsibilities need to be brought into line with the new imperatives of integrated and multidisciplinary policies⁽²⁸⁾;

26. calls on the Commission to fine tune and further develop the following, partly on the basis of experience accrued through individual projects: (i) mapping tools to **provide data and information which is geographically-based and on a useful scale** to support local and regional decision-making; (ii) a **clear and joint reference framework for assessing vulnerability, impact and risks;** and (iii) **guidelines** for shaping local adaptation strategies in coastal regions which take account of the requisite multidisciplinary approach and multilevel governance aspects;

⁽²⁶⁾ CdR 118/2007 fin.

⁽²⁷⁾ One product for the global campaign *Making Cities Resilient – My City is Getting Ready* www.unisdr.org/campaign is the brochure *How To Make Cities More Resilient*, which specifically addresses local government leaders and provides a structured introduction to risk reduction and reaction capacity, as well as giving examples of best practice and describing tools which are available now.

⁽²⁸⁾ CdR 72/2009 fin.

27. in particular, considers that **vulnerability indicators for coastal regions and tools based on these should be developed for the analysis of vulnerability.** Alongside forecasting the timescale of events and indicating adaptation capacity, these indicators can **help single out and shape local action priorities, enabling resources to be channelled towards areas where they are most needed;**

28. praises the development of information platforms such as CLIMATE-ADAPT but stresses the **need to make the content more accessible to end users,** in compliance with the principles of a Shared Environmental Information System (SEIS)⁽²⁹⁾, for example by translating the information into a sufficient number of languages. The Committee also recommends looking into the idea of developing within the platform a **section devoted to financing adaptation at local and regional level** and an investment database;

29. highlights the importance of capitalising more on research. Research needs to be **more responsive to the needs of territorial policy,** for example developing adaptation strategies and **measures which are cost-effective because they have been designed for specific local and regional situations.** At the same time, steps must be taken to help set up (or where they are already in place, to fully exploit) mechanisms for dialogue and/or partnership between science, politics and as far as possible civil society, for example through **joint participation in European projects;**

30. reiterates⁽³⁰⁾ that **for coastal regions coordination of adopted policies** and the existence of research which aims to assess the effects in neighbouring or cross-border regions is essential, **to ensure that the problem is not simply transferred from one region to another.** A participatory approach to identifying these measures and the involvement of all key stakeholders could facilitate the implementation of **measures which are coherent from the territorial point of view;**

31. considers that the cost of adaptation and the inability to understand its potential opportunities and benefits are a major obstacle to the preparation - and even more the implementation - of local strategies. The Committee therefore points out that **developing tools which can assess the costs and benefits of adaptation** could effectively push forward the local and regional political processes which underpin planning and implementing on the ground and lay the groundwork for shaping more cost-effective strategies;

⁽²⁹⁾ Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions - Towards a Shared Environmental Information System (SEIS), COM(2008) 46 fin.

⁽³⁰⁾ CdR 118/2007 fin.

32. firmly believes that even with the requisite capacity, awareness and adequate scientific support, the lack of financial resources at local and regional level is an obstacle to effective measures. The Committee therefore considers that arrangements need to be put in place to **fund local and regional measures directly by means of partnership mechanisms** such as LIFE+ and the Horizon 2020 programme, **market instruments** such as payment for ecosystem services or the potential profit from the Emissions Trading Scheme, and **tax instruments** such as incentives;

33. notes that action must be taken to remedy the limited flexibility of adaptation measures, for example by **giving preference to reversible strategies** with soft measures rather than hard (for example a more efficient early warning system rather than marginal large-scale works) **or promoting green infrastructure development** which, as its purpose is the recovery of natural habitats, forms the basis of an ecosystem approach to adaptation;

34. on this point, points out that the ICZM tool has become compulsory for Member States in the Mediterranean basin with the entry into force in March 2011 of the Barcelona Convention's ICZM Protocol, which refers specifically to using an ecosystem approach to ensure sustainable development of coastal regions⁽³¹⁾. The Committee also points out that the EU biodiversity strategy⁽³²⁾ views **ecosystem approaches as cost-effective alternatives to technological adaptation and mitigation solutions** and is therefore keen to see the future European green infrastructure strategy's potential contributions to the process of adaptation in coastal regions;

E. The institutional contribution of local and regional bodies, and international cooperation

35. calls on the Commission to **consult** representatives of local and regional authorities **beforehand** so as to be certain

that the proposal for a European adaptation strategy complies with the proportionality principle and includes sufficient emphasis on and detail regarding the local level, particularly regarding more vulnerable regions, such as coastal regions, islands and mountain regions;

36. firmly believes that it can play an **active role in the development of information platforms** such as CLIMATE-ADAPT and OURCOAST, particularly with a view to helping focus the content of these platforms on local needs and situations, and thus enhance the benefits in terms of information dissemination for local and regional authorities;

37. reiterates⁽³³⁾ that it should be **regularly consulted on European and international climate negotiations** and therefore calls for the Committee (i) to be involved in a European working group on adaptation focusing on regions with permanent handicaps, including those caused by the effects of climate change and so covering coastal regions, islands and mountain regions and the Outermost Regions; and (ii) to be granted observer status with the Adaptation Committee⁽³⁴⁾;

38. firmly believes that greater **inter-regional solidarity and interaction** is essential, **at both European and international levels**, in order to draw on local and regional authorities' knowledge and experience in the area of adaptation. The Committee therefore welcomes initiatives which set common commitments for local government (such as the Durban Adaptation Charter), which promote innovative partnerships (such as the Territorial Approach to Climate Change⁽³⁵⁾) or which aim to set up a network for sharing, cooperating and exchanging eco-friendly technologies (such as the Climate Technology Centre and Network⁽³⁶⁾).

Brussels, 10 October 2012.

The President
of the Committee of the Regions
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⁽³¹⁾ European Environment Agency (2010), *10 Messages for 2010 – Coastal ecosystems*.

⁽³²⁾ COM(2011) 244 final.

⁽³³⁾ CdR 269/2011 fin.

⁽³⁴⁾ The Adaptation Committee was set up in the context of the Cancún Agreements to provide the parties to the UNFCCC Convention with technical support and guidance, to share knowledge and best practice and to promote synergies.

⁽³⁵⁾ Territorial Approach to Climate Change – TACC.

⁽³⁶⁾ Climate Technology Centre and Network: <http://unfccc.int/ttclear/jsp/CTCN.jsp>.