DRAFT THEMATIC GUIDANCE FICHE FOR DESK OFFICERS

CLIMATE CHANGE ADAPTATION, RISK PREVENTION AND MANAGEMENT

VERSION 2 - 20/02/2014

RELEVANT PROVISIONS IN THE LEGISLATION

Regulation	Articles
Common Provisions Regulation (CPR) (N° 1303/2013)	Article 8 "Sustainable development" Article 9(5) "promoting climate change adaptation, risk prevention and management" Article 96(7) (a) "[Each operational programme [] shall, [] include a description of] (a) the specific actions to take into account environmental protection requirements, resource efficiency, climate change mitigation and adaptation, disaster resilience and risk prevention and management, in the selection of operations; Article 101 (f) "[Before a major project is approved, the managing authority shall ensure that the following information is available] (f) an analysis of the environmental impact, taking into account climate change adaptation and mitigation needs, and disaster resilience" Related provisions: ANNEX XI, ex-ante conditionality, 5.1. Risk prevention and risk management
European Regional Development Fund Regulation (N° 1301/2013)	Thematic objective 5 "promoting climate change adaptation, risk prevention and management" Article 5 (a)(b) – Investment Priorities (a) "supporting investment for adaptation to climate change, including ecosystem-based approaches"; (b) "promoting investment to address specific risks, ensuring disaster resilience and developing disaster management systems"; Related provisions: Article 3.1(d) (e) (f) - Scope of support from the ERDF (d) "investment in social, health, research, innovation, business and educational infrastructure";

	(e) "investment in the development of endogenous potential through fixed investment in equipment and small-scale infrastructure, including small-scale cultural and sustainable tourism infrastructure, services to enterprises, support to research and innovation bodies and investment in technology and applied research in enterprises"; (f) "networking, cooperation and exchange of experience between competent regional, local, urban and other public authorities, economic and social partners and relevant bodies representing civil society, referred to in Article 5(1) of Regulation (EU) No 1303/2013, studies, preparatory actions and capacity-building".
Cohesion Fund Regulation (N° 1300/2013)	Article 2 - 1. (a) "[The Cohesion Fund shall [] support] investments in the environment, including areas related to sustainable development and energy which present environmental benefits" Article 4(b) (i) and (ii) "[The Cohesion Fund shall support [] promoting climate change adaptation, risk prevention and management through] (i) supporting investment for adaptation to climate change including eco-system based approaches; (ii) promoting investment to address specific risks, ensuring disaster resilience and developing disaster management systems"
European Territorial Cooperation Regulation (N° 1299/2013)	Article 8 – 7(a) "[Each cooperation programme shall [] include] a description of (a) the specific actions to take into account environmental protection requirements, resource efficiency, climate change mitigation and adaptation, disaster resilience, and risk prevention and risk management in the selection of operations"

This is a draft document based on the new ESIF Regulations published in OJ 347 of 20 December 2013 and on the most recent version of the relevant Commission's draft implementing and delegated acts. It may still require review to reflect the content of these draft legal acts once they are adopted.

1. Introduction

This guidance explains the elements related to thematic objective 5 "promoting climate change adaptation, risk prevention and management" and the related investment priorities for adaptation to climate change and prevention and management of risks under the ERDF and Cohesion Fund.

2. STRATEGIC FRAMEWORK

2.1. Definitions and scope of adaptation to climate change and risk prevention & management

While being closely interrelated for many aspects, adaptation to climate change on one side and risk prevention & management on the other side should not be considered as one and the same topic:

- o Natural disasters can be seen as impacts of a changing climate but can also have other root causes (such as urbanisation, over abstraction of water etc...);
- Adapting to climate change is a much broader challenge than only preventing natural disaster: indeed, reducing the vulnerability of our society to the effects of global warming means an overarching adaptation effort of many sub systems like the health sector, electricity generation, transport infrastructure, water management...



2.2. Adaptation to climate change and risk prevention/management as a cornerstone for forthcoming regional development

Disaster prevention & management as well as adaptation to climate change is largely a local/regional topic as it is the local/regional authorities that are first confronted with the potential impacts of disasters and have to implement prevention measures. At the same time, cross-territorial and cross-sectoral impacts must be kept in consideration.

In addition, natural disasters and impacts of climate change can significantly affect the socio-economic development and competitiveness of a country/region. Investments in prevention and adaptation preserve existing assets and, as highlighted by many studies, has a high economic return: the costs of action are lower than those of inaction.

The impacts of climate change will be asymmetric across European regions: place-based approaches are fundamental.

2.3. The need for a strategic framework and approach

Adaptation to climate change absolutely requires a long term perspective (so taking into account possible climate impacts in several decades ahead). Some Member States have developed sector-specific plans, such as plans to cope with heat waves and droughts, but only few carried out a comprehensive vulnerability assessment to underpin policy. Monitoring and evaluation is proving to be particularly difficult, as indicators and monitoring methodologies have hardly been developed.

Given the magnitude of the impacts, adaptation to climate change should be considered already at a strategic level and in the related documents: hence, adaptation to climate change should feature adequately in the Partnership Agreements, in particular for countries with the highest probability for severe impacts (Mediterranean basin, mountain areas, densely populated floodplains, coastal zones, outermost regions and the Arctic). Many Member States (MS) and some regions already have developed (all MS are expected to do so) 'National/Regional strategies on adaptation to climate

change': the Partnership Agreements (PAs) and related Operational Programmes (OPs) should adequately be linked to those strategic reference documents.

MS also had to develop mandatory 'risk assessments' (Council requirement)¹ as well as flood risk plans (Flood Directive)² while many MS have national 'civil protection / risk management' strategies or plans. PA's and OP's should reflect those documents.

2.4. Investments in the 'knowledge base' as a key starting point

Both for adaptation to climate change and risk prevention/management the critical starting point to develop any strategy or plan and then implement programmes and measures is the 'knowledge base': regional policy can support investments into the acquisition of the needed studies, report, scientific data and knowledge to set up adaptation and/or natural disaster strategies, plans and programmes. It can also support information dissemination and capacity building of relevant stakeholders.

2.5. Type of preferred investments

Investments in 'No-regret and low-regret options' should be favoured where possible and relevant: it is measures that would have to be implemented and would pay off in any case, even if there would be no climate impacts (examples are insulation of buildings to cope with heat waves, improved water efficiency...).

'Ecosystem-based adaptation' can be considered as one of the preferred option in implementing measures to prevent natural disasters and/or adapt to climate change. It means 'working with nature' and using the 'buffer-capacity' of nature rather than building expensive new infrastructure (for instance preferring flood plains to dikes where possible). In addition ecosystem-based adaptation usually has many other co-benefits (nature and biodiversity conservation, tourism...).

Adaptation measures with positive mitigation effects may also be further deployed: examples are conservation/rehabilitation of peatland, rehabilitation/insulation of buildings.

2.6. Urban areas as key areas under pressure of climate impacts

Cities and urban areas, in particular in coastal zones, along rivers and in the Mediterranean, show vulnerabilities which are usually higher than in surrounding areas (i.e. flooding, urban heat island effect). Due to the concentration of population and economic activities in cities, special attention shall be paid to climate-proofing urban infrastructure investment and developing climate resilience strategies/actions at local level.

2.7 Importance of synergies and integrated approaches, in particular on water management

Section 3.2 of the Common Support Framework (Annex I to the CPR) requires Member States to ensure coordination, complementarity and synergies and avoid overlapping between support from the different ESI Funds and with other EU policies and instruments.

Adaptation to climate change is also related to 'water' issues: where relevant the links with water management in the given country/region need to be carefully taken into account as well as the synergies with possible investments in TO 6 on water;

Given the horizontal nature of adaptation to climate change and disaster prevention, careful consideration of and synergies with other policy areas and Thematic Objectives of regional policy have to be taken into account. Synergies and complementarities between the European Structural and Investment Funds, particularly with the European Agricultural Fund for Rural Development (EAFRD), should also be looked at.

2.8 Governance as the key success factor for effective implementation

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¹ Decision No 1313/2013/EU of the European Parliament and of the Council of 17 December 2013 on a Union Civil Protection Mechanism

² Directive 2007/60/EC on the assessment and management of flood risks

In many MS adaptation policy is new and just developing, while risk prevention/management might be more established, with possibly scattered responsibilities between different authorities and ministries. Clear governance need to be set up and fostered so as to ensure effective use of cohesion policy funds.

3. Regulatory scope of support

In line with the results orientation of the new legislative framework for Cohesion policy, the ERDF and the Cohesion Fund (CF) regulation distinguish clearly between the scope of support for the ERDF/CF (the activities it may support) and the investment priorities for each thematic objective (objectives to which the ERDF/CF shall contribute). For an operation to be eligible for ERDF/CF support it must contribute to a specific objective defined for an investment priority and fall within the scope of the fund's activities.

3.1. Scope of support

1. ERDF

The main field of intervention of the ERDF on adaptation are investments in the development of endogenous potential, through fixed investment and small-scale infrastructure.

This field of intervention is restricted by the generic exclusion of ERDF support in undertakings in difficulty.

2. Cohesion Fund

The Cohesion Fund, while ensuring an appropriate balance and according to the investment and infrastructure needs specific to each Member State, shall support investments in the environment, including areas related to sustainable development and energy which present environmental benefits, in compliance with article 177 of the Treaty.

Exclusions are similar to those applying to the ERDF: undertakings in difficulty.

3.2. Investment priorities

Investments under the thematic objective 5 "Promoting climate change adaptation, risk prevention and management" shall contribute to the following investment priorities related to adaptation:

• "Supporting investment for adaptation to climate change, including eco-system based approaches";

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(ERDF: Article 5 (5) (a))
(CF: Article 3 (b) (i))
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• "Promoting investment to address specific risks, ensuring disaster resilience and developing disaster management systems".

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(ERDF: Article 5 (5) (b))
(CF: Article 3 (b) (ii))
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4. Key measures linked to investment priorities

4.1. Indicative Actions of high European added value for the ERDF and the CF.

In its working document SWD(2012) 61 final Part II, Elements for a Common Strategic Framework 2014 to 2020³, the Commission identifies a number of actions. These are actions which can be

³ http://ec.europa.eu/regional_policy/sources/docoffic/working/strategic_framework/csf_part2_en.pdf

expected to make a significant contribution to the achievement of the targets and objectives of the Union strategy for smart, sustainable and inclusive growth and which shall act as a reference point in the preparation of programmes. For the ERDF and the CF these include:

- development of strategies and action plans for adaptation to climate change and risk
 prevention and management plans at national, regional and local level and for building up a
 knowledge base and data observation capacities, and mechanisms for the exchange of
 information:
- increased investment in adaptation to climate change and risk prevention and management, including: avoiding damage and increasing resilience to the built environment and other infrastructure; protecting human health; decreasing future pressure on water resources; investing in flood and coastal defences; and decreasing the vulnerability of ecosystems in order to increase ecosystem resilience and enable ecosystem-based adaptation;
- development of tools (detection, early warning and alert systems, risk mapping and assessment); and increased investment disaster management systems, to facilitate disaster resilience and risk prevention and management for natural risks, including weather-related risks (such as storms, extreme temperature events, forest fires, droughts, floods) and geophysical risks (such as avalanches, landslides, earthquakes, volcanoes), and to support societal responses to industrial risks (early warning systems, risk mapping).

4.2. Why should the ERDF and the CF co-finance this kind of investments?

Disaster prevention/management and adaptation to climate change is largely related to security and emergency issues which are mainly in the hands of public authorities. In particular it is largely a local/regional topic as it is the local/regional authorities that are first confronted with the potential impacts of disasters, have to design the needed strategies and also have to implement them in direct contact with the citizens. Where the gaps, notably financial, are clearly identified, public funding from the EU level can be justified, especially linked to the objectives set in the 'EU adaptation strategy'.

In addition, investing in adaptation and risk/prevention means preserving socio-economic development and the capacity for further development. The cost of inaction is often higher or significantly higher than the required investments for risk prevention or for decreasing the overall vulnerability to climate impacts. There are situations of apparent market failure as institutions and citizens cannot afford high risk premiums asked by insurance companies to cover potential losses due to disasters. Also, it may happen that the requested returns on investments are not in line with the timeframe of the infrastructure investments, increasing potential economic losses at a later stage. Finally, decreasing vulnerability to climate change has spill over effects on downstream activities or infrastructure users not necessarily integrated into infrastructure investment business decisions. Hence it makes economic sense to invest in adaptation.

Supporting programmes and measures that deal with risk prevention and management and adaptation is also closely related to maintaining territorial cohesion: certain territories, sometimes within a same country or region, can be much more at risk than others (cities, coastal areas, valleys, mountainous zones...). Investing in the adequate measures for adaptation and risk prevention in those specific areas will provide them with the same opportunities for development than other areas that do not face those risks, therefore avoiding potential migration of people, loss of companies & services and eventually economic downturn.

Cities and urban areas can be particularly exposed to the impacts of climate change (heat waves, floods...). In this respect, when cohesion policy supports urban development projects, adaptation to climate change and risk prevention and management should receive due attention. Where relevant it can be part of integrated projects that also target mobility, environmental and socio-economic objectives. Integrated Territorial Investments (ITI) as well as Community-Led-Local-Development (CLLD) could be instruments in which adaptation to climate change and risk prevention and management might be part of.

The support for adaptation and risk prevention/management also means the preservation of 'public goods', many of which (transport infrastructures, ecosystems, health system...) would already have received public support, including ERDF of CF, in the past.

Eventually deployment of disaster and adaptation related projects can have several positive co-benefits in other areas such as preserved water resources, maintained biodiversity/natural areas, combatting soil erosion, no transport disruption etc. This directly relates to jobs and good health of economic areas such as agriculture and agri-food or tourism.

4.3. Where should the money go and how to invest?

Type of investments

The type of risks to be targeted in first instance include weather-related risks (such as storms, extreme temperature events, forest fires, droughts, floods, landslides), geophysical risks (such as avalanches, landslides, earthquakes, volcanoes) as well as supporting societal responses to industrial risks (early warning systems, risk mapping). A place-based approach is absolutely critical, taking into account also the effects of the exposure to different risks: for instance Mediterranean areas can face both droughts and flash floods.

Given that one of the main gap in many countries and regions is on the 'knowledge and planning base', a key support that can be provided by regional policy relates to building up the knowledge base and data observation/processing capacities, mechanisms for the exchange of information and the development of strategies and action plans for adaptation to climate change, risk prevention and management plans at national, regional and local level.

The development of the needed ICT tools (Geographic Information Systems (GIS), detection and monitoring systems, early warning and alert systems, risk mapping and assessment) often represents an important need and is the key enabler for proper strategies and measures to be designed and implemented.

As a new area of support within regional policy over 2014-20 is 'risk management': it includes investments in disaster management systems (mostly ICT based), the needed infrastructure for a region to deliver the adequate disaster management services to citizens as well as the support to highly specialised disaster response units / civil protection modules.

In a broader perspective, adapting to climate change and preventing natural disasters aims at increasing the resilience of the society as a whole and of its sub-systems, in particular the following areas deserve a special attention in terms of investments:

- the built environment and infrastructure ("climate proofing" infrastructure in transport, water system, health, energy, buildings...)
- protection of human health;
- decreasing pressure on water resources;
- flood and coastal defences;
- decreasing the vulnerability of ecosystems in order to increase ecosystem resilience and enable ecosystem-based adaptation (floodplains, wetland/peatland preservation, forest management...).

Adaptation and risk prevention/management is of horizontal nature which means that solid and effective governance needs to be in place to ensure qualitative investments. The responsibilities among ministries and authorities, in particular for the cohesion policy related aspects, should be clearly established, including the involvement of regional/local authorities. In addition, weak capacities, including at administrative level, are often also a major hurdle: the necessary investments in trainings

and capacity/expertise building on adaptation has to be planned, in particular for municipalities, in order to be able to actually implement projects included in the overarching strategies.

Proper consideration of the cross-border/transnational as well as urban dimensions

Adaptation to climate change and disaster prevention is an area for which the cross-border/transnational/macro-regional approach is fundamental. Climate impacts do not have border and need therefore to be addressed at the adequate bio-geographical scale like at river basin level, or a mountainous zone etc... In this framework, regional policy through the European Territorial Cooperation (ETC) objective as well as the macro-regional strategies has a particular role to play. Cooperation across regions and Member States should therefore be carefully considered where relevant in order to deal with cross-border spill over effects, in particular in relation to flood protection, forests fires and coastal protection.

As regards urban spaces, the work by the European Commission and agencies on the 'Urban Atlas' can be of use for cities to develop strategies and plans related to adaptation and risk prevention.

How to invest?

As regards the way in which investments should take place, the priority should be given to options often referred to as 'no-regret' (or win-win) and 'low-regret' options as well as to 'ecosystem-based adaptation':

- "No-regret" options are adaptation measures whose socio-economic benefits exceed their costs whatever the magnitude of future climate change. It includes actions that are already cost-effective under the current climate conditions and would be further justified under the increased risks of projected climate change. In short 'no-regret measures' are the guarantee of the best possible return on investments in terms of development. Therefore a public investment policy such as regional policy is well placed to yield further support to those types of preventive measures. Avoiding building in flood plains, reducing leakage from drinking water pipes are examples of "no-regret" options. Another one consists in increasing energy efficiency in buildings which proves to be an investment with high return in any event: better insulated buildings offer improved protection against current and future heat and cold waves and also in the meantime reduces demand for heating and cooling, thus cutting energy bills and CO₂ emissions.
- "Low-regret" options include adaptive measures with relatively low associated costs and potentially large benefits under the future climate conditions. Investments in preserving natural areas in support of biodiversity goals, creating green urban areas or the development of green roofs can be part of those options. Planning for future retro-fitting of investments, especially for certain type of infrastructure, is also in certain cases a low-regret measure. Both no and low-regret options will maximise the return on investment as the associated risk is low.
- 'Ecosystem-based adaptation' gives priority to measures that build on the capacity of nature and ecosystems to absorb weather extremes. Hence the aim is to enable ecosystems to fully play this role and to deliver this 'risk prevention' service. It is often the cheapest solution, in particular in the long-term, and can bring several co-benefits. Capital intensive infrastructure such as dams, dikes etc. should only be supported where ecosystem based solutions are not available and/or insufficiently.

4.4. Synergies and complementarities within ERDF/CF and with other EU funds

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⁴ http://www.eea.europa.eu/data-and-maps/data/urban-atlas

Given the horizontal nature of adaptation to climate change and disaster prevention, careful consideration of other policy areas and Thematic Objectives of regional policy have to be taken into account. Synergies should be pursued with activities under other TO's, including research, technological development and innovation (TO1) for adaptation to climate change, the use of ICT (TO2), support for Small and Medium-sized Enterprises (SMEs) (TO3) in taking up adaptation measures and technology, and actions to preserve and protect the environment and promote resource efficiency (TO6). In particular, the links with TO6 are important since many of the priorities and measures dealing with adaptation, risk prevention, water management, ecosystem preservation could be placed either under TO5 or TO6 depending on the objectives of the Programmes.

As provided for in Section 3 of the Common Strategic Framework, synergies and complementarities between ESI Funds should also be looked at. The EAFRD can complement activities in this area by integrating climate change adaptation in rural development programmes and farm advisory services, knowledge transfer and information actions. The ESF can support targeted education, training and upskilling of the labour force with regard to risk prevention, risk management and adaptation to climate change.

The Commission adopted a Communication on an EU Strategy on adaptation to climate change (see the link in section 6). The Adaptation Strategy package also includes a document on how to integrate climate change adaptation considerations under the Cohesion Policy. This document should be consulted for further references and suggestions on this issue.

5. Lessons learnt from the past and result orientation

In 2007-13, adaptation to climate change was not explicitly mentioned in the regulations and guidance on cohesion policy. However many MS have dedicated funding to 'risk prevention' which often covered measures that were actually climate adaptation measures. In this framework the sensible use of the available funds proved to be challenging in many MS, sometimes linked to insufficient planning, capacity and governance. Hence those hurdles which represent key 'enabling conditions' need to be addressed over 2014-2020.

Adaptation to climate change and risk prevention are special areas from the point of view of result orientation because most of the interventions are of preventive nature: they are to prevent or decrease damage from natural disasters or extreme weather events. In many cases these events do not materialize within the programming period or even years after, therefore the realised investments may not be "used" – but this does not mean that the interventions failed to achieve their targets.

Operations under these investment priorities can cover various activities to prevent and / or prepare for emergency situations.

- 1. Developing climate change adaptation strategies and action plans: These strategies and plans may outline the expected consequences of climate change in the region (including impact on weather) and actions for adaptation to these consequences. This type of actions is atypical because results will not come from only elaborating strategies and action plans but from their implementation. The Commission recommends using result indicators that relate to implementation of the strategies and action plans, even though they may vary in scope and details.
 - Example: number of municipalities with climate change adaptation strategies and action plans approved by municipal councils
- 2. Strengthening public services and infrastructure to prevent / limit damage caused by natural disasters as well as early warning systems: Result orientation can appear differently depending on the frequency of disasters and on the baseline situation.

For frequent disasters and insufficient prevention, the result can be represented by the decrease of damage caused by these disasters.

• Example: number of blackouts caused by storm damage per severe storm events

For infrequent disasters or where prevention efforts were sufficient (but their current level may prove to be insufficient in future climate conditions), indicators can rarely capture the actual results. In these cases we recommend using indicators that reflect the quality or the extent of prevention.

- Example: percentage of public buildings or public infrastructure able to withstand an earthquake up to a certain threshold
- 3. Establishing or strengthening emergency response services and capacity to deal with aftermath of disasters: Generally, results of these interventions can be observable only in case of emergency situations; but in most cases, indicators related to the quality of the emergency services (based, for example, on exercises) are usually available and can serve as result indicators if they reflect the specific objectives.
 - Example: response time of fire-fighting services after detecting forest fire
- 4. Retrofitting infrastructure to increase resilience: this activity aims to upgrade vulnerable infrastructure where its operation or services are likely to be seriously hindered by extreme weather events. It can include strengthening infrastructure assets to avoid damage or distractions, or building in flexibility so assets can be modified in the future without incurring excessive cost. The upgrade should be preceded by a detailed examination of expected changes in weather pattern and be based on a detailed assessment of the needs.

The result of retrofitting interventions is more climate resilient infrastructure, which cannot be captured by a single indicator. Operations under this investment priority must be based on risk assessment (see the relevant ex ante conditionality) and retrofitting must be linked to adaptation as strategies or action plans and focus on assets that are the most vulnerable. Result indicators should relate to the functioning of assets that are the most vulnerable or face the most severe risks.

6. Useful resources

EU climate adaptation platforms

- http://climate-adapt.eea.europa.eu/
- http://eucities-adapt.eu/

DG REGIO resources

- Regions 2020: the climate change challenge for European regions:
 http://ec.europa.eu/regional_policy/sources/docoffic/working/regions2020/pdf/regions2020_climat.pdf
 http://ec.europa.eu/regional_policy/sources/docoffic/working/regions2020/regional_challenges_climate_change.pdf
 http://ec.europa.eu/regional_policy/sources/docoffic/working/regions2020/index_en.htm
- ESPON CLIMATE Climate Change and Territorial Effects on Regions and Local Economies in Europe http://www.espon.eu/main/Menu Projects/Menu AppliedResearch/climate.html

DG ECHO resources

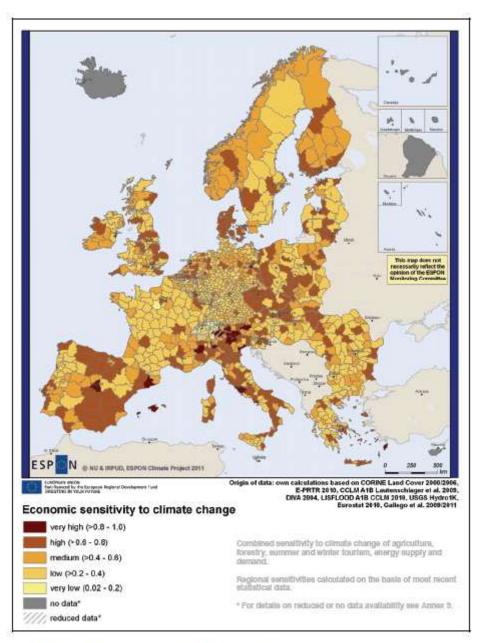
- Webpage on disaster prevention: http://ec.europa.eu/echo/policies/prevention_preparedness/prevention_en.htm
- Webpage on disaster preparedness:
 <a href="http://ec.europa.eu/echo/policies/prevention-preparedness/preparedness-prepared

DG CLIMA resources

- General 'adaptation' webpage: http://ec.europa.eu/clima/sites/change/
- Country specific information (strategies, plans...)
 http://ec.europa.eu/clima/sites/change/strategies_project_links/index_en.htm
- Design of guidelines for the elaboration of Regional Climate Change Adaptations Strategies (Study undertaken for the Commission)
 http://ec.europa.eu/clima/policies/adaptation/docs/ras final report en.pdf
- Communication on an EU Strategy on adaptation to climate change
 http://ec.europa.eu/clima/policies/adaptation/what/index_en.htm
 http://ec.europa.eu/clima/policies/adaptation/what/documentation_en.htm
- Guidance on integrating adaptation into Cohesion Policy http://ec.europa.eu/clima/policies/adaptation/what/docs/swd_2013_135_en.pdf

Examples of co-funded projects with collection of good practices

- Good practice Interreg projects on adaptation to climate change:
 - o http://www.grabs-eu.org/ (Adaptation in urban areas Winner RegioStars2012)
 - o http://www.sic-adapt.eu/ (Cluster of 8 Interreg projects on adaptation)
 - o http://www.espace-project.org/



Map 10: Economic sensitivity