Climate water

Bridging the gap between adaptation strategies of climate change impacts and European water policies

WP 3
Analysis and synthesis of methodologies of adaptation measures

SHMU

CLIMATEWATER

Bridging the Gap between Adaptation Strategies of Climate Change Impacts and European Water Policies

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WP 3 objectives

The objective of this WP is to assess adaptation strategies developed in Europe and also globally for handling (preventing, eliminating, combating, mitigating) the impacts of global climate changes on water resources and aquatic ecosystems.

The objective of the report of the Working package 3 is to provide an overview of the adaptation strategies and measures developed to mitigate the consequences of the climate change, adapt to them, to be prepared to it.

The report summarizes the adaptation measures identified in the different project reports, conference abstracts and other documents.

The measures are organized in the same categories as they are listed in the Description of Work (DoW) of the project.

According to the DoW the measures are split into the six main sub-WPs, each prepared by responsible project partner:

Main sub-WPs (according to DoW)

- WP 3.1 Adaptation strategies aimed at the water demand side (P11, MRA, Malta)
- WP 3.2 Adaptation strategies aimed at the water supply side (P9, SHMU, Slovakia)
- WP 3.3 Damage prevention and mitigation strategies in water management (P6, GEONARDO, Hungary)
- WP 3.4 Adaptation strategies of strongly water related economic activities (P10, SOGREAH, France)
- WP 3.5 Building adaptive capacities (P4, USF, Germany)
- WP 3.6 Strategies to combat climate change induced water pollution (P1, VITUKI, Hungary)

WP3 Task Matrix

	WPs and topics	1 VITUKI	2 Unideb.FT	3 CNR-IRSA	4 USF	5 GeoEcoMar	6 Geonardo	7 UVIEN.FE	8 UNILEI	9 SHMU	10 SOGREAH	11 MRA
0	70									WP leader		
1	3.1 Demand side											sub-WP leader
2	People and society			+								
3	Agriculture	+	+						+			
4	Industries				+						Thematic focus	
5	3.2 Supply side									sub-WP leader		
6	People and society									+		+
7	Agriculture	+		+						+		
8	Industries				+						Thematic focus	
9	Nature conservation	+						+	+			
10	3.3. Damage prevention	+					sub-WP leader					
11	Flood control and defense	+								+		
12	Protection against rising sea water levels and surges			+							+ ???	
13	Snow and mud avalanches	+					+					
14	Fighting inland excess waters	+	+									
15	3.4 Main water industries										sub-WP leader	
16	Navigation							+			Task leader	
17	Hydropower generation	+						+			Thematic focus	
18	3.5 Building adaptive capacity	+			sub-WP leader					+		+
19	3.6 Water pollution	Sub-WP leader										

WP 3.1

3.1 Adaptation strategies aimed at the water demand side (MRA)

- People and society (CNR-IRSA)
- Agriculture (VITUKI, UNIDEB, UNILEI)
- Industries (USF, SOGREAH)

WP 3.2

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3.2 Adaptation strategies aimed at the water supply side (SHMU)

- People and society (SHMU, MRA)
- Agriculture (VITUKI, CNR-IRSA, SHMU)
- Industries (USF, SOGREAH)
- Nature conservation (VITUKI, UNIVIEN, UNILEI)

WP 3.3

3.3 Damage prevention and mitigation strategies in water management (Geonardo)

- Flood control and defence (VITUKI, SHMU)
- Protection against rising sea water levels and surges (CNR-IRSA, SOGREAH)
- Snow and mud avalanches (VITUKI, Geonardo)
- Fighting inland excess waters (VITUKI, UNIDEB)

WP 3.4

3.4 Adaptation strategies of strongly water related economic activities (SOGREAH)

- Navigation (UNIVIEN, SOGREAH)
- Hydropower generation (VITUKI, UNIVIEN, SOGREAH)
- Other industries (SOGREAH)

WP 3.5 and WP 3.6

3.5 Building adaptive capacities (USF)
(VITUKI, USF, SHMU, MRA)

3.6 Strategies to combat climate change induced water pollution (VITUKI)

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WP 3: General conclusions

- WP2: Impacts of CC vary considerably from region to region in Europe – so does the need to adaptation.
- High uncertainties - NOT a reason not to act!
  - twin-track approach combining immediate action and further research
  - adaptation measures developed in a way to allow for maximum flexibility
- Many countries are already experiencing climate change impacts and paying the economic and social consequences. Mitigation efforts have started but it will take too long to show effects.

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WP 3: General conclusions

cont.

- Adaptation may be costly, but it is much more cost-effective to start adaptation now, since costs will be much higher once climate change effects are irreversible.
- Adaptation measures should strive to be cost-effective, environmentally sustainable, culturally compatible and socially acceptable.
- Successful adaptation will require interactions between multiple levels of government: European, national, sub-national and local, as adaptive capacity and action at one level can strengthen or weaken adaptive capacity at other levels.

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WP 3: General conclusions

cont.

- Growing awareness that water supply to households, industry, farmers, tourism, and the transport sector, as well as for the maintenance of river ecosystems, need to be dealt with in a more integrated manner.
- Need for an ecosystem approach to water management is now increasingly being recognized amongst water professionals
- Integrated water resource management (IWRM) is based on an understanding that the world's complex hydrological cycles depend critically upon healthy ecosystems and that the fresh water they deliver is a replicable but finite resource.

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WP 3: General conclusions

cont.

- Floods are possibly the natural hazards that are most discussed and investigated as they cause the biggest damage in Europe. As the frequency and the peak level of floods is predicted to increase in the forthcoming years, and therefore the flood risk will also increase in most parts of Europe, adaptive measures and strategies should be worked out in order to handle and reduce the risk posed by them.
- Adaptation in damage prevention should be prepared on an international and national level in large scale, where all the different aspects can be considered, however strategies should be based on local knowledge, and it should be delivered on local level, where possible.
- In many cases the effects of natural disasters on human lives and health could be reduced through education, training, awareness raising and effective communication.

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WP 3: General conclusions

cont.

- Adaptation to Climate Change should be integrated into current risk management strategies and planning processes, and not be a stand-alone issue, but part of a larger planning process. Adaptation strategies should be designed in the context of development, environment and health policies.
- A more strategic approach is needed to ensure that timely and effective adaptation measures are taken, ensuring coherency across different sectors and levels of governance. Autonomous adaptation is unlikely to be optimal because of uncertainty, imperfect information or indeed financial constraints. This means that we cannot leave adaptation efforts to individuals or businesses.
- The Climate Change adaptation literature including large EU and other international summary type documents seem to forget the urgent need for pollution control adaptation strategies. In this context much more research is needed in this field, with due concern to the recently (2010) observed pollution incidents in Europe and elsewhere, calling for much better monitoring and field work.

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WP 3: General conclusions

cont.

We should think positively ☺

The need for adaptation is not only a burden but can also be an opportunity for innovation and new technologies.

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THANKS FOR ATTENTION