Dealing with water scarcity and drought: EU policies and regulations

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Water Scarcity & Droughts in the European Union

• Over the past forty years, droughts have dramatically increased in number and intensity in the EU.

• The number of areas and people affected by droughts went up by almost 20% between 1976 and 2006.

• One of the most widespread droughts occurred in 2003 when over 100 million people and a third of the EU territory were affected.

• In 2003, the cost of the damage to the European economy was at least € 8.7 billion.

• The total cost of droughts over the past thirty years amounts to € 100 billion. The yearly average cost quadrupled over the same period.
Map of drought events in Europe (2002-2009)
Defining drought and water scarcity

• While "drought" means a temporary decrease in water availability due for instance to rainfall deficiency, "water scarcity" means that water demand exceeds the water resources exploitable under sustainable conditions.

• At least 11% of the European population and 17% of its territory have been affected by water scarcity to date. Recent trends show a significant extension of water scarcity across Europe.
Drought and water scarcity: not only a southern issue in Europe!

- Of course this phenomena is sensible in all Mediterranean countries but it also affects central and northern European countries such as UK, Hungary, Finland, the Netherlands,
- Today drought events are potentially impacting about 200 millions of people in the EU.
- The water scarcity issue has to be examined under the worldwide context of climate change, and the involvement of the Commission will be crucial in the future when implementing existing EU policies (WFD, groundwater directive,...)
The 2007 EU communication

• It emphasizes that: access to good quality water in sufficient quantity is fundamental to the daily lives of every human being and to most economic activities. But water scarcity and droughts have now emerged as a major challenge.

• It requires intersectoral collaboration: water scarcity and droughts are therefore not just a matter for water managers. They have a direct impact on citizens and economic sectors which use and depend on water, such as agriculture, tourism, industry, energy and transport.
The 2007 EU communication

- The communication presents an initial set of policy options:
  - Progressing towards full implementation of the Water Framework Directive (RBMP/PoM)
  - Tackling the issue of ineffective water pricing policies
  - Having a consistent land-use planning/water allocation
  - Promoting water savings and water hierarchy
  - Integrating of water-related concerns into water-related sectoral policies (CAP, energy)
  - Finally developing knowledge, data monitoring to propose adequate policies
Water scarcity and droughts continue to affect:

- 14% total population of Europe under water stress conditions during summer
- 20 river basin districts face structural water stress issues, mainly in the Mediterranean
- Agriculture in the Mediterranean region alone accounts for almost 75% of total water used for agriculture in Europe
2012 Blueprint to safeguard Europe's water resources Communication

• The Water Blueprint's time horizon is closely related to the EU's 2020 Strategy and, in particular, to the 2011 Resource Efficiency Roadmap, of which the Blueprint is the water milestone.

• However, the analysis underpinning the Blueprint covers a longer time span, up to 2050, and is expected to drive EU water policy over the long term.
Blueprint objectives: where we want to be

• Goal
  – Ensure sustainability of all activities that impact on water, thereby securing the availability of good-quality water for sustainable and equitable water use

• Objectives (something better, more and new)
  – Better implementation
  – More integration
  – Few new legal proposals to complete current framework
Delivery of Policy Options

• Success of Blueprint depends on willingness and action by MS to involve stakeholders and improve implementation of existing legislation

• Common Implementation Strategy to facilitate early implementation of Blueprint proposals

• Enforcement through infringements where necessary

• Possible new legislative initiatives
The Blueprint package

- Fitness Check
Blueprint Objectives

- Ensure sufficient availability of good quality water for sustainable and equitable water use
- Increase water efficiency
- Resilience to Extreme Events
- Good Ecological Status
- Economic Instruments
- Integration
- Governance
- Knowledge Base
Water reuse in the 2012 Blueprint

• EC Communication: "A Blueprint to safeguard Europe's water resources" (November 2012):
  • interesting option to address water scarcity
  • untapped potential in many situations
  • lack of consideration in water management, lack of harmonized standards

Opportunity for an EU action
Water reuse in Circular Economy

- EC Communication: "Closing the loop – An EU action plan for the Circular Economy" (December 2015):

- Chapter 4. From waste to resources: boosting the market for secondary raw materials and water reuse

- List of follow-up initiatives (Annex):
  - Reuse in integrated water planning and management ◊ CIS Guidance
  - Minimum quality requirements for water reuse for irrigation & GW recharge ◊ legislative proposal
  - Water reuse in industrial activities ◊ BREFs
  - Support to research and innovation
  - EU funds for investments in water reuse
Circular Economy: Water Reuse in Key action areas

- Reuse in integrated water planning and management
- Minimum quality requirements for water reuse
- Water reuse in industrial activities
- Support to research and innovation
- EU funds for investments in water reuse
Minimum quality requirements for water reuse in irrigation and aquifer recharge:

- Addressing the lack of a coherent and comprehensive legislative framework within the EU.
- Focus on 2 uses of most relevance at EU level: agriculture and on ground water recharge.
- Timeline:
  - Inception Impact Assessment published ◊ April 2016
  - Technical proposal by JRC and consulted with the independent Scientific Committee on Health and Environmental Risks (SCHER) ◊ end 2016
  - Consultation of MS and organizations via the CIS ◊ 2016-2017
  - Proposal for an EU legislation ◊ mid 2017
Case study: Spain


• In May 2016: The Government will declare in the territorial areas of the Hydrographic Demarcations of the Júcar and the Segura, the drought situation through the Royal Decrees 355/2015, of 8 of May and 356/2015, of 8 of May, respectively.

• The Regulation would allow to: Progress in meeting environmental objectives, and in particular to assess the state of water bodies, identify the pressures that lead to their deterioration, and implement the necessary corrective measures.
Case study: Spain

• Short, medium and long term measures.
• Up to September 30, 2017 are the commissioning and execution of surveys for the provision of additional resources, the use of rolled volumes in rainfall episodes, the use of unallocated seawater desalination resources and droughts and The use of state infrastructures that make it possible to distribute resources.
Management of droughts in Spain

• To plan an implement measures in advance is the key mitigation measure to reduce the socio-economic and environmental impacts of droughts.

• Main planning tools:
  • Drought basin plans as part of the RBMPs
  • Indicators
  • Emergency plans for urban areas
Increasing the available water resources

• The RBMPS should contain supplementary measures

• "Construction or improvement of new reservoirs, construction, improvement of supply networks, execution of new pumping stations, desalination, regeneration of irrigation, improvement of guarantee against drought, new catchments and improvement of existing ones and operation and maintenance of infrastructures of supply".
Drought management in France

- Drought events become more and more frequent
- Three important events since 2000
- About 85% of the 60 million French inhabitants impacted by restriction in 2005
- 75 departments where measures of restriction were taken during the summer 2005
- In 2003, 77 departments were impacted
Water uses restriction in 2005

CETTE ANNÉE, 75 DÉPARTEMENTS ONT PRIS DES MESURES PLANIFIÉES À LONG TERME EN CAS DE NÉCESSITÉ LIMITANT CERTAINS USAGES DE L’EAU (ARRETTÉS CADRE)

État des arrêtés de limitation des usages :

Néant

Aucun arrêté

Mesures planifiées

Mesures de limitation des usages non effectives mais des mesures ont été planifiées à long terme en cas de nécessité (arrêtés cadre)
Costs for the agricultural sector

<table>
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<th>year</th>
<th>Subsidies (crops lost in millions euros)</th>
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<td>2004</td>
<td>24</td>
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<td>2005</td>
<td>250</td>
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Costs (300 millions) and production losses for the energy sector

French yearly hydroelectricity production
(thousands of GWh)
Adapting to drought/preventing water scarcity

• The first event of severe drought happened in 1976

• Since 1987 the investments to prevent water scarcity represent about 5 billion euros in France, about 30% were financed by water agencies

• The measures deal with: interconnection, transfer, metering, water saving, use of BAT, water charges, storage, water reuse,....
Existing tools and measures in France

• The Masterplans of 1992 include early warning systems with thresholds (information, alert, crisis), included in RBMPs
• Quotas are fixed for some aquifers
• Restriction measures can be taken at local level
• Monitoring and metering are developed for both superficial and groundwaters
• Agreement are existing with « owners » of dams to provide water for receipting middles during the dry season
• Preventive measures are financed by water agencies and charges are collected
Thanks a lot for your attention

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