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**REPORT FROM THE COMMISSION TO THE COUNCIL
AND THE EUROPEAN PARLIAMENT**

**Follow up Report to the Communication on water scarcity and droughts in the
European Union COM(2007) 414 final**

[SEC(2008) 3069]

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1. INTRODUCTION

The growing impacts of water scarcity and droughts in the European Union and the expected worsening of the problem due to climate change, as illustrated by the recent water emergency in Cyprus, require the identification of appropriate options to address the challenge efficiently. In 2007 the European Commission adopted a Communication on water scarcity and droughts¹ in which it promised this progress review and its presentation in the context of a Stakeholder Forum which was held on 5 September 2008 in Zaragoza. This report specifies the progress needed on all policy options and presents appropriate work programmes for the medium and long term.

This report is the first follow-up report based on the progress made in putting into effect the options of the Communication. It identifies some encouraging policy initiatives at both EU and national² levels that have contributed to these results although there is a great deal still to be done. It specifies the progress needed on the seven key challenges which must be tackled if Europe is to move towards a water efficient and water saving economy. These challenges include the ongoing need to fully implement the Water Framework Directive³ (WFD); moving towards sustainable land use planning; giving priority to water savings and water efficiency measures over any other alternatives and assessing the environmental impact of such alternatives as a last resort; further integrating water issues into all sectoral policies. Adaptation to climate change will add a new challenge to the existing issues. The follow-up report presents a work programme for the medium and long term which can only be implemented in close cooperation with Member States.

In October 2007⁴ the Council supported the options identified at European and national levels in the Communication and invited the Commission to review and further develop the evolving strategy for water scarcity and droughts by 2012. Adaptation to climate change has likewise become a top priority for the EU agenda, and the challenge of water scarcity should be considered in this broader context. The forthcoming Commission's initiative on adaptation to climate change will help reinforce the consistency of the action taken both at EU level and nationally, and set the scene for further action at the EU level.

2. ASSESSMENT OF PROGRESS MADE IN THE IMPLEMENTATION OF THE POLICY OPTIONS

One of the key imperatives in order to address the issues of water scarcity and drought efficiently in the short term is full implementation of the Water Framework Directive by all the Member States.

¹ COM(2007) 414 final of 18.7.2007

² In early 2008 a questionnaire was sent to the 27 Member State Water Directors. Replies were received from AT, BE-FI, CY, DE, DK, EL, ES, FI, FR, HU, IE, IT, LU, LV, NL, PL, PT, RO, SK and UK.

³ Directive 2000/60/EC of the European Parliament and the Council establishing a framework for Community action on water policy, OJ L 327, 22.12.2000.

⁴ 13888/07, 15 October 2007, ENV 515, DEVGEN 182, AGRI 325

The adoption of the WFD river basin management plans and programmes of measures by the end of 2009 (Articles 11 and 13) will allow a more in-depth analysis of the measures that are planned at Member State level to address water quantity issues, including the use of economic instruments.

Ensuring coherence across policy areas is a challenge at all levels of governance. At the EU level, the challenge is to make sure that all sectoral and horizontal policies are moving towards the same goals and to avoid counterproductive effects on water resources. This is achievable, taking into account the timetable and work programme of each policy. Investments co-financed under Community funds should follow clear guidelines designed to ensure that they do not contribute to the pressure on scarce water resources.

The effective implementation of the Directive on Environmental Impact Assessment⁵ (EIA) and the Directive on Strategic Environmental Assessment⁶ (SEA) by all MS is also key to avoiding any adverse impact of water management projects on water resources.

2.1. Water pricing

Member States are committed to delivering by 2010, water pricing policies that provide adequate incentives to use water resources efficiently (Article 9 WFD). Some of them (CY, ES, FR, UK, PT) are taking actions to set tariffs that are consistent with the level of water scarcity at local level, the season and/or the level of consumption. Others (UK) are conducting reviews and assessing the effectiveness of different types of tariffs in water stress areas.

However, setting water pricing policies in a manner consistent with water availability remains a challenge at all levels of governance. The WFD milestone will make it possible to assess the extent to which the economic instruments and pricing policies adopted by Member States are compatible with the level of concern about water scarcity and drought.

Attention will also need to be paid to the Organisation for Economic Cooperation and Development (OECD) Work Programme⁷ which addresses the economic basis for sound water management.

Progress is being made in the area of water metering. A few Member States are developing national strategies to ensure the metering of water abstraction in agriculture and proof of public authorization to abstract (ES, FR), extend metering to include water abstraction and consumption (CY, FR, PT), and to introduce possible metering obligations in water stress areas (FR, UK) or to all households that are part of new multi-occupancy buildings (FR).

On the other hand, all Member States still need to take further action. For example, Member States are required to implement systematic control over water abstraction (Article 11(3)(e) WFD). The programmes of measures planned for adoption by the end of 2009 will make it possible to check that this is being fully addressed across Europe.

The Commission has proposed as part of the Health Check of the Common Agricultural Policy (CAP)⁸ to add a new issue on water under the Good Agricultural and Environmental Conditions (GAEC) which are part of cross-compliance. Under this issue, the new standard

⁵ Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment, OJ L, 5.7.1985, p.40-48

⁶ Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment, OJ L 197, 21.7.2001, p.30-37

⁷ OECD DAC/EPOC Water Task Team – "Sustainable financing to ensure affordable access to water supply and sanitation"

⁸ COM(2007) 722 final of 20.11.2007

concerning the respect of authorisation procedures for using water for irrigation can also help expand water metering in agriculture. The CAP Health Check proposals are under discussion in the Council and may be adopted by the end of 2008.

2.2. Allocating water and water-related funding more efficiently

2.2.1. Improving land-use planning

The need to adapt economic activities to the level of water available locally remains a challenge.

The CAP Health Check proposals on the broadening of the scope of the GAEC to water and on the further decoupling of support from production aim at lowering the impacts of agricultural activities on water resources.

As part of the discussions on the post 2013 CAP, the Commission will assess which water quantity related obligations result from the Water Framework Directive and should be treated in the framework of the cross-compliance system. As regards biofuels, specific sustainability criteria are being discussed by the Council and the European Parliament. The Commission's proposal for a new directive on renewable energy⁹ provides a strong incentive for the development of biofuels based on waste, residues and other non-agricultural feedstock. This should contribute to reduce pressure on the water needs in the agricultural sector.

The Member States most affected by water scarcity and droughts in the past (CY, EL, ES, FR, IT, PT, UK) have made efforts to identify the river basins that are facing quasi-permanent or permanent water scarcity. A few Member States have taken steps to reduce the pressure on water resources, such as a ban on increases in water abstraction in overexploited areas (ES, FR), assessment of the volumes that can be sustainably abstracted and a review of the abstraction authorisations (FR, UK), and an obligation to put in place collective irrigation organisations in charge of limiting and distributing abstraction volumes among irrigators (from 2011 in FR).

More generally, Member States have signalled their intention to address the issue specifically in the forthcoming river basin management plans, including those Member States where water scarcity and droughts have not been a major issue so far (AU, DK, NL), but where climate change could make the situation worse.

Despite the examples cited above, there is currently little evidence that land use challenges are being fully integrated into the water management decisions taken by Member States. Further steps need to be taken urgently at all levels.

Water quantity issues will be efficiently addressed only if the functioning of the water cycle is fully considered. Permanent vegetation has a positive impact on the regulation of evaporation and significantly helps to maintain the thermal stability of the land.

A large-scale agricultural, industrial and urban development have affected the infiltration of water at local level, increased the runoff of rainwater, reduced groundwater recharge and the availability of water for vegetation and increased evaporation. In some agricultural regions, the development of drainage combined with irrigation has resulted in the disappearance of natural vegetation, the emergence of salty soil and reduction of yields. In urban or industrial areas, the mass use of cement and asphalt predominate which results in rainwater often carried away through public sewage networks, instead of saturating the soil and ecosystems.

⁹ COM(2008) 19 final adopted by the Commission on 23 January 2008

Land management and land-use planning need to adapt in order to progress towards optimal water saturated land. The priority should be to retain rainwater in the places where it falls, particularly in areas with significant impacts due to human activities. Improvement of water infiltration into the soil and progress towards soil saturation will help restore groundwater and surface water resources. It is crucial to maintain and increase organic matter in the soil as this can absorb up to twenty times its weight in water. This is one of the objectives of the proposal for a Soil Framework Directive¹⁰ presented by the Commission in September 2006 and being discussed by the Institutions.

2.2.2. Financing water efficiency

The 2007 Communication highlighted the need to improve the financing of water efficiency within the framework of existing sectoral policies.

The proposals made by the Commission in the framework of the CAP Health Check to increase modulation and use the budget thus obtained to finance i.a. water management under rural development can improve the situation. This would come in addition to the actions already implemented by some Member States (e.g. ES, PT) via the rural development programmes, such as providing investment support to improve water efficiency.

In light of the "Climate action and renewable energy package"¹¹ and the Green Paper 'Adaptation to climate change in Europe – options for EU action'¹², the possible revision of the Community strategic guidelines on Cohesion 2007-2013¹³ is being considered by the Commission. Any mid-term review will be concluded following close cooperation with Member States. The review and possible revision of the strategic guidelines, as well as evaluations¹⁴ undertaken by the Commission or the Member States may lead to voluntary amendments of the operational programmes by the Member States, especially those covering environment and energy.

The budget review and the discussion about the future financial perspectives will provide additional opportunities to address water quantity issues. The Commission currently prepares on the Cohesion policy a Working Document on "Regions 2020 - The climate change challenge to European Regions" which addresses the issue of water scarcity and droughts.

In July 2008, the European Investment Bank (EIB) adopted a new lending policy for the water sector¹⁵ in line with the key challenges of the Communication.

Some Member States are taking a range of actions to develop fiscal incentives for the promotion of water efficient devices and practices. Some have put in place schemes to support the purchase of rain water harvesting and waste water reuse equipment in private and public buildings or aquifer recharge (CY, FR, NL). Some are developing schemes that enable businesses to claim allowances for investments in water efficient technologies and equipments (UK). Both regional and local authorities (ES) and the private sector have sometimes put in place specific action plans in order to support the use of water saving devices and improve water supply networks.

2.3. Drought management

¹⁰ COM(2006) 232, 22.09.2006

¹¹ COM(2008) 30 final/ 23.1.2008

¹² COM(2007) 354 final of 29.6.2007

¹³ OL 291, 21.10.2006, p. 11

¹⁴ General Provisions Regulation 1083/2006/EC, Articles 48 & 49, OJL 210, 31.07.2006, p. 25

¹⁵ 'Strengthening the EIB's support to EU policy objectives in the sector' – July 2008

In 2007 a European network of experts on water scarcity and droughts produced a report on drought management plans¹⁶ as part of the Common Implementation Strategy of the Water Framework Directive. This report was endorsed by the Water Directors of the Member States in November 2007. It sets out recommendations for the development of operational drought management plans in order to efficiently prevent and mitigate drought impacts on environment, society and economy. It also includes examples of drought management plans already in place in some Member States (ES, UK, PT).

Some Member States are implementing additional measures, such as water company drought plans (UK) or national drought plans (CY, FR). Other measures are planned, such as the setting up of a system for the prediction and management of droughts (PT).

However, only a few Member States have taken action and these initiatives have yet to be evaluated.

The Commission's Joint Research Centre is developing an observatory and early warning system on droughts. This will serve as a platform for forecasting, detection and monitoring and for exchange of information. It adopts a multi-scale approach, is in line with the subsidiarity principle and will provide consistent information at European level. The first prototype is currently undergoing extensive testing. In cooperation with Member States, the European Environment Agency (EEA) contributes to the identification of relevant water scarcity and drought indicators. An initial set of parameters is currently being developed. From 2009-2010, the collection of data at national level based on these parameters will make it possible to issue an annual European assessment of how the extent and impacts of water scarcity and droughts are evolving across Europe.

These developments will make it possible to stay within the deadline of 2012 set in the Communication for the development of prototypes and implementing rules for an operational drought observatory and early warning system.

As regards the EU Solidarity Fund¹⁷, the current Regulation allows droughts to be considered for aid only if the specific conditions for its mobilization are respected, including the 10 week time-limit from the start of the disaster for presenting an applications to the Commission. The challenge of adapting to climate change may require examining whether, in the framework of the next budget review, further progress could be made in the definition of the criteria and eligible operations to better respond to drought events.

The 2009 annual work programme of the Mechanism for Civil Protection will address the issue of forest fires. This will be an opportunity to address the link with severe droughts and identify appropriate possibilities of assistance in such situations. The prototype of the European Drought Observatory will be presented to the Expert Group on Early Warning Systems of the Action Programme for Civil Protection¹⁸ as soon as it is available. This may lead to the development of recommendations of how to use and apply the system for Civil Protection assistance at European and national levels.

On 5 March 2008, the European Commission adopted a Communication on reinforcing the Union's Disaster Response capacity¹⁹. This Communication pleads for a reinforcement of the

¹⁶ Report available on http://ec.europa.eu/environment/water/quantity/scarcity_en.htm

¹⁷ Council Regulation (EC) 2012/2002 establishing the European Union Solidarity Fund OJ L 311, 14.11.2002.

¹⁸ Council Decision 1999/847/EC of 9 December 1999 establishing a Community action programme in the field of civil protection, OJ L 327/53

¹⁹ COM(2008) 130 final, 5.3.2008

Community Civil Protection Mechanism. To this end, the Commission will submit proposals for a European Disaster Response Training Network by mid-2009. Past experience shows that disaster response is not sufficient in itself and that prevention and preparedness need to be reinforced. Therefore, the Commission currently develops EU strategies for preparedness and prevention of natural and manmade disasters, including droughts.

2.4. Assessment of water supply infrastructures

Additional water supply infrastructures (such as storage of water, water transfers or use of alternative sources) should be considered as an option when other options, including effective water pricing policy and cost-effective alternatives, have been exhausted. The need to base policy making on this clear water hierarchy is confirmed by work in progress. This applies to all sectors and users, especially in water-scarce regions of Europe and in regions where climate change is expected to reduce water availability.

In the event of need for additional water supply, the selection of the most appropriate option should be based on a full impact assessment that also takes into account the energy required to build up the new infrastructure, and to treat and transport the water. Some supply options can lead to similarly high levels of energy consumption. Addressing the expected needs for water in water-scarce regions would increase the energy consumption of some Mediterranean countries by between 15% and 45%. The expected decrease in water availability due to climate change has to be fully taken into account in the definition of water supply infrastructures. This is key to ensuring sustainable water availability in contributing basins and to avoiding oversized equipments that would further increase energy demand and exacerbate the current difficulties.

Additional key issues need to be considered in the assessment of projected measures, in particular: possible adverse impacts on the economy, society and the environment, including impacts on health (in particular for waste water reuse, rainwater harvesting), impacts on the quality and quantity of water resources²⁰ (all options) and a financing strategy that will ensure the recovery of all costs including environmental and resource costs, as well as relevant contributions by the different users. The choice of measures will determine the type of water uses that can be satisfied.

There is therefore no single best option, and only a full impact assessment of all options, including land use changes, can lead to the identification of the most appropriate solution, on a case-by-case basis, depending on local conditions.

2.5. Water efficient technologies and practices

A study carried out for the Commission in September 2007 indicates that the water saving potential is close to 40% in Europe²¹. This requires substantial changes on the way in which water is distributed and used in order to develop water savings to the largest extent possible.

At European level, the Commission is launching a study to assess the scope for developing specific standards for water-using devices, including farm equipments. The standards developed at national level are usually voluntary. At least one Member State (UK) has begun to review its regulations on minimum requirements of performance and maximum levels of water use for water-using appliances and fittings.

An action plan on Sustainable Consumption and Production and Sustainable Industrial Policy (SCP/SIP)²² was adopted on 16 July 2008. This comprises a proposal for widening the scope

²⁰ According to Article 4.7 of the WFD when applicable

²¹ Study available on http://ec.europa.eu/environment/water/quantity/scarcity_en.htm

of the Ecodesign Directive²³ to energy related products. This includes water using devices whose water consumption influences the energy required for heating.

In parallel, work is in progress on implementing of the current Ecodesign Directive with the aim of adopting implementing measures for given priority product groups within a short period of time. Washing machines and dishwashers are already covered during the transitional period 2005-2008. They will be addressed in a next preparatory study. The inclusion of water using equipments, in particular irrigation equipment, in the new Working Plan of the Ecodesign Directive (2009-2011) is also being considered by the European Commission.

The Action Plan on SCP/SIP includes a proposal for a regulation²⁴ revising the European Management and Audit Scheme (EMAS) scheme that includes water consumption as one of the performance indicators.

On basis of the experience gained with the Directive on the Energy Performance of Buildings²⁵, the Commission is launching a study to consider the need for a similar directive on the water performance of buildings.

Only a few Member States already have minimum water requirements in their building regulation (ES, NL, UK) or national building standards (DK, DE, ES). Others have introduced specific water management requirements for future 'high environmental quality' buildings (FR), or are reviewing their national regulations to ensure the water efficiency of buildings and establish a comprehensive water performance standard for buildings (UK) or are introducing minimum compulsory water efficiency standards for any new publicly funded housing (UK). Lessons need to be learned from these experiences, and many more Member States should take action.

The steps taken to reduce leakages in water networks include systematic and regular external audits of leakage levels (AT), the introduction of incentives to encourage water companies to bring leakages in water networks below a given level (10% in DK), the introduction of preconditions of minimum performance in existing networks for the delivery of public funds for new water supply networks (FR), publication of the performance of networks in each municipality on the internet (under development in FR), the introduction of water company targets with possible fines in case of failure (UK). Excessive leakages remain an issue despite the above references and much more can be done. Member States have a particular responsibility for improving leakage detection and upgrading networks.

As regards the development of voluntary agreements with all economic sectors that need water, initiatives are expected to be taken at European level. In particular, the Action Plan on SCP/SIP to establish a Retailer Forum in order to encourage inter alia sustainable water consumption for major European retailers and their supply chains. A few Member States have developed agreements with specific economic sectors, such as golf courses (FR), the building sector (FR, NL), and the food and drink sector (UK). In some Member States, agreements involving local authorities, NGOs and water agencies have been adopted at local and regional levels (FR) in order to promote and increase water savings. In general, voluntary agreements remain limited and need to be further extended, as they are able to deliver significant benefits.

²² COM(2008) 397/3, 16.07.2008

²³ Directive 2005/32/EC of the European Parliament and of the Council establishing a framework for the setting of ecodesign requirements for energy-using products, OJ L 101, 22.7.2005.

²⁴ COM(2008) 402/2

²⁵ Directive 2002/91/EC of the European Parliament and of the Council of 16 December 2002 on the energy performance of buildings, OJ L 1, 4.1.2003.

2.6. Development of a water-saving culture in Europe

To develop a water-saving and efficiency culture, the role of civil society will be crucial. A number of initiatives have been launched at European level, such as the development of European water awareness and water stewardship programmes by the European Water Partnership (EWP). This programme aims to involve various stakeholders including NGOs, private companies, regions, municipalities, etc. Actions will include the organisation of regional and local information campaigns, the creation of a European water prize and awareness tools and the development of principles of water stewardship.

The European Commission adopted a Green Paper on agricultural product quality policy in October 2008²⁶. The Green Paper provides an opportunity for stakeholders to give their views on whether and how environmental concerns, such as water management, can be further integrated into future certification schemes and to assess the demand for the promotion of water-friendly products.

The Action Plan on SCP/SIP refers to a forthcoming proposal for the revision of the Energy Labelling Directive²⁷ in order to cover a broader range of products and a range of environmental parameters, including water use.

Most Member States have actively developed actions for communication and education in order to increase public awareness on water quantity issues: information campaigns at national, regional or local level (BE-FI, CY, DK, ES, FR, NL, UK), school competitions on water efficiency (CY, PT), free advice to the business sector (UK), a website that is updated daily (CY), inclusion of water issues in educational programmes and development of actions at school to promote water saving devices (CY, EL, FR), development of a national strategy to educate consumers on efficient water use (UK), exchange of good practices on irrigation (FR). All these measures need to be continued and extended across the whole of Europe. Their evaluation will make it possible to identify which measures are most effective.

2.7. Improvement of knowledge and data collection

A concrete EU wide initiative is Global Monitoring for Environment and Security (GMES). Within the GMES Land Service, a land cover inventory has been established showing areas under water scarcity pressure as well as their changes over time. Concrete applications for improved irrigation management have already been tested with Spanish and French regional authorities as well as support to WFD reporting in cross- border river basins.

A number of on-going projects related to the 6th Framework Programme for Research and Technological Implementation, such as AQUASTRESS, RECLAIM WATER, GABARDINE, MEDINA, MEDESOL, PLEIADeS or FLOW AID, are delivering scientific and technological progress in the field of water scarcity and droughts. It is expected that the outcome of these projects will be of use as water stress mitigation options. Moreover a set of new initiatives are launched in the context of the 7th FP implementation that are aimed to assess the impact of climate change on water policies, water quantity and water quality. An action focused on investigating Europe's risk from droughts was launched at EU level. This aims to identify the main gaps in research and the key steps forward in order to improve the current knowledge of the extent and impacts of droughts. This will lead to the development of a platform of exchange on drought issues between the research and policy communities.

²⁶ COM(2008) 641, 15.10.2008.

²⁷ Council Directive 92/75/EEC of 22 September 1992 on the indication by labelling and standard product information of the consumption of energy and other sources by household appliances, OJ L 297, 13.10.1992.

Better knowledge in this area can also be beneficial for a sustainable use of inland waterways for transport.

Member States have responded to the challenge of water scarcity and droughts by launching research and technological activities related to the impacts and evolution of drought in a context of climate change (ES, NL, LU, UK, PT), consumer behaviour towards water using devices (UK), correlation between water and energy efficiency of dish washers and washing machines (UK), improvement of efficiency of water using devices (UK), improvement of agricultural practices including irrigation (CY, ES, FR), assessment of alternative water supply options (CY, FR), development of a data collection system for the evaluation of drought impacts (PT). Most of these activities are still ongoing. Exchange of information at EU level will enable their results to be shared with all Member States.

3. CONCLUSIONS

The Communication of July 2007 on water scarcity and droughts and the European Council conclusions of October 2007 paved the way for the further development of water demand management measures and efforts to fully exhaust the potential for water saving potential before any other alternatives.

This follow-up report shows that, while progress has been made, a great deal still needs to be done in order to improve water demand management more widely across Europe and to avoid mismanagement of water resources, especially in water-scarce areas.

The priorities set in the Communication remain valid. As shown by the many examples contained in this report, continued attention needs to be paid to implementation in all priority areas.

As announced in the 2007 Communication, the Commission will provide from 2009 onwards an annual European assessment on water scarcity and droughts that will make it possible to monitor the evolution of the issue across Europe on a regular basis.

The implementation of the work programme will be monitored and will be part of the review of the strategy for water scarcity and droughts mentioned in the Council Conclusions of 30 October 2007 and planned for 2012.