

Spring



1st EMEG Meeting - Lisbon, 20-21 June 2013

Recommendations for the Euro-Mediterranean research agenda (an outline of outcomes of 1st EMEG meeting)

Position paper

CONTENT

- 1. Introduction and methodological outline
- 2. Background and problems
- 3. Research results, solutions and market opportunities to enhance competitive Euro-Mediterranean research in MedSpring societal challenges
- 4. Barriers, enhancing factors and possible actions.
- 5. Conclusions and recommendations

References

Annex 1: Outcomes of Open Consultation

Annex 2: List of experts and participants

Annex 3: Photo gallery

1. Introduction and methodological outline

More than 50 experts from MS/AC and MPC participated in the 1st EMEG (Euro-Mediterranean Expert Group) meeting focused on identifying topics, solutions and opportunities in the Euro-Mediterranean research cooperation in the following societal challenges: resource efficiency (water), high qua affordable food, energy.

EMEG worked in plenary and parallel working sessions. More specifically, the main goal of EMEG 1st meeting was to identify research topics leading to results, solutions and market opportunities to enhance sustainable development and create opportunities for new jobs in the region.

The work was substantiated by the inputs of the open consultation launched before the meeting and addressed to civil society (researchers, SMEs, NGOs, citizens...etc) and WEB communities. The Lisbon meeting was video-streamed through the Agora MedSpring WEB (www.agora.medspring.eu) in order to allow the civil society to give feedbacks and comments on real time. One of the positive aspects of the video-streaming is that most of the WEB participants appreciated that their own inputs were included in the debate. This allow MedSpring building mutual trust with the civil society.

In conducting the analysis, the EMEG experts have also taken stock of existing literature and public documents, among them it is worth to mention sources like MIRA Thematic Workshops, CRIA (Common Research Innovation Agenda) and the proceedings of the Euro-Mediterranean Conference on Research and Innovation organized by the European Commission (Barcelona, 2012).

The present document is structured in the following way: i) Section 2 gives an overall view regarding background and main problems identified in recent literature, particularly the above mentioned sources (MIRA, CRIA, Barcelona Conference), ii) Section 3 provides a brief summary of topics, solutions and market opportunities delivered by EMEG, iii) Section 4 highlights barriers, factors enhancing impacts and actions to successfully uptake research results in identified topics and solutions.

2. Background and problems

International cooperation could play an important role in achieving the H2020 main objectives, particularly in addressing major societal challenges. Concrete actions should be identified within these challenges, and their identification should be made by considering the following goals:

- Need to strengthen research and innovation capacity
- Supporting market oriented approach
- International commitments (e.g.: Millennium Development Goals MDG, EU Sustainability indicators, Mediterranean Strategy for Sustainable Development)
- Need to integrate adequate partnerships to support uptake of research results
- Building on past experience.

An adequate valorization of research results in specific topics / niches relevant to Euro-Mediterranean research cooperation is of utmost importance for achieving the above goals.

Regarding the Mediterranean region there is evidence of undergoing rapid social, demographic, economic and environmental and political changes. The capacity of the system to adapt and respond to these changes in a sustainable way depends on the system resilience. Thus, it becomes imperative to ensure efficient use of resources (including human resources) to guarantee sustainable impact on human well-being. In the Mediterranean, water and energy are the basic resources to ensure availability of food, job creation and human development. On the other hand, good health and welfare are determined by high quality food (high nutritional value) and safe water quality.

2.1 Resource efficiency / Water

Water is by far seen as the most important but vulnerable resource in the Mediterranean region. The major problems of fresh water resources management in the region arise from the pressure to meet the increasing food and domestic water needs in areas characterized by fast-growing population, water scarcity or limited

water availability, exacerbated by extreme climate variability. Increased cost of energy production coupled with water scarcity, deteriorated water quality and overexploitation of resources often results in deficiency in food production, increased pollution threats to both terrestrial and marine environment and leads to non-equitable access to water resources as well as water supply and sanitation services, particularly in the rural and marginal areas. Consequently, it negatively affects health and produces various types of conflicts ranging from social domestic conflicts to sector conflicts (agriculture, urban areas, industry, tourism as well as ecosystem) and trans-boundary conflicts.

Due to its limited availability and the high nexus with healthy society, addressing sustainable water management is vital in the region. According to recommendations of the Euro-Mediterranean water expert and inter-institutional dialogues (Barcelona 2012, CRIA 2012, MIRA 2009-2012), most relevant challenges and problems are:

- Mis-management and poor governance for planning and adaptation to global changes, including lack of engagement of stakeholders and empowerment of civil society.
- Un-equitable water allocation and un-sustainable water management
- Still poor holistic vision
- Need to increase competitiveness of research in water quantity management, water use efficiency as well as management of non conventional waters.

2.2 High Quality Affordable Food

Food is strategic for prosperity and well-being of the Mediterranean region, and all forms of sustainable agriculture are necessary to meet the challenge of food quality and security. The renewed position of food security at recent G8 and G20 Summits is an acknowledgment that a more sophisticated coordination at global level is needed to meet the new challenge of food security, which is an upside-down scenario in comparison to what prevail in the last years of the 20th century, when food seemed relatively plentiful. It is certainly no coincidence that the "Arab Spring" was initially triggered as riots for bread, a social symbol as well as a staple food.

Food security and affordable food quality is a serious emerging problem in the Mediterranean, particularly in rural arid and semi-arid areas, the latter being the most vulnerable regions embedding multiple challenges and strong nexus with water, health, energy, demographic growth, climatic change and environmental threats. Food in the Mediterranean is a political concern, being no longer only a question of self-sufficiency but rather a problem of equal access to food.

In the northern Mediterranean Countries, the local production contributes largely to supplies, whereas in the southern and eastern Mediterranean countries, with the exception of Turkey, supplies are provided to a very large extent through trade and even in some cases food aid. This is no longer sustainable and even when adequate supplies of food are available, this does not necessarily guarantee that every individual has access to food.

In response to the several global socio-economic and environmental pressures there is an increased demand for high quality food products obtained in an ecologically sustainable way, calling for a substantial change of approach to agricultural production in rural areas.

The above conditions must be seen as an opportunity and not only a constraint. It is urgent that Europe and Southern Mediterranean Countries pool together their resources of talent, knowledge and cultural heritage to develop "smart" rural arid and semi-arid areas, providing food job opportunities and competitiveness, for young entrepreneurs and women, while ensuring the recovery and preserving the eco-system.

Specific issues have been identified (Euro-Mediterranean Conference Barcelona, 2012; CRIA, 2012; Euro-Mediterranean Conference of Ministers of Agriculture – CIHEAM, 2012) and need actions:

- Unsustainable food production in terms of ecosystem and nutrition.
- Limited food culture and food sovereignty, calling for better reconciliation between modernity and tradition.
- Lack of access to local and regional markets by farmers.
- Limited links and policy coherence between food and health.

2.3 Energy

Energy has become a very important issue for the human community worldwide. It is almost related to the development of any field in our modern life. The demand for energy is growing rapidly while traditional energy resources are exploited as never before. The development of renewable energy in the Mediterranean region requires a closer cooperation in research and innovation between countries. The demand for food and fresh water tends to increase drastically in a region characterized by water scarcity, leading to increase in demand for intensive energy in water treatment processes. On the other hand, the emissions produced by traditional energy resources based on hydrocarbon and fossil fuel has serious consequences on the level of pollution in the entire region.

The increase of energy consumption in the community creates an impact on both societal and economical levels. Renewable energy is not only playing a very important role in the social development of the community by creating prospect of new jobs and business, but it also enhances the sustainable energy management.

The region is undergoing an increasing energy demand which can hardly be satisfied according to most logical forecast. This trend will trigger a more dramatic scenario in areas of limited water availability and food un-security, as well as in absence of a common regional strategy. Main problems are well known (Barcelona, 2012) and need concrete answers:

- Unbalanced policy development between EU and Mediterranean Partner Countries.
- Lack of awareness on need to move towards a sustainable energy sources by new means and technologies in terms of production, storage and transmission.
- Urgent need to reinforce human capital, regional/common policies and sustainable partnerships.

3. Research results, solutions and market opportunities to enhance competitive Euro-Mediterranean research in MedSpring societal challenges.

During its first meeting, EMEG identified research topics and niches that more than others would enhance market opportunities, having potential for new jobs, start-ups and winning public-private-societal partnerships in relation to the above societal challenges.

3.1 Resource efficiency / Water

EMEG agrees that most of efforts in resource efficiency should focus on water. The latter being indispensable for the conservation of all other natural resources.

A sound management of water should not only contribute to environmental sustainability and ecosystem services but should also constitute an opportunity for new jobs, start-up and market opening. Water scarcity areas should not be seen as a problem but as a market opportunity for developing new technologies and enhancing water innovation.

The following topics are favorable in the Mediterranean for the uptake of research results and development of market opportunities:

- Management of surface-ground water resources under scarcity and uncertain conditions (quality and quantity) with a link to extreme events.
- Improvement of agricultural water use efficiency.
- Non conventional water treatment and reuse.

In particular, competitive research in the above topics is a real opportunity for marketable results and solutions in the following specific sectors:

Tools and devices based on ICT and wireless sensors for monitoring, water allocation control, remote controlled irrigation, automation and information /dissemination to end-users.

- Technologies for ground water de-pollution, irrigation water management and compact water treatment units for decentralized systems and reuse.
- Advanced oxidation process, nanotechnology and materials, filtration, artificial recharge and new antifouling membrane.
- Expert service under the form of local consultancy providing institutional capacity building, developing guidelines and strategies for water management

In order to ensure successful uptake of research results and impact (jobs, market and other opportunities), the design of research in above water topics and for identified solutions should be supported by a competitive public-private-societal partnerships, composed by:

- Farmers (and association/groups of farmers), as they are the end-users affected by extreme events but also acting as empowered private sector / investor.
- Water User Association (WUAs), as they are in charge for Operation & Maintenance activities
- Local municipalities
- Local municipalities and water user associations
- Private investors and tech-driven SMEs
- Basin authorities
- NGOs
- Academia and research centers.

Actors forming different partnerships should equally share and participate in the design and implementation of research.

3.2 High quality affordable food

The main focus is to valorize and give impulse to the socio-economic development of rural areas, particularly those falling in the arid and semi-arid domain of the Mediterranean region. An increase of sustainable agriculture practices in these areas would decrease migration of local communities while preserving cultural heritage and local natural resources.

The following topics are found favorable for the uptake of research results and development of market opportunities in this area:

- Promoting sustainability in agriculture in the Mediterranean region taking into account traditional agriculture, innovative technologies, organic farming for the empowerment of rural communities.
- Policies and governance to integrate technologies with traditional food production systems, promoting food safety and security.
- Innovation in local Mediterranean food chains.

In order to ensure market opening, competitiveness and job opportunities, the following results and solutions should frame the research in the above topics:

- Innovative precision agricultural technologies in all food value-chain and efficient resources management.
- Food-chain logistics reducing food lost and waste.
- Quality certification via participatory approach / group certification.
- Pre and post-harvest early detection of pest/pathogens and control.
- Biotechnology to promote sustainable production of annual rich protein crops.
- EU-MED pedo-climatic conditions for sustainable and affordable food quality production.
- Rich protein plant microorganism's interactions for nutritional value farming and organic culture promotion.
- Local biodiversity to adapt to climate change and enhance competitive local traditional food and on-site awareness / training courses and schools.
- Long food shelf life techniques.
- Bio-districts to boost rural economy for creating new jobs.

The above solutions are also the opportunity for the setup of public-private-societal partnerships involving, along the all research process cycle, the following actors:

- Farmers and food producers.
- Consumers associations
- Food and biotech industry / SMEs.
- Academia and research centers.
- Investors (i.e.: ethical groups of buyers).
- Policy makers and local authorities.
- Women associations.

3.3 Energy

The Energy picture in the Mediterranean areas is relatively different in the northern and southern zones. Climatic, geographic and demographic characteristics are different among North and South and must be taken into account when defining common topics and solutions. Also market opportunities and level of partnerships differ very much from north to south Mediterranean.

In the South, the real opportunities for development and creation of jobs depends on the large number of small communities in remote locations, of various sizes, making connection to the conventional electricity grids difficult or very expensive. This leads to the need for the development of decentralised, local, integrated, sustainable solutions for energy production based on appropriate renewable and hybrid energy solutions, including smart micro-grids, power production and storage. These solutions would also constitute interesting market and development opportunity in remote or decentralised communities in southern Europe, including small islands, where supply and demand must be balanced through smart management techniques.

While the above solutions address the question of supply, the important aspect of demand also needs to be tackled. Communities served by such a local energy system should also be sustainable and efficient. So, the aim is to develop solutions for sustainable and smart remote communities, minimising energy consumption in buildings and promoting recycling and energy recovery, moving towards nearly-zero energy buildings through design, regulations, materials and special solar (and other) energy components that shall take into full account the local heritage and traditions, ensuring the harmonious integration and social acceptance by the local population. A special attention shall be given to cooling technologies or components.

Three major topics/niches can be extrapolated:

- System integration: system hybridization and integration (renewable energy, decentralized solutions)
- Energy efficiency in sustainable and smart communities/districts under Mediterranean climate and uses, including raising awareness and considering sustainable participation / involvement of industry.
- Solar energy, storage and smart micro grid (CSP, PV, CPV, thermal)

In relation to the above topics, specific solutions / results have been identified:

- Appropriate renewable and hybrid energy solutions, including storage, smart micro-grids, power production.
- Minimising energy consumption in buildings and promoting recycling and energy recovery, moving towards nearly-zero energy buildings through design, regulations, materials and special energy components with emphasis on cooling technologies. Accounting the local heritage and traditions, ensuring a harmonious integration and social acceptance by the local population.
- Penetration of decentralised grid-connected renewable energy sources, namely PV and CSP. This will require the development of special components and technologies based on local resources, using mature technologies, including affordable storage solutions.

The above solutions will create business opportunities for a host of players in decentralized communities, including:

• Manufacturers of RES equipment and integrated systems, including energy management and monitoring systems.

- ESCOs and energy suppliers.
- Local manufacturers of special solar components.
- Building designers and consultancy firms.
- Recycling firms.

This shall also create opportunities for training and awareness raising, addressing social issues and promoting acceptance by the population, involving:

- Research and training institutions.
- Consumer associations.
- NGOs.
- Utilities.
- Local authorities.

Mobility (e.g., through the production and use of biofuels and other renewable alternatives) and industry also need to be addressed.

Most of the population lives, however, in cities and developed areas with strong cultural traditions. The aim here would be to promote the penetration of decentralised grid-connected renewable energy sources, namely PV and CSP. This will require the development of special components and technologies based on local resources, using known mature technologies, including affordable storage solutions.

This will create market opportunities for, among others:

- SMEs
- Local entities, e.g., NGO's and Government (regulations, awareness campaigns).
- Training institutions for developing the skills of professionals and young people.
- Building designers.

4 Barriers and suggested actions

Barriers and actions in relation to the uptake of research results were discussed by EMEG accounting the following main categories: i) Networking & Communication, ii) Management & Institutional responsibility, iii) Resources (financial / human) & Capacity, iv) Responsiveness to societal and users' needs.

Three different organizational levels (micro – from individual to small research group; meso - research organization and industries/ SMEs; macro - national and regional organization and networks) have also been considered when classifying the different categories of barriers, enhancing factors and actions.

Only three barriers and actions have been chosen among several other discussed and identified by EMEG.

Only three barriers and actions have been chosen among several other discussed and identified by EMEG and Open Consultation.

Main barriers

Networking & Communication

- Lack of knowledge and poor accessibility of end users to information/research results.
- Low culture in communication leading to inappropriate communication methods, media and languages to disseminate research results.
- Week interaction between academia, industry/SMEs and final users.

Management & Institutional responsibility

- Conservative research policies, restrictions, no updated regulations.
- Lack of integrated financial support to the whole research cycle.
- Lack of bridging between policy, research, industry and society

Resources (financial/human) & Capacity

- Fragmentation of research topics
- Research/project staff not enough trained in research administration.
- Bureaucratic burdens that make project management a difficult and time-consuming exercise.

Responsiveness to users' needs

- Research is not dealing with concrete problems on the ground, not providing concrete solutions to final users problems.
- Lacks of beneficiary and target group involvement in research design.
- Insufficient demand for utilization of research results from SMEs.

Suggested actions

Networking & Communication

- Creating clusters of research organizations (institutionalized links with end-users, Mediterranean technology platform linked to topics) and thematic workshops.
- Promoting staff exchange, mobility programs (intra/inter research institutions), shared laboratory facilities and databases (e.g.: EuroMed Grid).
- Increasing technology awareness, communication and dissemination using ICT tools (mobiles, media, WEB) as well as through social campaign. Make WI-FI and internet affordable for all.

Management & Institutional responsibility

- Decentralizing programs at local level to be closer to the field needs
- Promoting methods for multi-disciplinary stakeholders involvement and ownership (e.g.: participatory planning process, adopted method plans, study cases)
- Promoting advocacy addressed to national governments to create a tax system enabling research for SMEs.

Resources (financial/human) & Capacity

- Coaching of researchers, especially young researchers, and experts to ensure knowledge share and consultancy services.
- Providing travel grants for young scientists to prepare collaborative research proposals.
- Providing financial support for development of IP (intellectual property).

Responsiveness to users' needs

- Enhancing ICT and DSS solutions that respond to transparency and research-society mutual trust in resources management.
- Facilitating development and empowerment of rural community as well as marginalized groups (e.g.: women) through awareness, support systems, dialogue.
- Encouraging SMEs in research projects providing ad hoc research modules for start-ups.

5 Conclusions and recommendations

EMEG delivered a comprehensive frame of topics and concrete solutions to be pursued within the Euro-Mediterranean research agenda. The outcomes of EMEG experts groups have been substantiated by the interaction with the "Mediterranean" civil society (researchers, SMEs, policy makers, WEB communities), and the outcomes of the public consultation were adequately addressed by EMEG.

The range of topics and solutions proposed by EMEG in Sections 3 can be condensed in the following three overarching recommendations (but also paradigms) for each societal challenge:

Resources efficiency - Water:

"Managing water resources under scarcity, pollution and uncertain conditions while improving agricultural water use efficiency as well as treatment and re-use of non-conventional water"

High quality affordable food:

"Integrated development and rehabilitation of rural arid and semi-arid areas capitalizing on sustainable agriculture including traditional and organic farming, empowering rural communities and valorizing agricultural resources"

Energy:

"Capitalizing on local large availability of solar energy, by developing adapted packages of solutions for sustainable remote communities, both in terms of supply and demand, in addition to promoting the well integrated penetration of renewable energy solutions in the inhabited areas, while taking into account local cultural heritage".

Finally solutions for market opportunities and new jobs have been highlighted in Sections 3 and 4 as well as categories of stakeholders/actors involved in local or regional public-private-social partnerships, factors and actions needed to enhance these opportunities for socio-economic and environmental/ecosystem development in the region. A participatory and gender addressed approach to solutions is strongly recommended in rural arid and semi-arid areas to enhance innovation and build opportunities for new jobs and markets.

References

MIRA, 2009-2011 – Proceedings of MIRA Thematic Workshops Environment, Food and Agriculture, Energy.

European Commission, 2012 – An Agenda for a renewed partnership. Proceedings of the Euro Mediterranean Conference on Research and Innovation, 2-3 April 2012.

CRIA, 2012 – A contribution to the Common Euro-Mediterranean Common Agenda (CRIA). CRIA Expert Group on behalf of MoCo Presidency Group, 2012.

CIHEAM, 2012 – Proceedings of the Euro-Mediterranean Conference of the Ministers of Agriculture, Malta, 2012. www.ciheam.org

38th G8 Summit – Proceedings and conclusions, http://en.wikipedia.org/wiki/38th G8 summit#Priorities

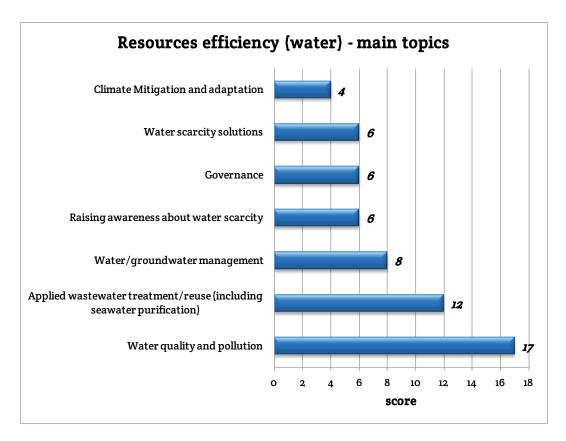
G20 Summit - http://en.wikipedia.org/wiki/List of G-20 summits

MEDSPRING, 2013 - Results of open public consultation, www.agora.medspring.eu.

Annex 1

Outcomes of Open Consultation

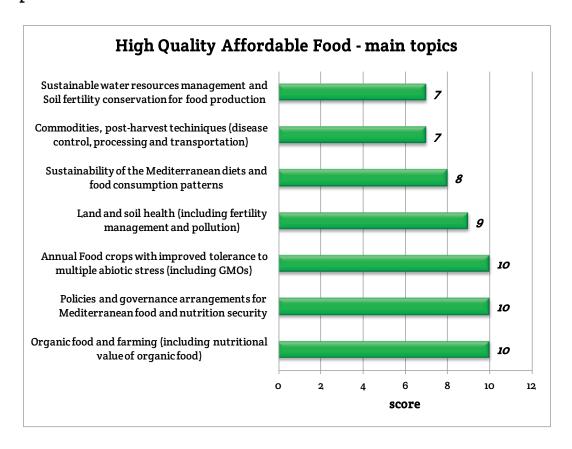
Main topics in which there is a need to have more investment in research



Concrete research results to be developed/valorized

TOPICS	RESEARCH RESULTS & SOLUTIONS
Water quality and pollution	Reuse; drinking water quality; water treatment; improve water quality
Applied wastewater treatment/reuse (including seawater purification)	Biorefinery of agro-industrial wastewater dedicated to added-value molecules and to convert organic leftover into chemicals, materials and
Water/groundwater management	Decision support system; use of waste water; change of irrigation system (from open canals to pressurized systems); quantify water
Raising awareness about water scarcity	Inform and educate; Suggestions for policy change (reducing water use)
Governance	Transformation Governance strategy sensitive to the local political situation of the South Med; water users associations
Water scarcity solutions	Improved irrigation techniques; vapor condensation
Climate Mitigation and adaptation	Endogenous solutions to climate change

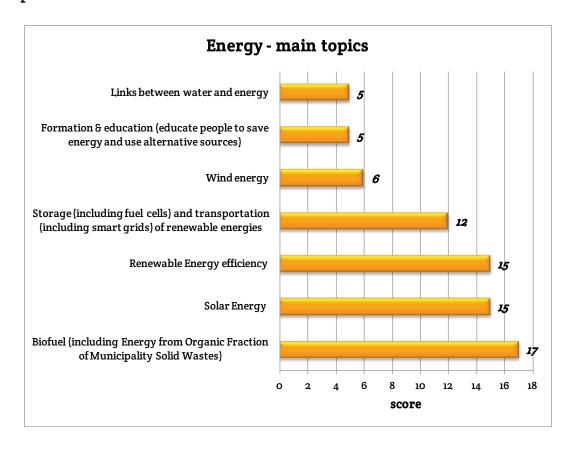
Main topics in which there is a need to have more investment in research



Concrete research results to be developed/valorized

TOPICS	RESEARCH RESULTS & SOLUTIONS	
Ownerie feed and femmine (in the discount with a selection of	Enforcement of organic farming standards; comparison organic-	
Organic food and farming (including nutritional value of organic food)	conventional food; to inform decision-makers and supply chain actors of	
	the relevant choices to target support for organic agriculture	
	Ensure everyone can afford to feed themselves; analysis of regional and	
Policies and governance arrangements for Mediterranean	national economic, social and sectoral policies, strategies and legal	
food and nutrition security	frameworks relevant to food and nutrition security; sustainable	
	agriculture and proposals for action	
Annual Food crops with improved tolerance to multiple	GMO long term effect; legumes as rich protein affordable food	
abiotic stress (including GMOs)		
	Nutrient Use Efficiency from composted organic waste; improvement of	
Land and soil health (including fertility management and	governance mechanisms inside the organic sector itself and between	
pollution)	organic agriculture, state authorities, business people and civil society	
	organizations; economics of ecosystems	
Sustainability of the Mediterranean diets and food	Mediterranean diets sustainability: indicators, guidelines and policy	
consumption patterns	instruments	
Commodities, post-harvest techiniques (disease control,	Antioxidant of processed Food; development of low-cost post-harvest	
processing and transportation)	technologies; setting up and validation of safe methods to control the	
	development of post harvest pathogens and mycotoxins	
Sustainable water resources management and Soil fertility conservation for food production	water saving	

Main topics in which there is a need to have more investment in research



Concrete research results to be developed/valorized

TOPICS	RESEARCH RESULTS & SOLUTIONS	
	Conversion of organic waste to biogas to compost; home-scale technology	
Biofuel (including Energy from Organic Fraction of	for waste conversion; biofuel from organic waste; low cost technoloy for	
Municipality Solid Wastes)	biomass production based on algae; better balance of emissions and use of sub products like biochar	
Solar Energy	Environmental cost of material; international financial support for investment on required infrastructure; self sustained generators; stirling plus fresnel lenses; develop and validate minimal systems approach to wave energy conversion; improved processes and materials; scale production to needs	
Renewable Energy efficiency	Heat recovery systems; isolated districts; explore traditionnal uses	
Storage (including fuel cells) and transportation (including smart grids) of renewable energies	Reduced cost; boron as an energy vector; validate certain novel and potentially efficient electrical generators; field test/validate technology solution and results.	
Wind energy	Self-sustained generators; international financial support for investment on required infrastructure; identify sectors suited for every source of energy	
Formation & education (educate people to save energy and	Efficient recylcing of wastes as new source of energy; public educational	
use alternative sources)	campaigns to raise awareness	
Links between water and energy	Use of hydrogen as energy storage and transport medium and to provide dinkable water	

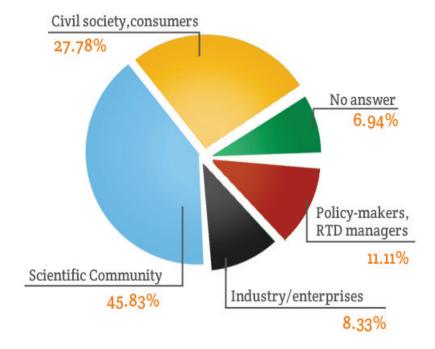
Barriers

Lack of resources (financial, human and material)	1
Lack or mismanagement in communication among different stakeholders	2
Institutional (political) responsibility (including political instability, stagnation, corruption and lack of coordination)	3
Poor interaction between research, industry (even SMEs), policy makers and community	4
Research is not dealing with concrete problems on the ground and it is perceived as far from end consumers and civil society	5

Positive Factors

Providing financial support for researchers (including financing of joint R&I projects and infrastructures)	1
Choice of appropriate and tailored communication media and methods (web, publications and scientific papers, scientific events, awareness campaign)	2
Participatory approaches in planning research strategies (involvement of target groups/actors in the whole research cycle)	3
Policy making and policies supporting research (including transparency and impartiality)	4
Cooperation between research institutions (networking) and with private enterprises	5

Groups participating to the open consultation



Annex 2

List of experts and participants

Euro Mediterranean Experts Group (EMEG): List of participants

EMEG Water	EMEG Food	EMEG Energy
Group leader: Ayman Rabi (PALESTINE)	Group leader: Moez Jebara (TUNISIA)	Group leader: José Bonfim (PORTUGAL)
Juan Antonio Sagardoy (SPAIN)	Hamid El Bilali (MOROCCO)	Carine Baroudi Barakat (LEBANON)
Joan Grimalt (SPAIN)	Soukeina Bouraui (TUNISIA)	Gabriel Marquette (FRANCE)
Bruno Romagny (FRANCE)	Khaled Djelouah (ALGERIA)	Eduardo Maldonado (PORTUGAL)
Federica Rossi (ITALY)	Abdel-khaled Amr (EGYPT)	Nestor Fylaktos (GREECE)
Ian Gauci Borda (MALTA)	Pere Puigdomenech (SPAIN)	AmenAllah Guizani (TUNISIA)
Anabela Carvalho (PORTUGAL)	Ewald Schnug (GERMANY)	Imad Ibrik (PALESTINE)
Adriana Bruggeman (NETHERLANDS)	Mauro Gamboni (ITALY)	Abdelwahab Kassem (EGYPT)
Mohamed Sinan (MOROCCO)	Armando Oliveira (PORTUGAL)	Ahmed Torky A. Jailany (EGYPT)
Yossi Yaacoby (ISRAEL)	Bruno Coelho (PORTUGAL)	Claude Ayache (FRANCE)
Said Ouattar (MOROCCO)	Halil Ibrahim Atabay (TURKEY)	Rym Ayadi (TUNISIA)
Latifa Bousselmi (TUNISIA)	Ahmed Mliki (TUNISIA)	Oriol Solà (SPAIN)
Ghrabi Ahmed (TUNISIA)	Yuval Eshdat (ISRAEL)	
Rasha M. S. El-Kholy (EGYPT)	Sanaa Zebakh (MOROCCO)	
Miquel Rovira (SPAIN)	Rafik Karaman (PALESTINE)	
	Amer Marei (PALESTINE)	
	Kyriaki Papageorgiou (CYPRUS)	
	Alessandro Stefani (ITALY)	
	Eduardo Cuoco (ITALY)	
	Maria João Fernantes (PORTUGAL)	
Facilitator: Aurelie Pancera	Facilitator: Gaetano Ladisa	Facilitator: Chiara Morini

OTHER PARTICIPANTS (not experts/members of EMEG):

Fadila Boughanemi (European Commission)

Birgit Ditgens (DLR)

Hamid El-Zoheiry (MHESR)

Zeinab El-Sadr (MHESR)

Slaoui Abelilah (CNRS-University of Strasbourg)

Marcel Shaton (ISERD)

Irene Costantini (S-Com)

Claudio Bogliotti (CIHEAM-IAMB)

Rosanna Quagliariello (CIHEAM-IAMB)

Chiara Ciannamea (CIHEAM-IAMB)

Martin Regelsberger (AEE-Institute for Sustainable Technologies)

Annex

Photo Gallery

FIRST EMEG MEETING

20-21 JUNE 2013, LISBON







PICTURES OF THE MEETING









#EMEGLisbon
Livestream frames from
"Plenary session:
presentation of recommendations,
discussion and conclusions"













#EMEGLisbon: "we will adress other important topics beyond #food #water and #energy. Contamination is part of our project"

◆ Reply B Delete ★ Favorite *** More 6:23 PM - 21 Jun 13









FIRST EMEG MEETING 20-21 JUNE 2013, LISBON







PLENARY SESSION







FIRST EMEG MEETING

20-21 JUNE 2013, LISBON







WORKING GROUPS













