

Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem

MedPartnership

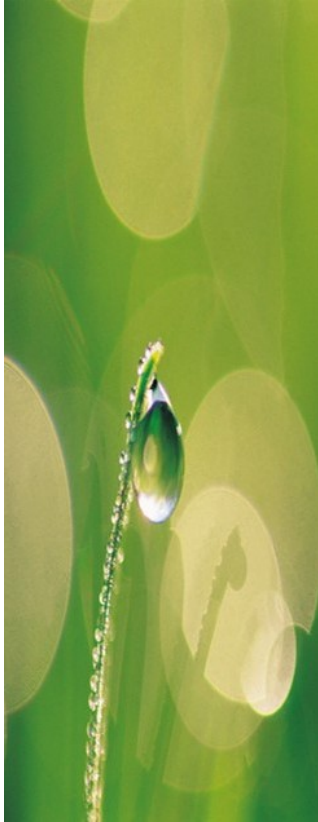

Together for the Mediterranean Sea



# The GWP-Med Water-Food-Energy Nexus Programme: towards Climate Change Adaptation/Mitigation co-benefits

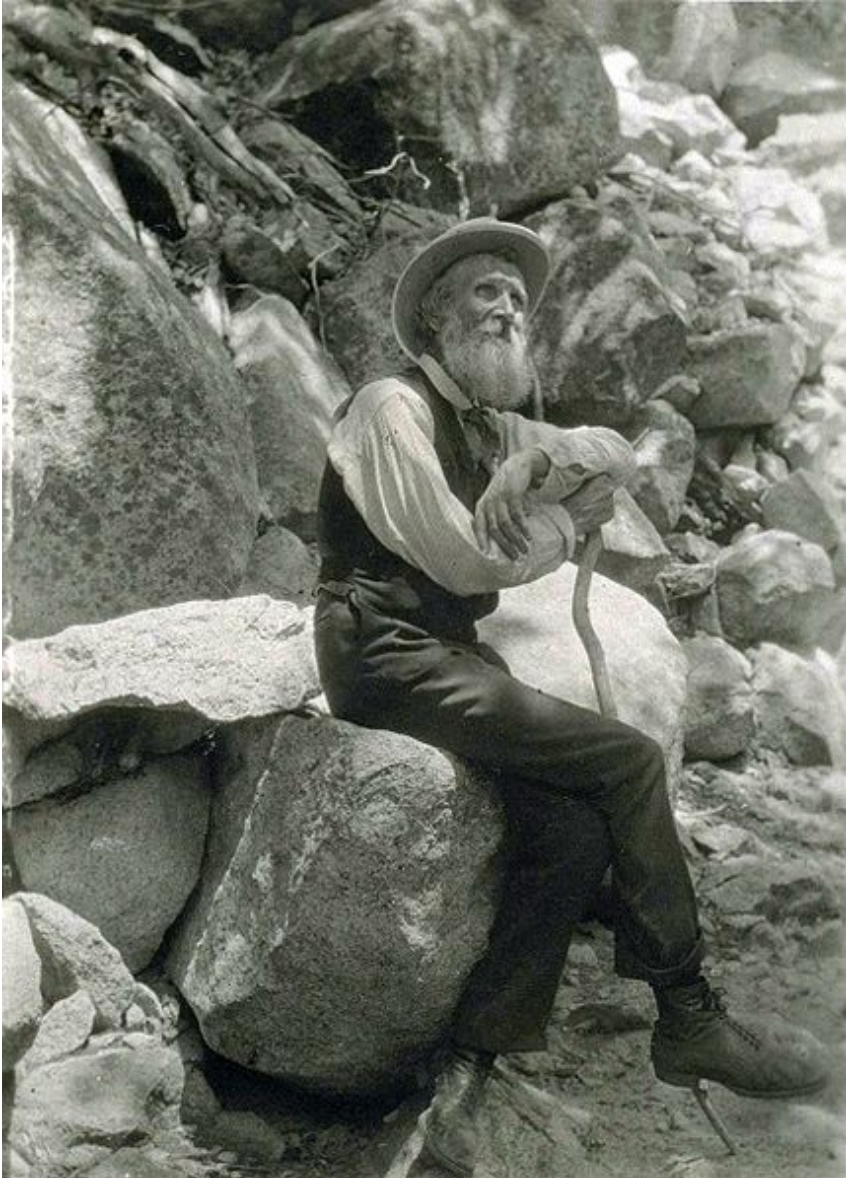
*Vangelis Constantianos, Executive Secretary, GWP-Med*

*Regional Workshop of MPs, Media and Stakeholders on Climate Change  
Adaptation in the Mediterranean Coastal Areas, 5-6/12/15, Athens*



# Water-Food-Energy Nexus as contributor to Environmental Protection and Climate Change Adaptation

# The Nexus: a current approach to evolving challenges



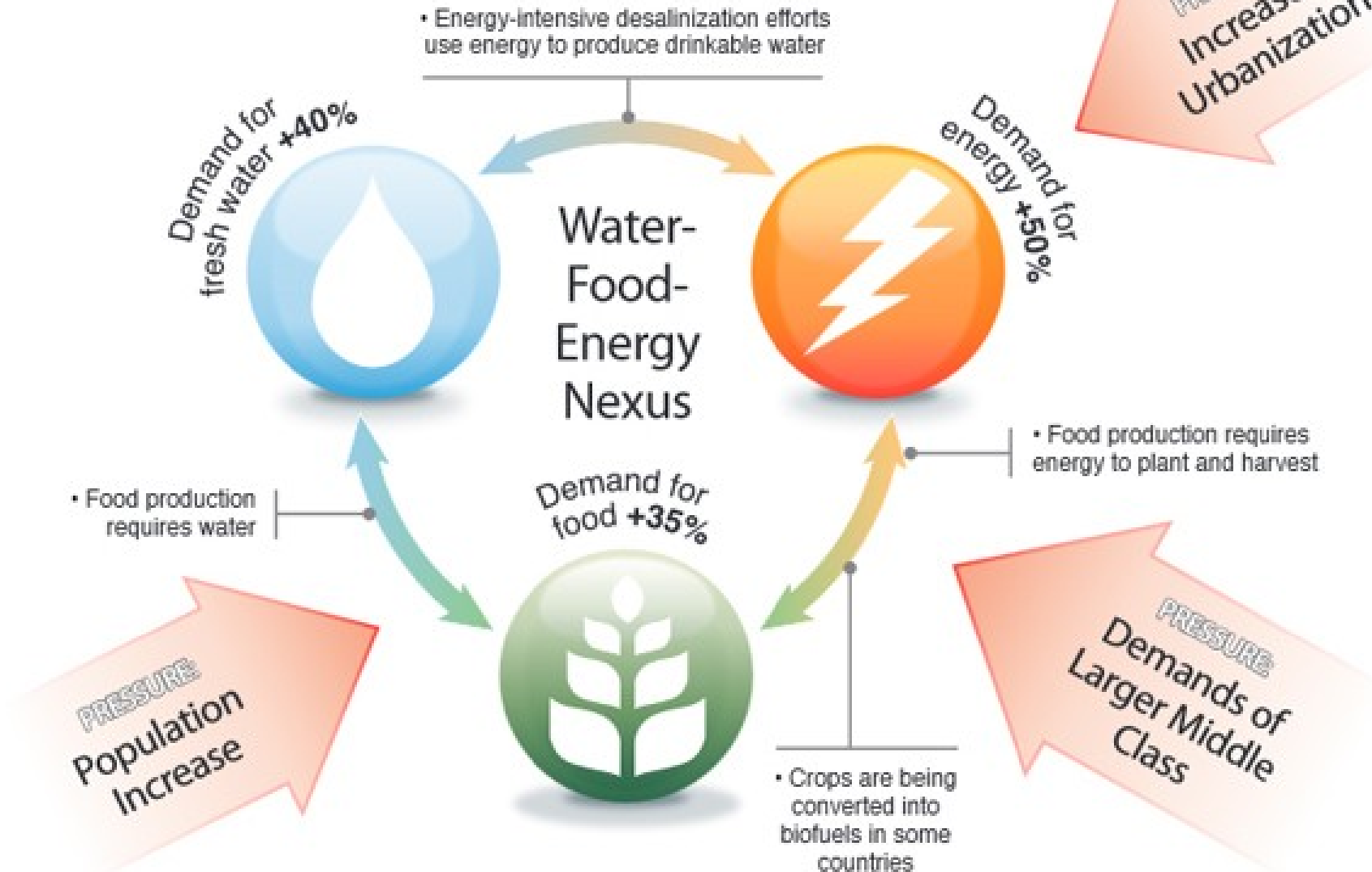
*'...when we pick out anything by itself in nature, we find it hitched to anything else in universe...'*

*John Muir, 1911*

John Muir, 1838-1914, was a Scottish-born American naturalist, author, and early advocate of preservation of wilderness in the United States. He founded the Sierra Club.

# Need for a revisited lens to inter-dependencies

Because of growth in global population and the consumption patterns of an expanding middle class, in less than two decades three key demands will sharply increase ...





# Need for a revisited lens to inter-dependencies

Because of growth in richer population and the consumption patterns of an expanding middle class, in less than two decades three key demands will sharply increase:

- Energy-intensive desalination efforts use energy to produce drinkable water

Demand for  
fresh water rises

ENVIRONMENTAL  
SECURITY

CLIMATE CHANGE  
OBJECTIVES

Demand for  
energy rises

Increased  
Urbanization

- Food production requires energy to plant and harvest

- Food production requires water

Population  
Increase

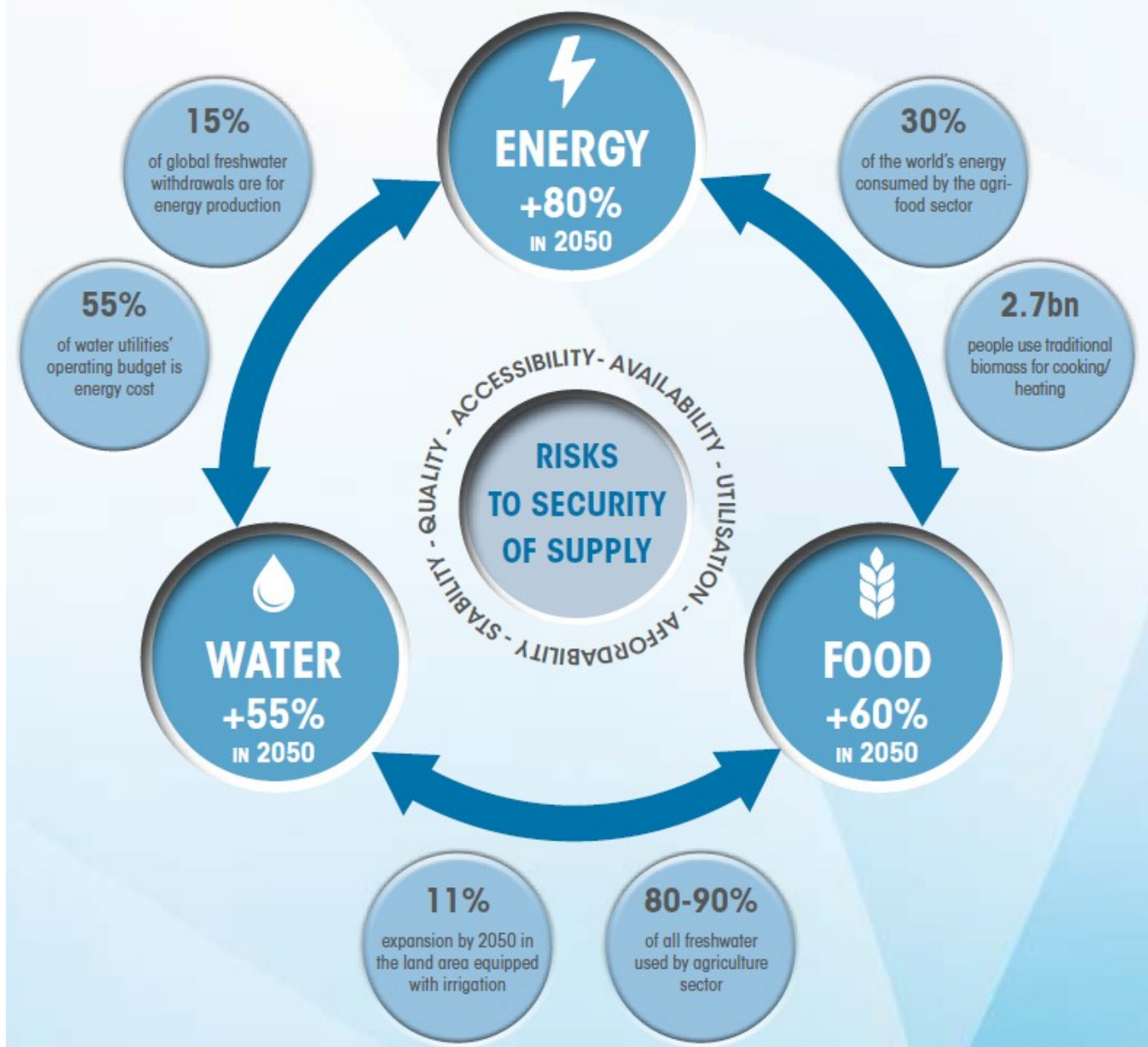
Threats of  
larger Middle  
East

- Crops are being converted into biofuels in some countries

# The Water - Energy - Food Nexus approach

**The Nexus approach can facilitate enhancement of water, energy and food security, while preserving ecosystems and their functions, and contributing to adapting to climate change, by:**

- increasing **efficiency and productivity** of resources,
- reducing **trade-offs**,
- shifting towards more **sustainable consumption patterns** and **improving demand management**,
- building **synergies** and improving **governance across sectors**, through policy mainstreaming and cross-fertilization

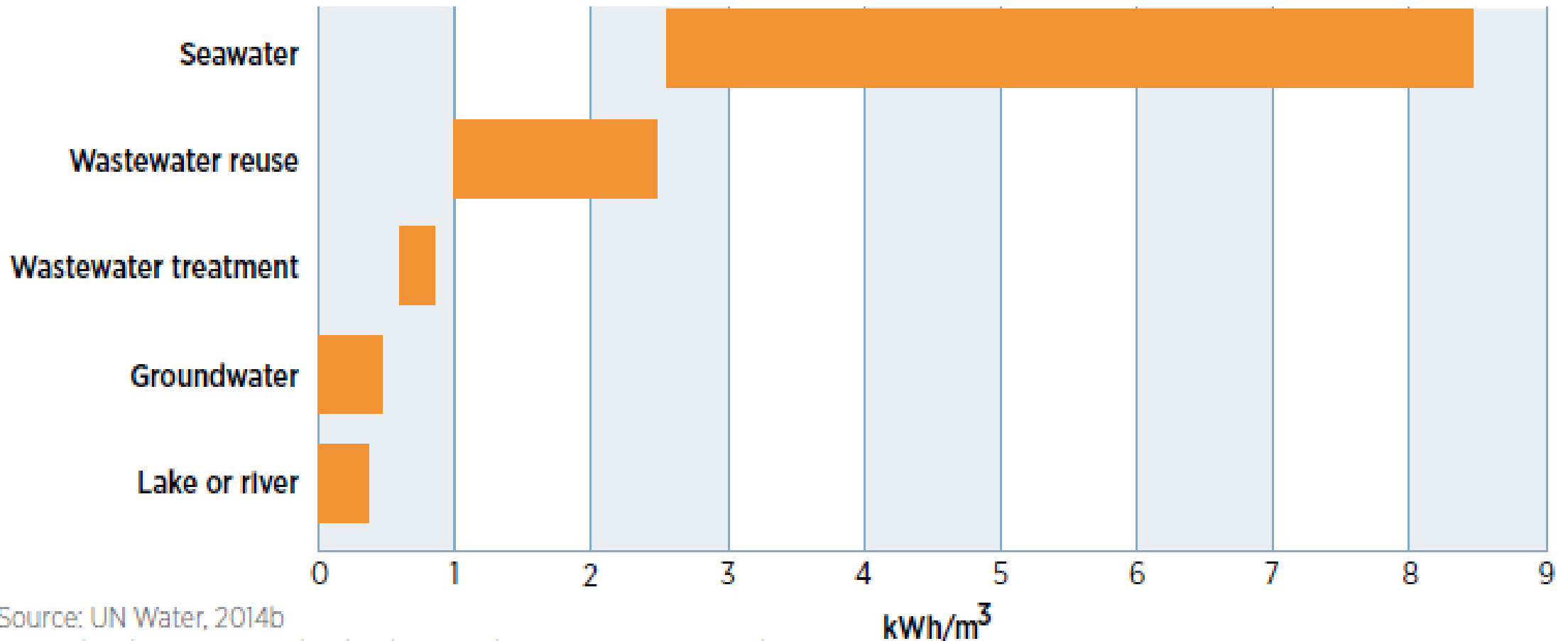


## Water Food Energy Nexus

Source: IRENA 2015

# Water & Energy Nexus

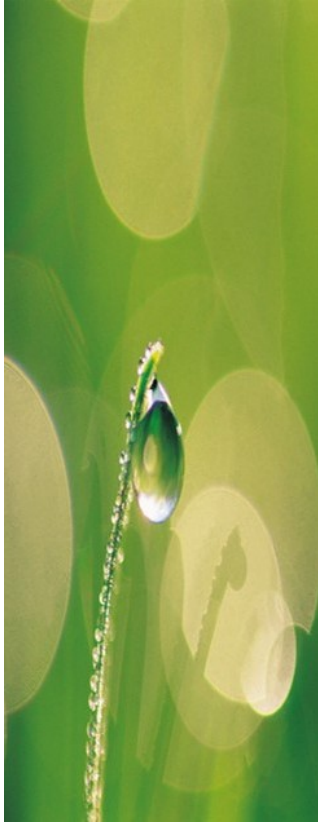

Amount of Energy required to provide 1 m<sup>3</sup> of Water that is safe for human consumption



Source: UN Water, 2014b

Note: This does not consider the distance the water is transported





# The Nexus: towards Adaptation-Mitigation co-benefits

# Climate variability and change impacts aggravate developmental challenges in the Med countries

## Substantial risks to human and ecosystems:

temperature rise, less precipitation, water scarcity, droughts, floods, desertification, forest fires, health threats, sea level rise

## Climate change affects important economic sectors:

agriculture, energy, fisheries, tourism, transport

## Towards decoupling economic growth from carbon intensity:

e.g. low carbon development strategies and measures, limit GHG emissions, develop CDM, bilateral cooperation

## Towards adapting to climate change:

e.g. IWRM application, irrigation efficiency, drought tolerant species, land-use management, reforestation, ecosystem approach

## Some considerations on mitigation-adaptation co-benefits

Mitigation and adaptation are mutually supportive. **Effective mitigation** will reduce the need to adapt and limit damages related to climate change

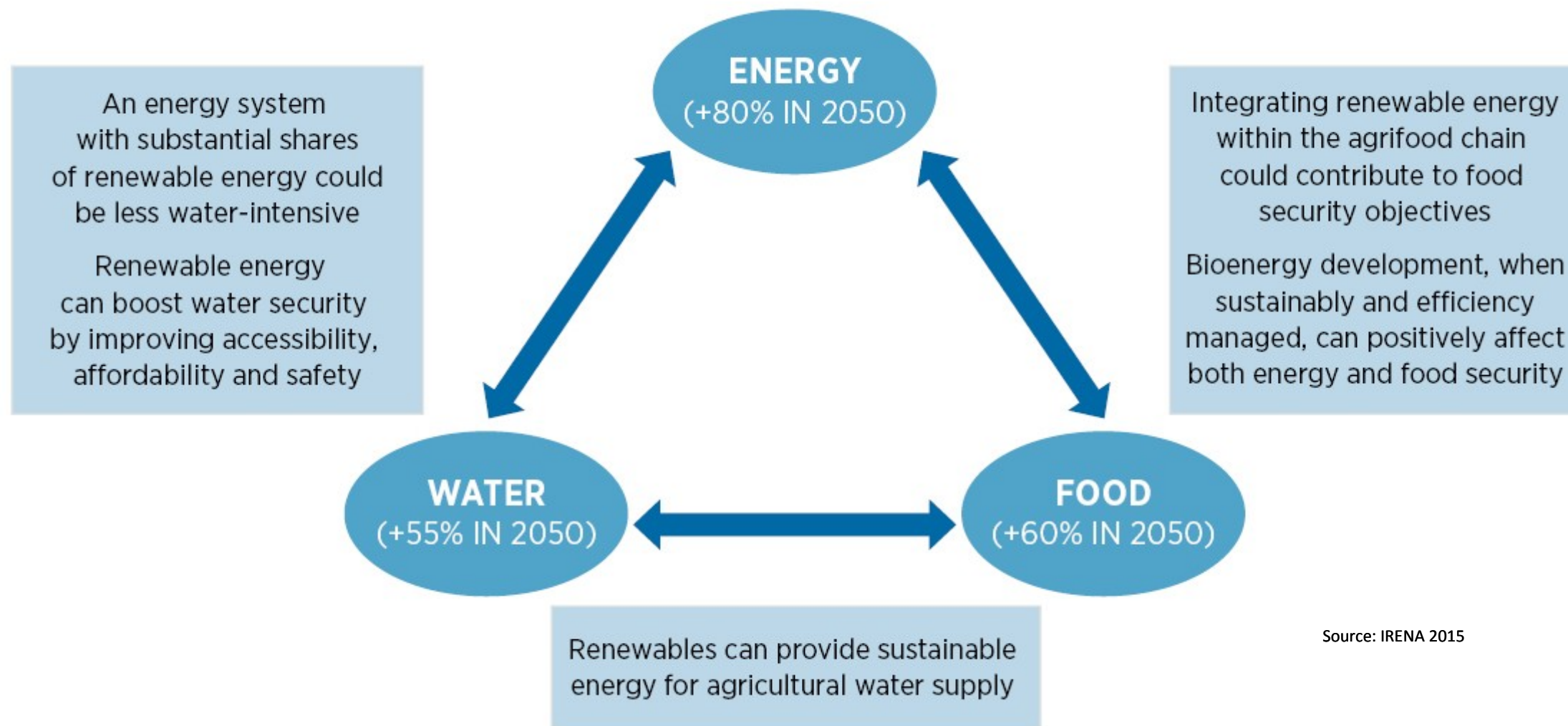
**Effective adaptation** will help put communities on more resilient development pathways, which, in turn, will assist for better mitigation

Mitigation and adaptation action can provide **co-benefits** such as:

- improving water and energy efficiency, including at urban level
- reducing risk and vulnerabilities
- improving coastal zone management, also through joint ICZM/IWRM approach

Among others, the announced *new mega desalination investments* in the region should be further considered with a climate and environmental perspective

# There is a vast renewable energy potential in the region, and is largely linked with water and climate adaptation

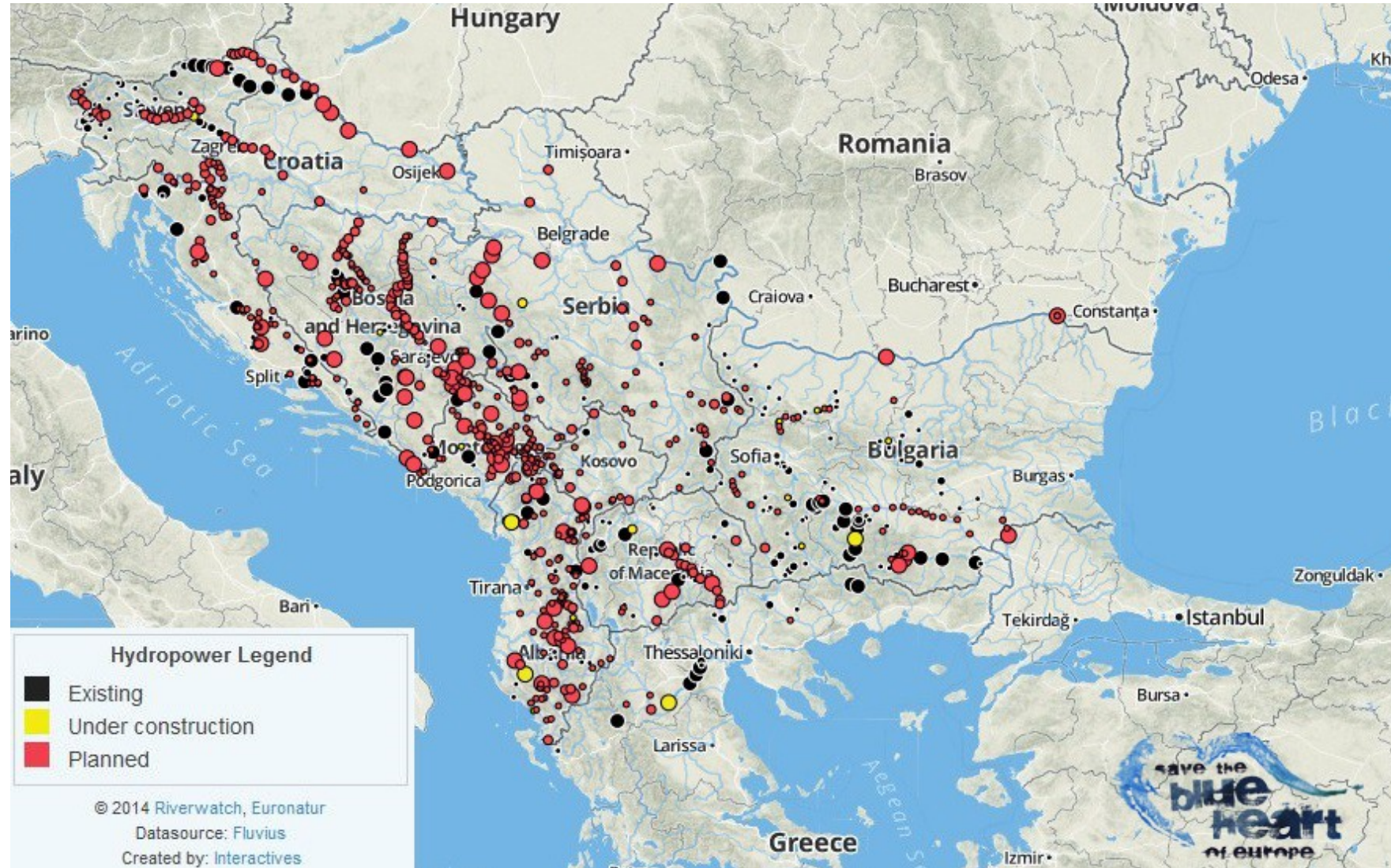


Source: IRENA 2015

However, solutions need to be tailor-made and localized: **one-size does not fit all**



# The hydropower demployment and planned potential is big, and challenging, particularly in a transboundary context





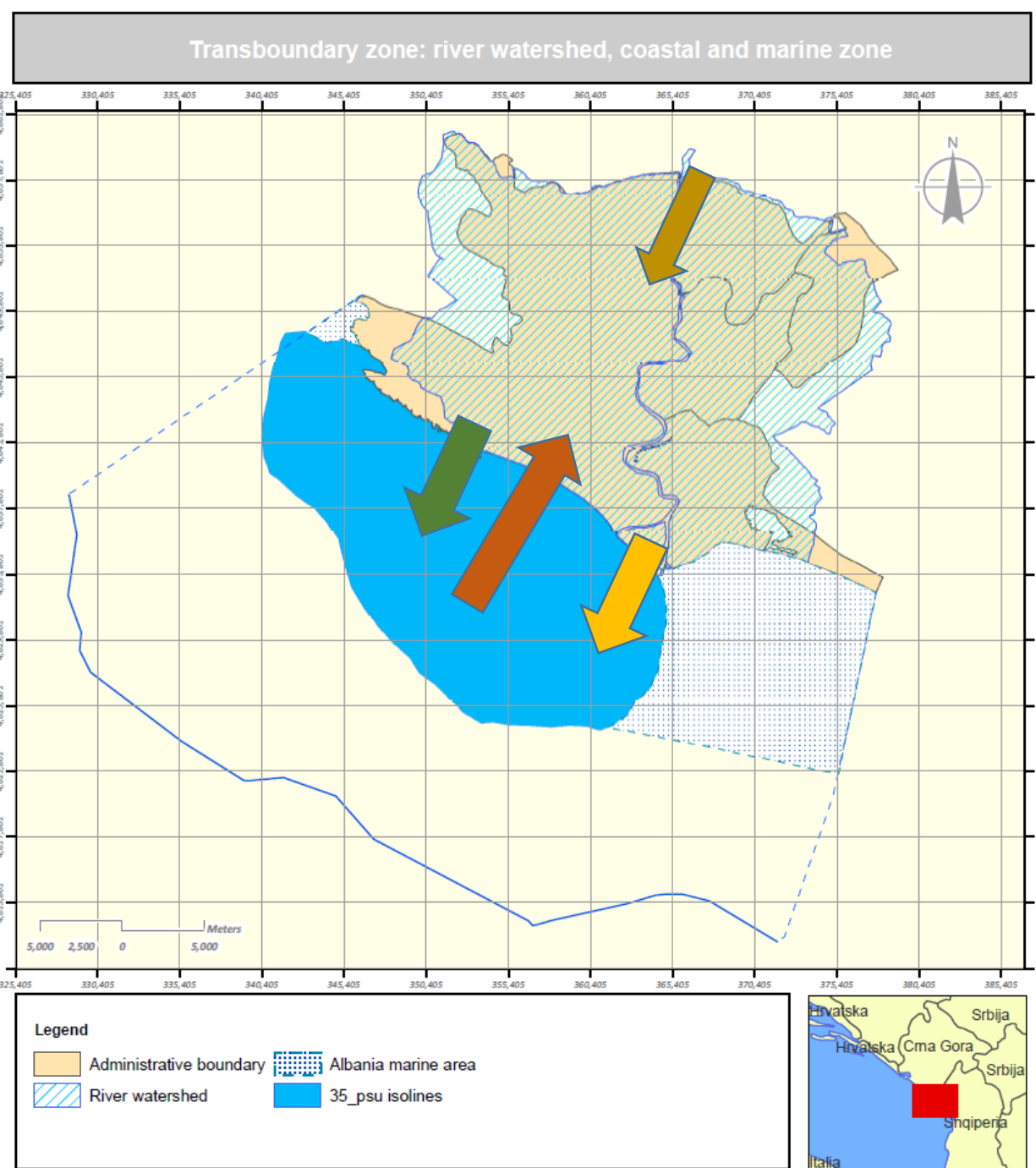


# ICZM/IWRM Planning in Buna/Bojana

*Applied testing of the  
Integrated  
Methodological  
Approach*

*At the outflow of the  
complex Drin River  
Basin*





# ICZM/IWRM Planning in Buna/Bojana

*Integration of*

- Spatial areas*
- Natural environment*
- Natural resources*
- Administrations*
- Economic activities*
- Management options*



## Some Nexus elements we sometimes forget

- **Environmental Impact Assessment, Strategic Environmental Assessment, the Ecosystem Approach** and the **River Basin Management Approach** are important tools for safeguarding environmental objectives, particularly in large-scale adaptation and mitigation interventions
- The **energy consumed for water transfer** is not negligible, particularly since the desalination capacity in the region is expected to increase.
- **Wasted food is, among others, wasted water and energy.** This should become part of the water-energy footprint considerations, and a target towards behavior change.
- **Indigenous knowledge / techniques is worthy revisiting**, towards local low-cost and environmental friendly solutions. Important but isolated systems, like **oasis**, could benefit from such traditional knowledge, after adaptation to modern needs.



## Some elements we sometimes forget

After all is done on the planning and investment part,  
**people have to embrace any aimed change.**

**Consumers behavior is key,**  
and to make it happen awareness, education and engagement are needed.

**Youth** is a target group to heavily invest on.



# A set of formal regional & sub-regional policy frameworks, but how they operationally link?



- **Union for the Mediterranean**, including the upcoming UfM NAMAs initiative
- **UNEP Mediterranean Action Plan**, including the upcoming 'Regional Framework on Climate Change Adaptation' for coastal and marine areas
- **League of Arab States**, including the 'Arab Framework Action Plan on Climate Change, 2010-2020' and linked sectoral Strategies
- **Regional Cooperation Council** in SEE, including the '2020 Strategy on Jobs and Prosperity in a European Perspective'
- **European Union extended policy framework** on adaptation and mitigation (Adaptation Strategy and 2030 framework)



# A need for bridges



**A need for  
a more integrated agenda between  
Adaptation & Mitigation  
towards co-benefits**

by addressing  
**Water-Food-Energy-Ecosystems Nexus  
Green Economy/Green Growth**

Among others,  
the **Sustainable Development Goals**  
provide a framework for advancing these





# Advancing the Nexus agenda in the Mediterranean: GWP-Med's contribution

# A Regional Water-Energy-Food Nexus Programme, addressing also environmental and climate objectives



**Aimed activities**, when the Programme has developed its full potential:

- **A multi-stakeholder Nexus policy dialogue in the Mediterranean, and possibly sub-regional dialogues.** *First activities: annual Med conferences, and SEE assessment & dialogue*
- **Elaboration of national and transboundary Nexus prioritization through dialogue and assessment** (gaps, opportunities, implementation means). *In fundraising for SEE*
- **TA for Nexus institutional setting / policy making at national and transboundary level.** *First activities: 1 transboundary water body in MENA, and one 1 in the SEE*
- **TA for preparation of Nexus projects, including private sector engagement.** *First activities: preparation of 2 regional projects. And, 2 national projects in SEE (in fundraising)*
- **Pilot/demo technical Nexus applications** at local level. *Coming later*
- **A Youth Nexus Entrepreneurship** component. *In concept development phase*
- **A communications, awareness raising, capacity building and education** component. *First activities: development of communication tools, and some capacity building activities*

# A Regional Water-Energy-Food Nexus Programme, addressing also environmental and climate objectives



## Aimed financial contributors:

- GWP Water, Climate and Development Programme (DFID, ADA, etc) (on-going)
- Germany (secured, for SEE), GEF IWLEARN (secured, for SEE),
- Sida (incoming, for MENA)
- Other bilateral donors (with some in advanced discussions), Multilateral donors (some approached), Private sector
- GWP SDG Readiness Initiative; GWP Youth Entrepreneurship (both in the making)

**Current start-up capacity:** 2 mil Euros ; **Launch:** before the end of 2015

**A call for synergies, and contributions:** practical collaboration, or at least alignment, with on-going and upcoming Nexus programmes is key!





Thank you  
for your kind attention

مع خالص شكري  
وامتناني