



Webinar Series

# Water Sustainability: From Consumer Awareness to Behavioural Change Support



MARCH 17, 2022  
10-13.00 CET



ONLINE

*Welcome!*



AGUAS  
DE ALICANTE



NAIADES Speakers




External Speakers



water  
footprint  
network



# Some info

 This session will be entirely recorded and published on the NAIADES channels.

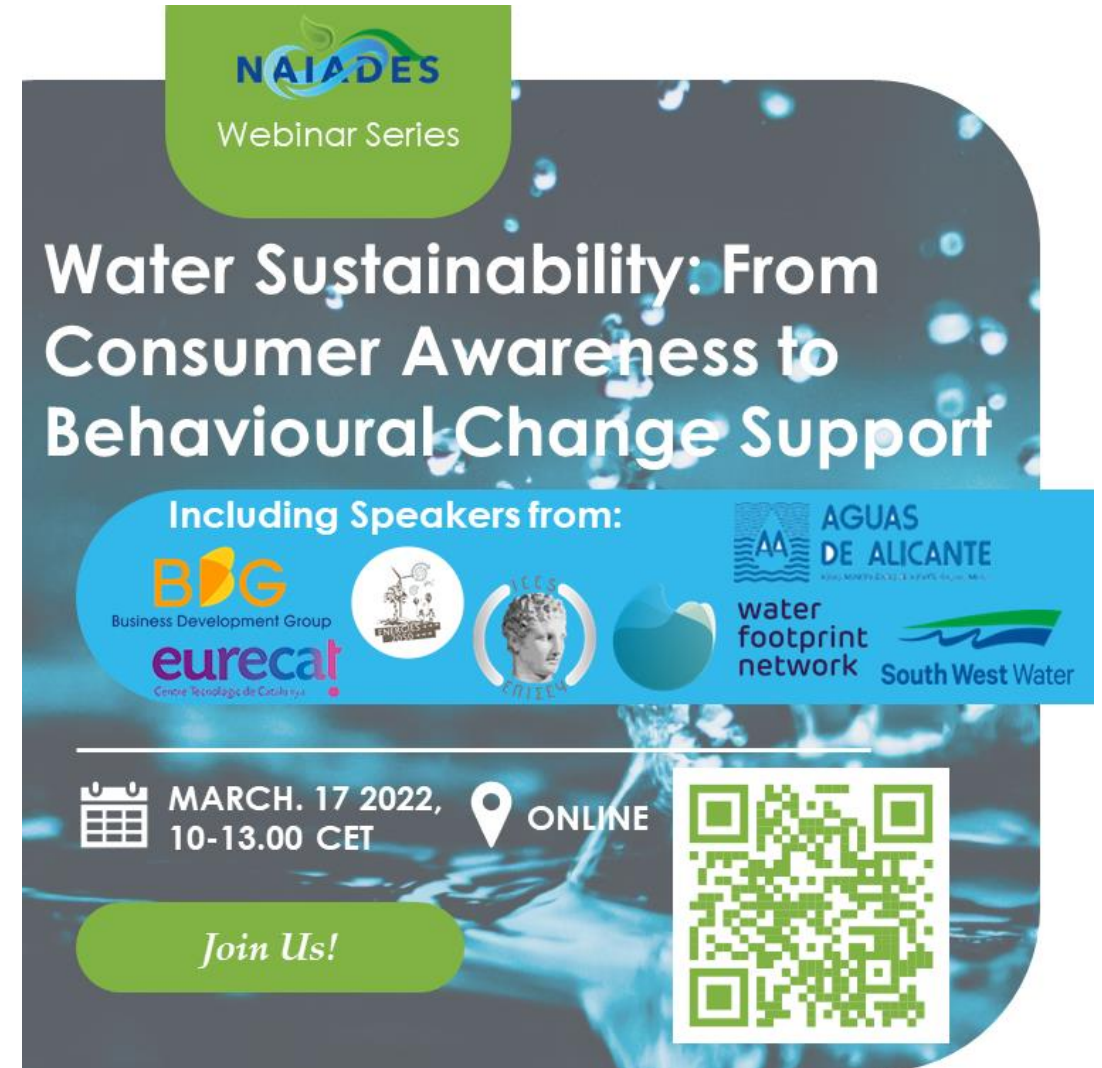
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 NAIADES






Webinar Series





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## Water Sustainability: From Consumer Awareness to Behavioural Change Support

Including Speakers from:

-  BIG Business Development Group
-  eurecat Centre Tecnològic de Catalunya
-  AGUAS DE ALICANTE
-  water footprint network
-  South West Water

 MARCH. 17 2022, 10-13.00 CET  ONLINE

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# Agenda

- **Water Consumers Awareness Dashboard: An Application in Alicante Schools**, Esther González Amorós, *Aguas de Alicante*, Evangelia Anagnostopoulou, *ICCS*
- **The Role of the Quintuple Helix in Water Sustainability**, Richard Elelman, *EURECAT*
- **Do you know your Water Footprint?**, Rick Hogeboom, *Water Footprint Network*
- **Water Sustainability, Crisis of Natural Resources, and the Citizens Part**, Stephane Pouffary, *NGO ENERGIES 2050*
- **Local Water Forums in Danube Lower Basin**, Ciprian Nanu, *Business Development Group, Romania*
- **Smart Meter Data and Customer Engagement Work**, Joshua Pocock, James Mercer, *South West Water, Fiware4Water*

## PANEL DISCUSSION & WRAP-UP



# Speakers

Moderation by:



**Anja Polajnar**

Jožef Stefan Institute,  
NIADES

# NAIADES Speakers



**Esther González Amorós**  
Aguas de Alicante

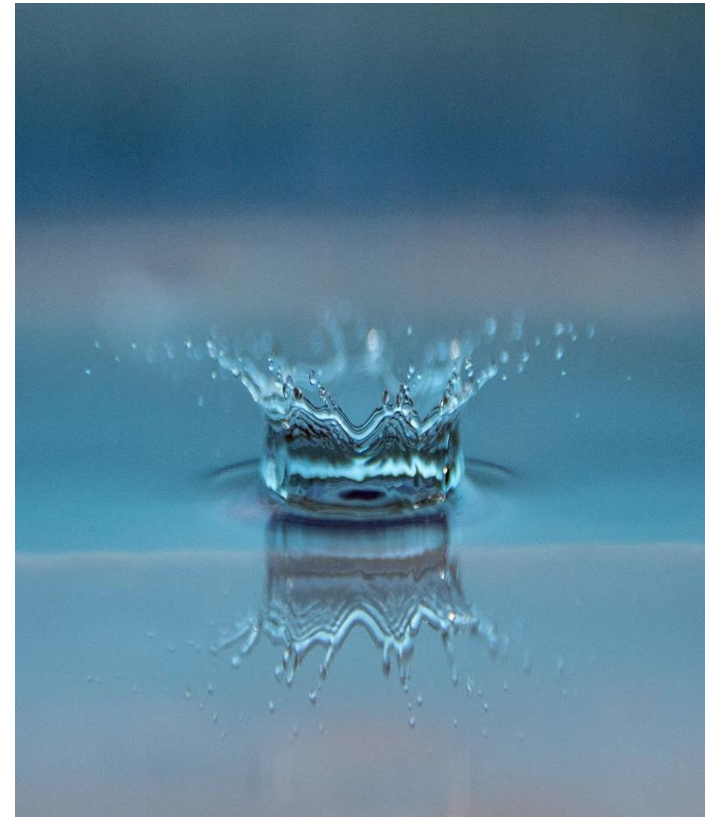


**Evangelia Anagnostopoulou**  
ICCS

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# Awareness Dashboard: An Application in Alicante Schools

Esther González Amorós, Aguas de Alicante, Evangelia Anagnostopoulou, ICCS



# Alicante context

- Alicante is a mediterranean coastal city in the southeast of Spain
- Pop. 335,000 inh. (< 500,000 in the summer)
- Aguas de Alicante manages all the urban water cycle:
  - Drinking water production and supply
  - Waste water collection and treatment
  - Recycled water treatment and supply
- Alicante is subject to extreme weather events:
  - Long drought periods
  - Torrential rains and fast flood episodes
- No local water resources → Relevance of Water Reuse for the sustainability of water resources
- Sensitive coastal waters





# Background and education campaigns

## AQUALOGÍA

It's an educational programme designed for children with the aim of developing and gaining skills about water cycle and consumption

These are the main objectives:

- Bringing the knowledge of natural and urban water cycles closer to schoolchildren
- Raise awareness about the climate crisis and promote collective action to face it
- Facilitate the participation and interaction of schoolchildren through the use of new technologies
- Make available to the educational community a didactic tool adapted to the curriculum of each educational cycle





# Other education campaigns

These are some contests that AMAEM has been performing

- “Water and energy are the clue of life”, a contest of murals destined to schoolchildren such as pre-school and primary.
- “Young scientists”. It is destined to secondary and bachelorship students.
- In 2020, the number of children who participate in our education campaigns is [306](#)



# Installations to visit

## Aguas de Alicante Museum

Inside our company, AMAEM has created a museum dedicated to water knowledge.

- **Ground floor: History**

On this floor, we can find contents about settlements and cultures reveal the evolution of water techniques and uses and water catchment and distribution methods. Discover the history of Alicante's water supply contract

- **Floor 1: Have fun with water**

This is a totally educational area that is intuitive and interactive. Games and new technologies illustrate the states of water, how water reaches our homes, and the complete water cycle. In addition, there is a cinema room for projecting material relating to the water resource.

- **Floor 2: Projects and sustainable development**

There are two rooms on this floor. In the first, find out about Aguas de Alicante's main projects and works in recent years. In the second, discover Aguas de Alicante's actions to achieve sustainable development.

- **The Wells of Garrigós**

They were designed to collect and store rainwater for subsequent distribution.



# Why are we focusing in schools?

- One of the main objectives for Aguas de Alicante is the water awareness consumption of the society, in particular the children's
- For this reason, we have created "**WATER WATCHERS**". A contest for children who will think about different ideas to reduce water consumption in their school

Poster created for the school campaign:

"Your school is full of water watchers, help us to find them"





# Contest rules

## PRE-REGISTRATION

- Microsoft Forms



## CATEGORIES OF PARTICIPATION

- WE SAVE WATER
- THE FUTURE OF WATER



## SCHOOL TEAM

- 6-8 students
- 1 teacher



## TYPE OF EDUCATIONAL CENTRE

- Public school (10-12 years old)
- Public high school (12-14 years old)
- Private school and high school (10-14 years old)



## AWARDS

- Electronic educational pack
- Gift voucher
- 3D Printer



## EVALUATION

- Poster + short video for primary students
- Short report + short video for secondary students



## JURY

- 1 person from AMAEM
- 1 person from City Council of Alicante
- 1 person from NAIADES



## DATES

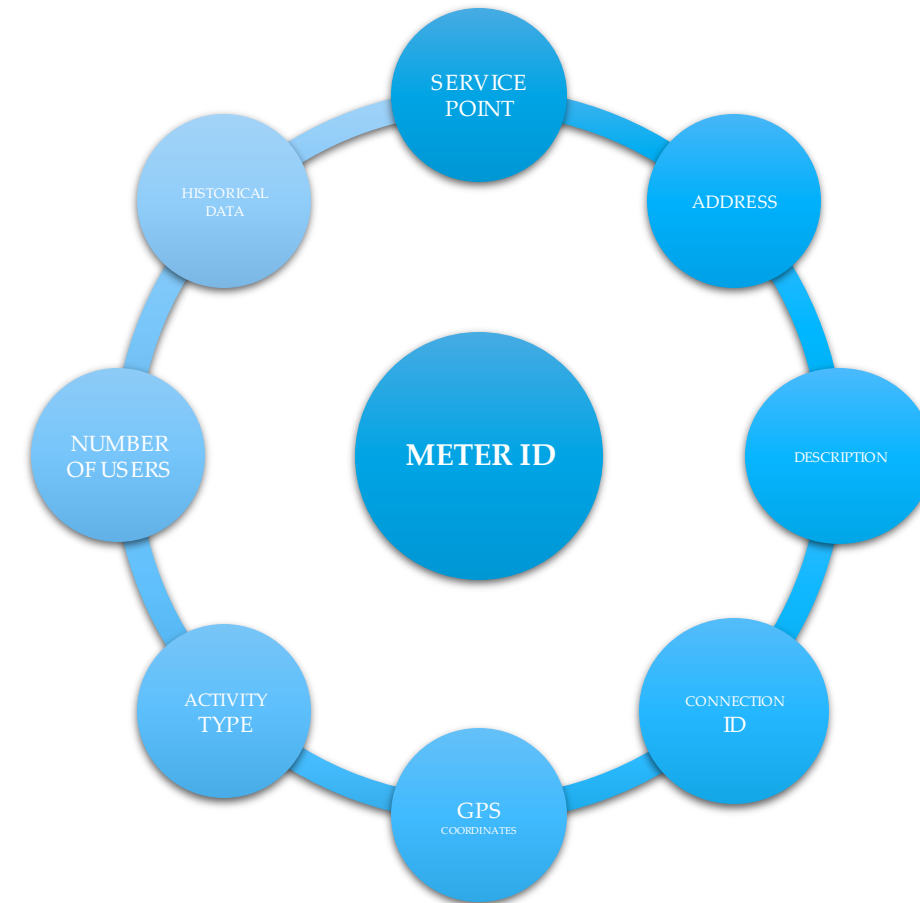
- Pre-registration
- Sending the report
- Winners



# Information gathered from each school

Through the Meter ID parameter we could control the water consumption in each school. This Meter ID is related to other parameters such as:

- Service point and connection ID. It works as a reference point for the company
- Address and GPS coordinates. Here we focus on where the Meter ID of the school is located
- Description. It refers to the centre's name
- Activity type. Class of school (private, public, primary school, high school...)
- Number of users. Quantity of pupils, teachers and school workers
- Historical data. First Meter ID date



# Launch campaign for promoting Water Watchers

Aguas de Alicante has made several types of publicity:

- Social networks. We have used social networks to promote this contest like Twitter and LinkedIn in where we post the data
- Mailing. We also send an email to every school to participate in it
- Press release. Last of all, we contacted with some newspapers for our project to be announced in the media in local terms



OBJETIVOS DE DESARROLLO SOSTENIBLE

'Los vigilantes del agua', el concurso escolar con el que Europa aprende de Alicante



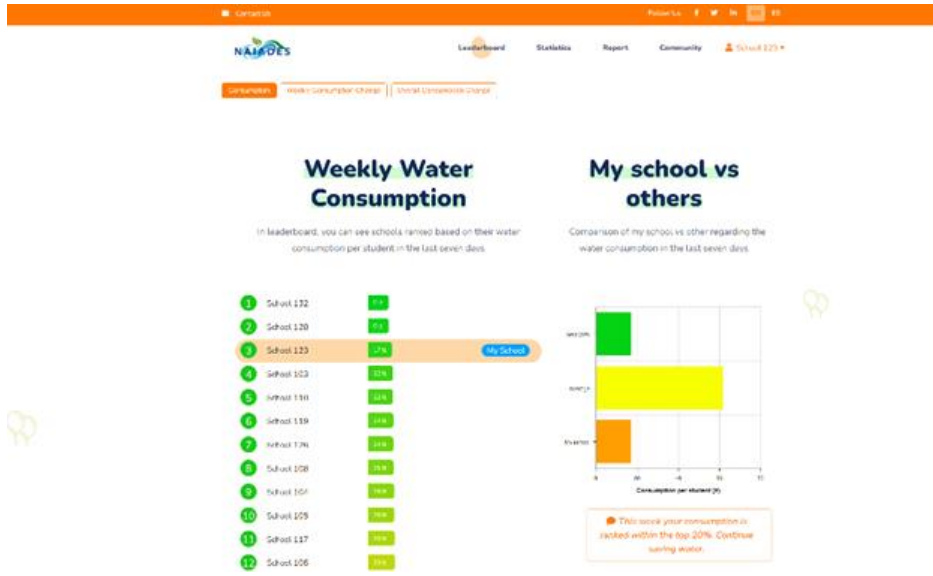
# Water Consumers Awareness Dashboard



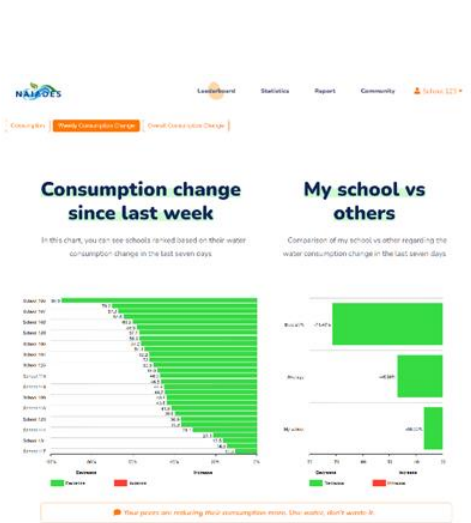
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- Motivation: Water utilities need to be able to deploy ICT-supported water consumption awareness programs and engage water consumers in water conservation activities
- Approach: We have developed a web-based behavioural change support application tailored for interventions at public schools engaging young users with the support of their teachers
- The application:
  - allows to run behavioural change support campaigns at schools, monitor them and assess their impact
  - supports different persuasive strategies including self-monitoring and feedback, social comparisons and rewards, suggestions and social norm based messages

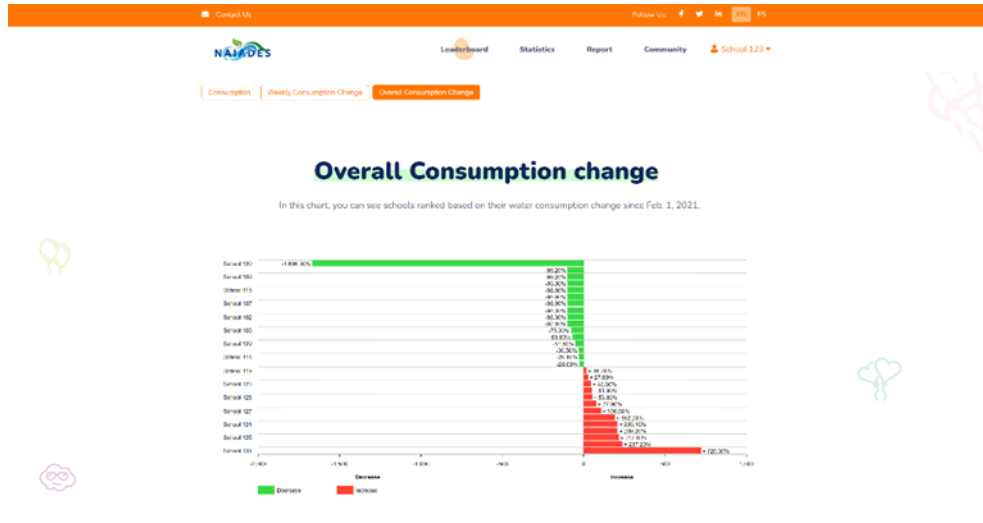
# Water Consumers Awareness Dashboard - Overview



Leaderboard that shows the schools ranked based on their water consumption in the last week



Leaderboard that shows the schools ranked based on their water consumption change since last week



Leaderboard that shows the schools ranked based on their water consumption change since the start of the competition

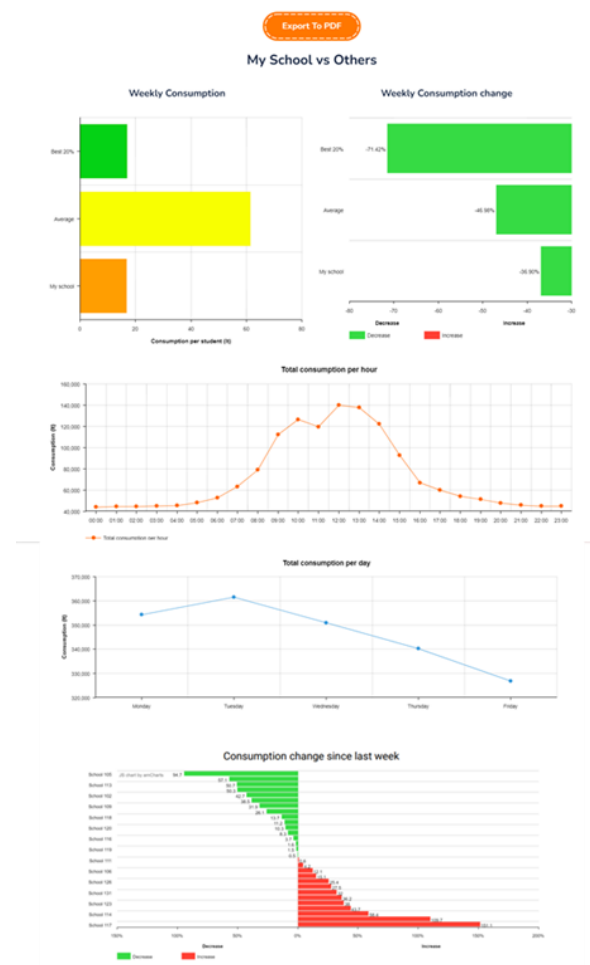
# Water Consumers Awareness Dashboard - Overview



Total water consumption per hour and total water consumption per day of each school is presented in the "Statistics" page

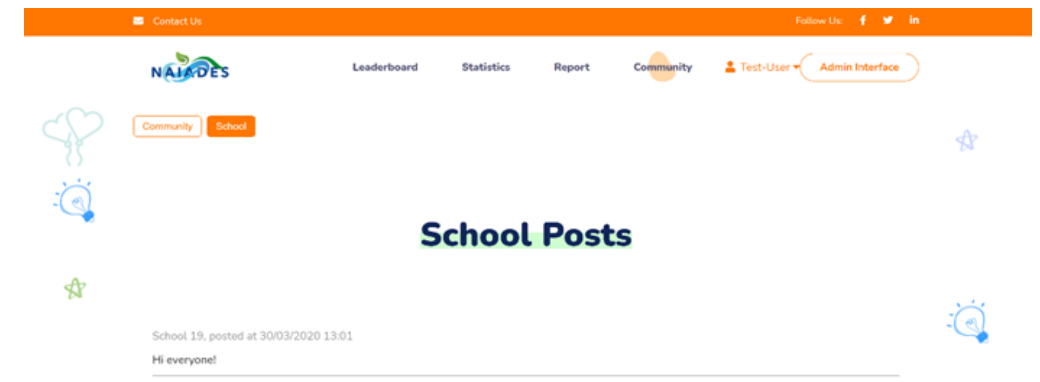
Teachers can export and download consumption reports

## Water Consumption weekly report





# Water Consumers Awareness Dashboard - Overview



The Water Consumers Awareness Dashboard also provides a forum where users can share their posts with other users either from the same school or from other schools

Posts are moderated by the teachers who are responsible to posting in the application

## Water Consumers Awareness Dashboard in Alicante Schools



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- Aguas de Alicante collaborate with local schools' authorities to apply the NAIADES approach in this academic year to primary and secondary schools
  - aiming at increasing student awareness on water consumption of their schools and engage them in water conservation activities.
- Students are a group of consumers that can provide a channel for generating great impact as
  - i. they will evolve to the responsible citizens of tomorrow and
  - ii. they can transfer the knowledge, attitudes and behaviours they shape to their families, leading to a cascading effect of the NAIADES impact.

THANK  
YOU

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**[www.naiades-project.eu](http://www.naiades-project.eu)**

# Speaker




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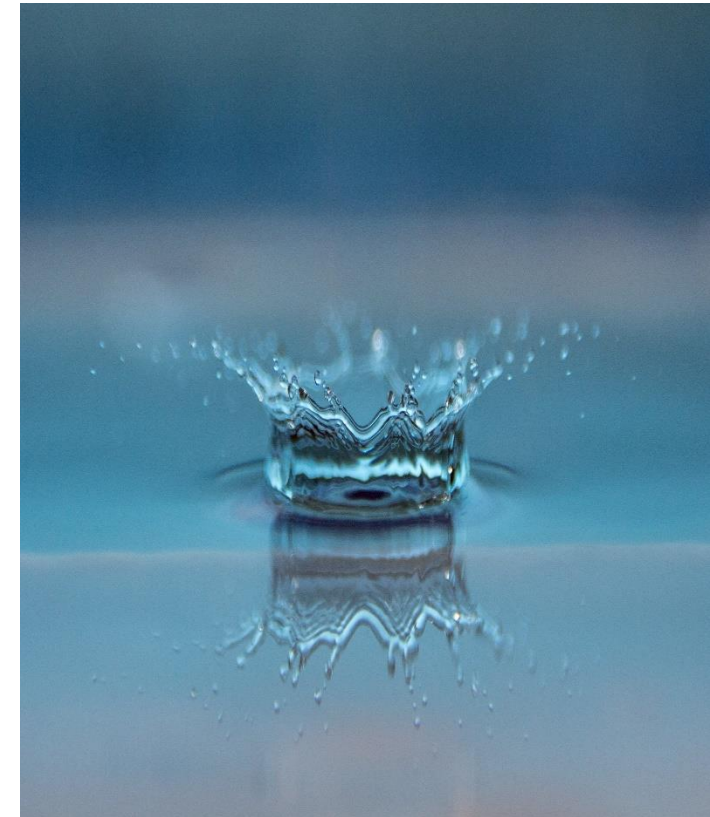
**Richard Elelman**  
EURECAT



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# The Role of the Quintuple Helix in Water Sustainability

Richard Elelman, EURECAT



# The Quintuple Helix



# Citizen power – Citizen Science

- **The Organisation for Economic Co-operation and Development (OECD)**

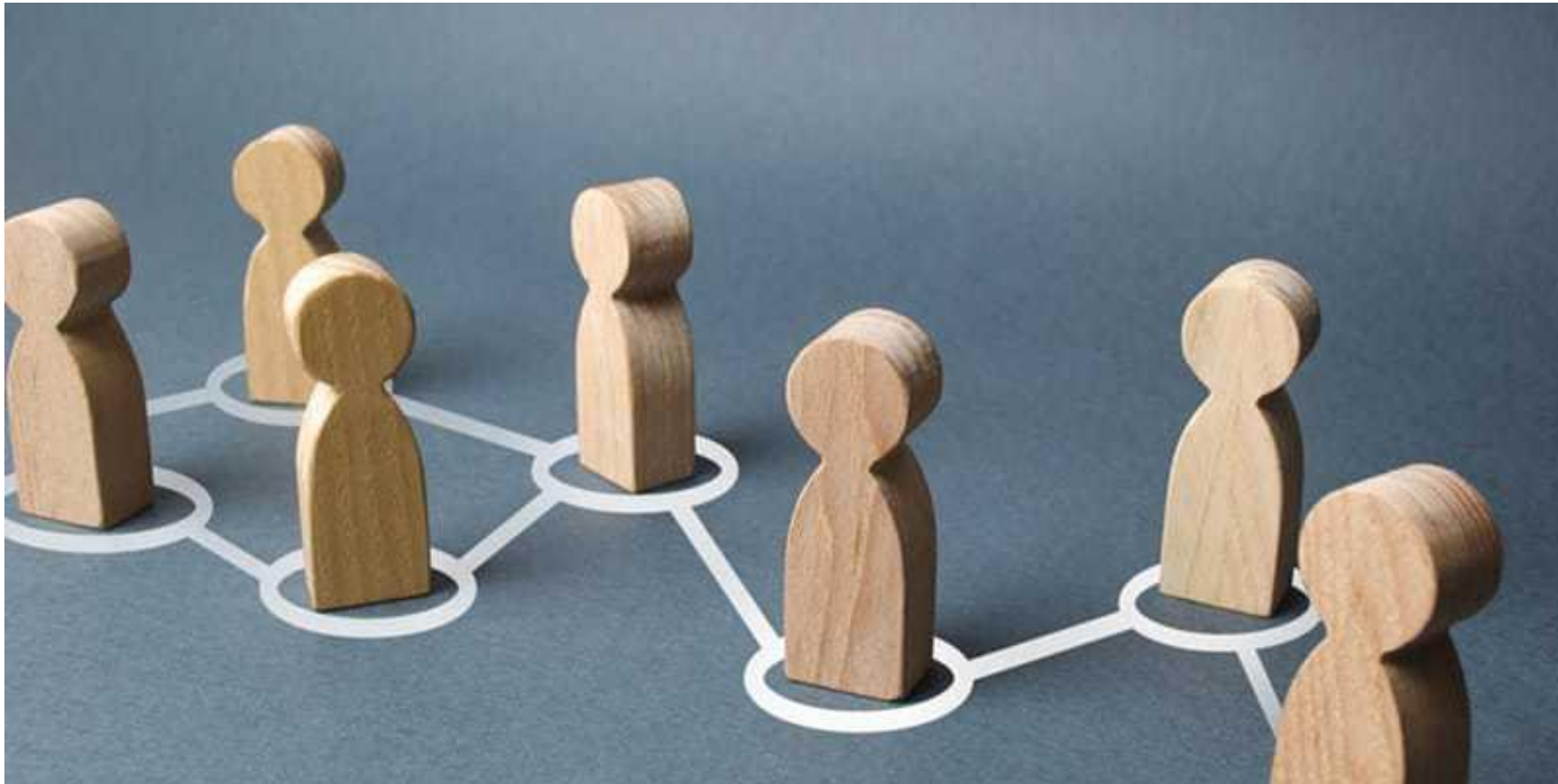
*There exists a growing recognition that services work better when designed and delivered in partnership with citizens*

*Inclusive city administrations legitimise government actions and set a foundation for successful policymaking and implementation, thus allowing a focus on medium and long term planning, an essential feature of effective water policymaking.*

- **The World Bank**

*Growing evidence confirms that under the right conditions, citizen engagement can help governments and utilities achieve improved development results.*

# What is engagement?





# Supranational policy-local reality



# WWQA

World Water Quality Alliance

# Turn on the TAP

- **T**echnology which offers traceable scientific answers quoted in respective scientific publications to challenges concerned with the production of food, the sustainable creation and use of energy, the supply of water and the interrelation between all of these aspects and the ecosystem which sustains life will be communicated employing not only accessible technological data but also...

# Turn on the TAP

- **A**rt which provides emotional stimuli in order to create awareness. The WEFE Nexus is about People. Men and Women. The human relationship with and dependence on the WEFE Nexus is about tangible...
- **P**ractices and Policies

# Science, Culture and Diplomacy

Awareness leads to concern, **concern** leads to engagement, **engagement** leads to consensus, **consensus** leads to **continuity**





# Speaker



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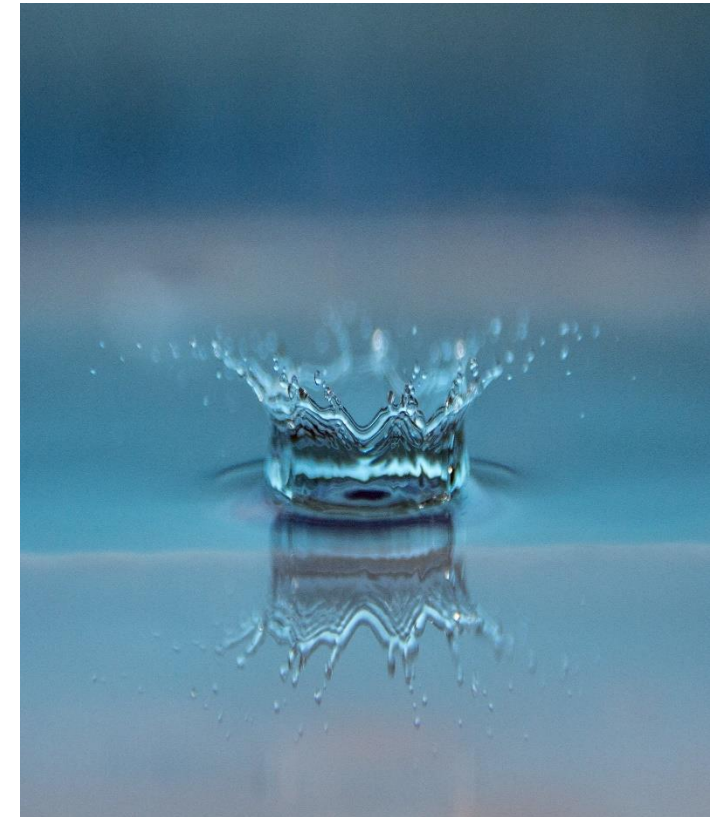
**Dr. Rick Hogeboom**

Water Footprint Network, University of Twente

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# Do you know your Water Footprint?

Dr. Rick Hogeboom, Water Footprint Network, University of Twente



# What is a water footprint?

- Indicator of water use
- Consumption (net use)
- Three colors (source)
- Time and location specific
- Linked to a human activity
- Direct and indirect use
  - Products
  - Company/sector/portfolio
  - Country/basin
  - Consumer (=us!)

# Thee colours (source)

- Green water footprint



- Blue water footprint

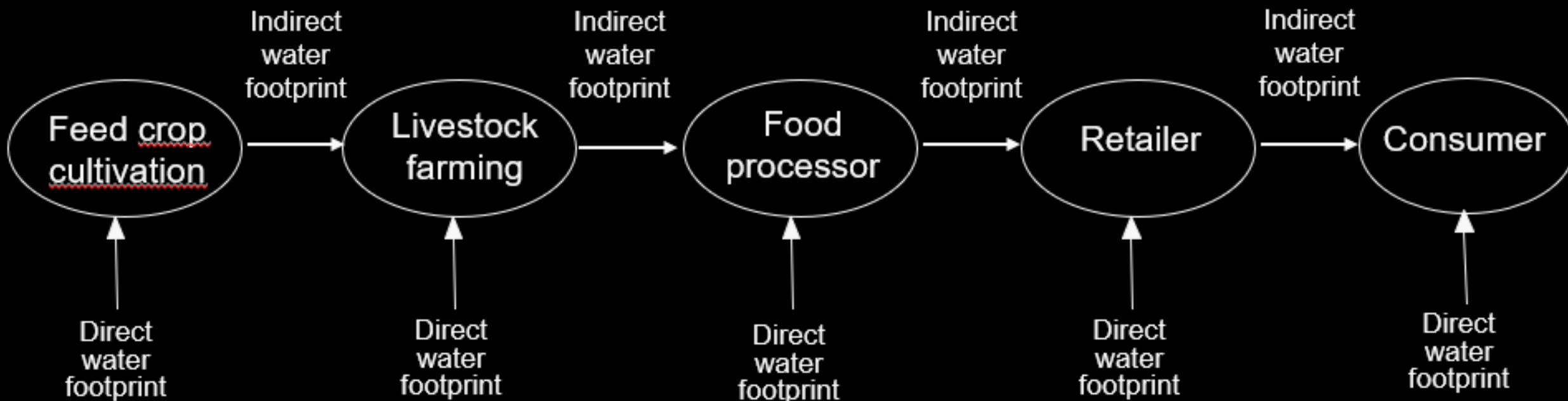


- Grey water footprint





# Direct and indirect use



Virtual water flow through the supply chain

Brasil

UK

UK

Netherlands

Netherlands

Source: Hoekstra et al. (2011) *The Water Footprint Assessment Manual*, Earthscan, London, UK

# Product water footprints

255 litre for a glass of 250 ml

17196 litre/kg

85% green, 8% blue, 7% grey

98% green, 1% blue, 1% grey



# Product water footprints

15415 litre/kg

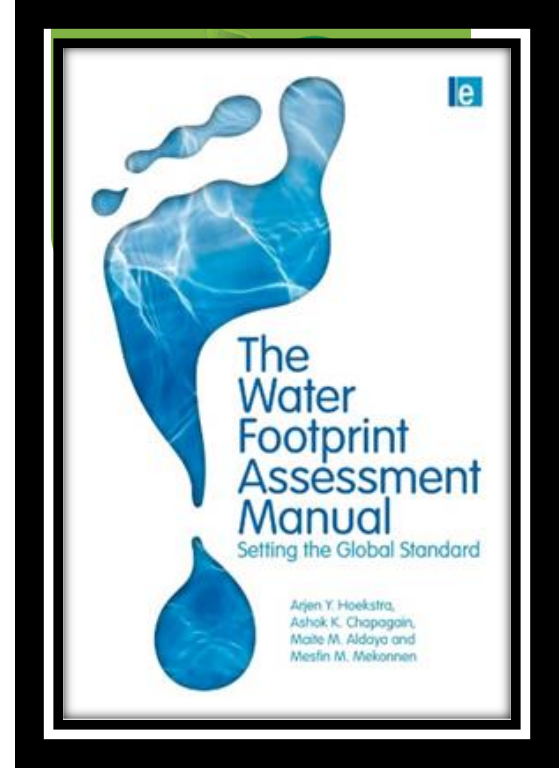
94% green, 4% blue, 3% grey



# What is new?

- What is measured:
  - Net consumption instead of gross (blue) abstraction
  - Inclusion of green water
  - Inclusion of water pollution
  
- Broadening perspectives:
  - Supply chain thinking
  - International dimension to water use and scarcity
  - Connecting different players along supply chains

# What is Water Footprint Assessment?



Phase 1

Phase 2

Phase 3

Phase 4

Setting goals  
and scope

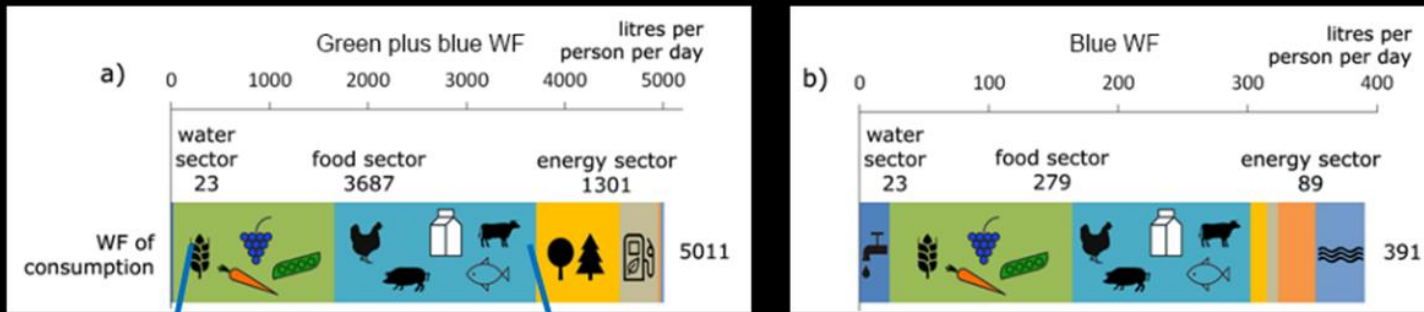
Water footprint  
accounting

Water footprint  
sustainability  
assessment

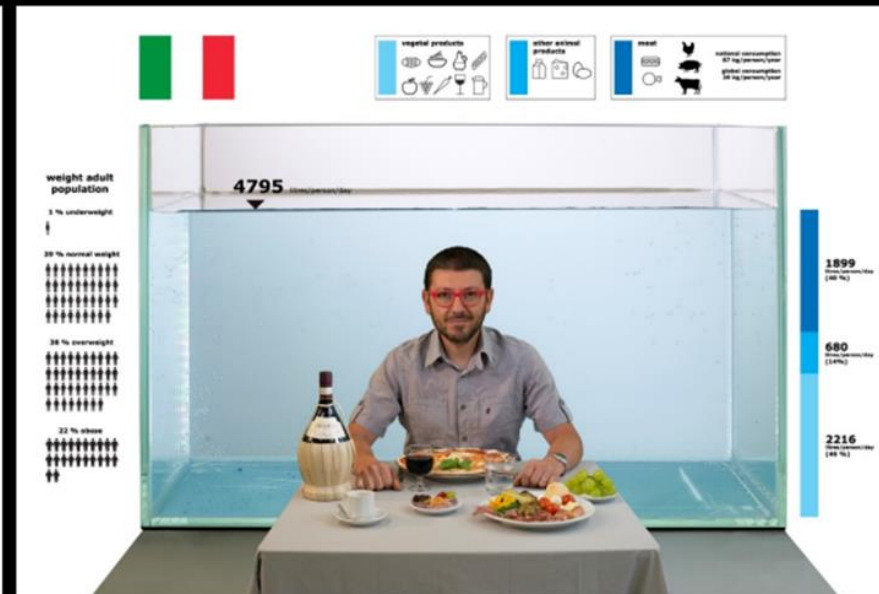
Water footprint  
response  
formulation



# Water footprint of the European consumer



Source: Vanham, D., Medarac, H., Schyns, J.F., Hogeboom, R.J. & Magagna, D. (2019) The consumptive water footprint of the European Union energy sector. Environmental Research Letters, 14(10): 104016



Vanham, Davy and Feyen, Luc (2017) The water we eat, SciArt photo series Resonances II, European Commission.

# Locations of the WF of Dutch consumers

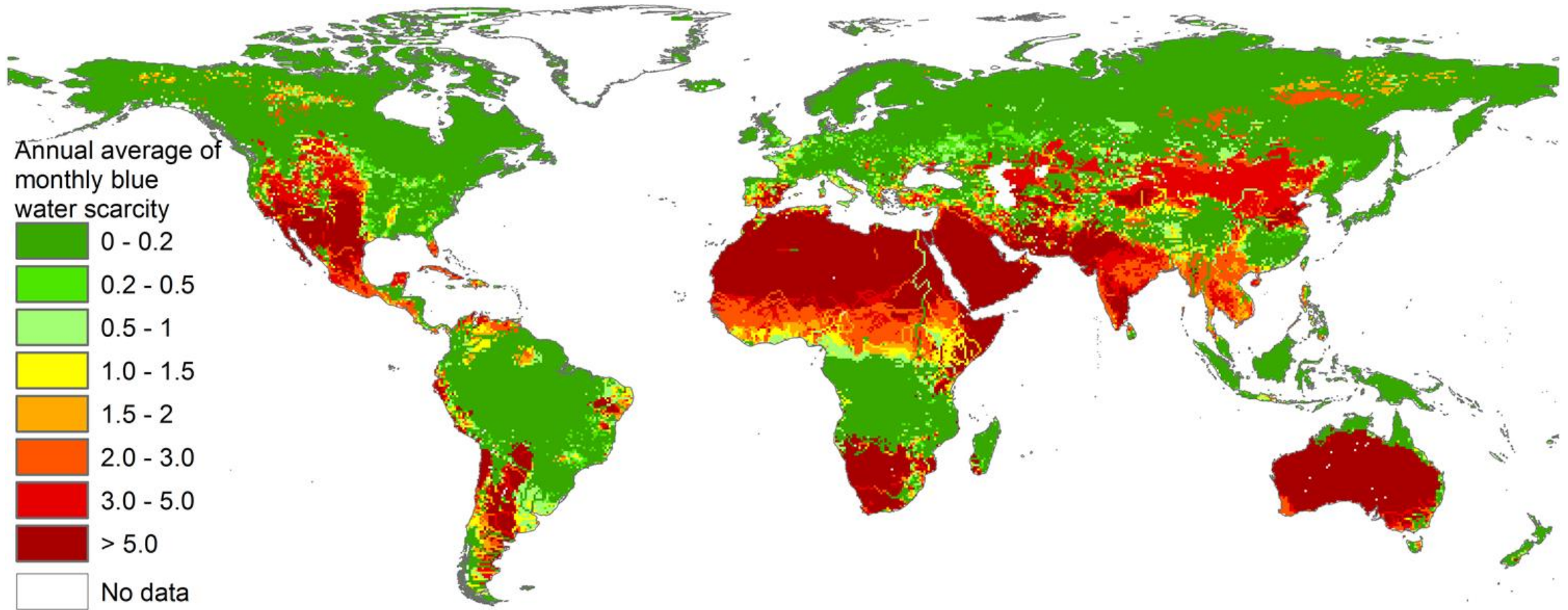
95% of the water footprint lies outside the Netherlands



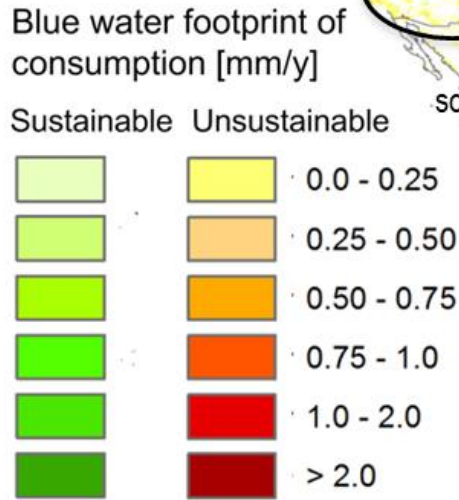
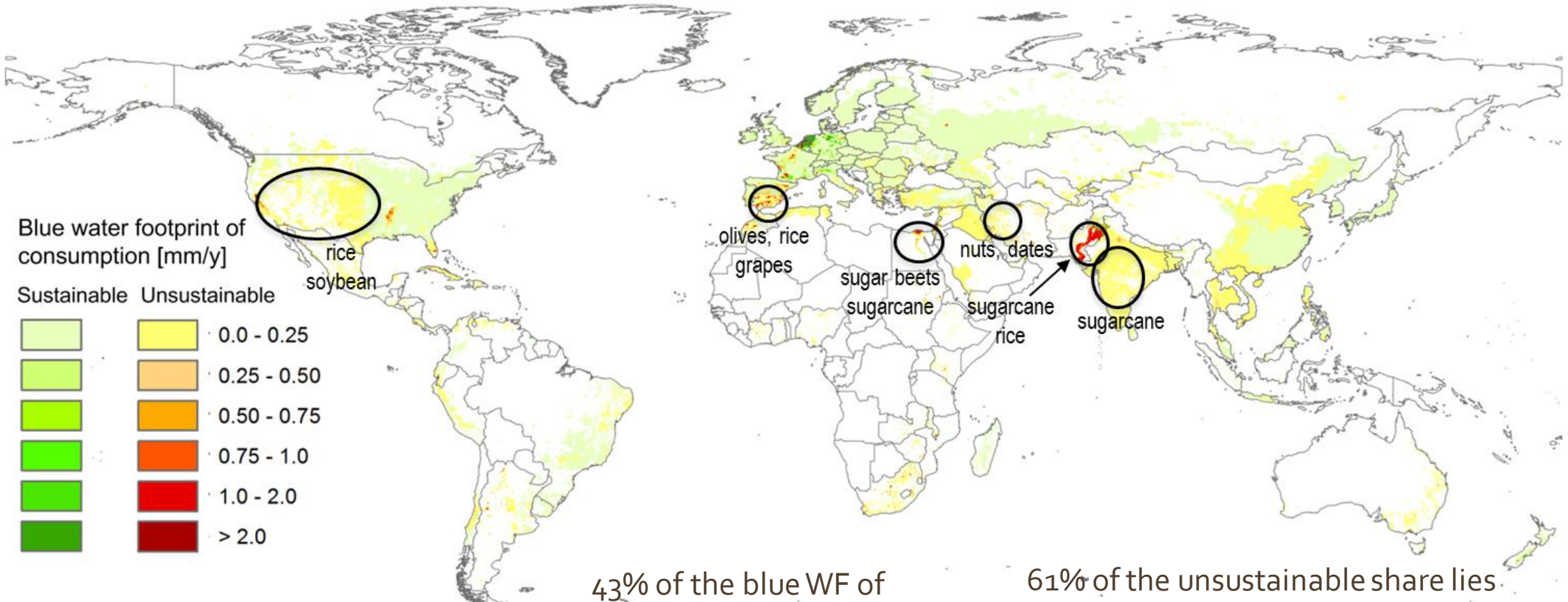
Source: Mekonnen & Hoekstra (2011) *National Water Footprint Accounts*



# Sustainability Assessment



# Our WF: not sustainable



43% of the blue WF of Dutch consumption is unsustainable

that means: located in places where blue WF > maximum sustainable WF

61% of the unsustainable share lies in just 6 countries:

- 1. Pakistan (24%)
- 2. USA (14%)
- 3. Spain (9%)
- 4. India (6%)
- 5. Egypt (5%)
- 6. Iran (4%)



# Our WF: unsustainable

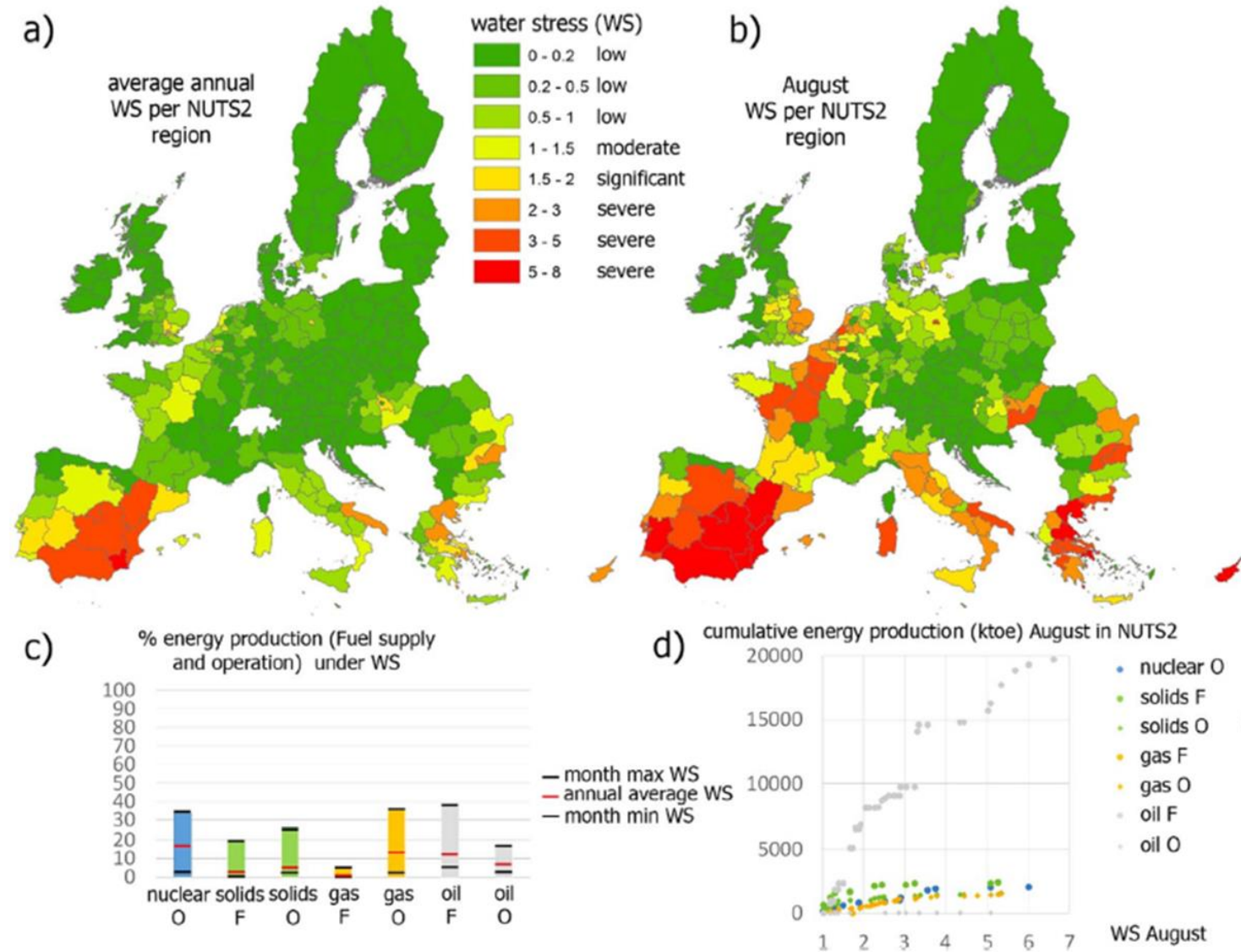




# Indus River dolphin



# WF of EU energy



**Figure 6.** Blue WS of nuclear and fossil energy sources in EU NUTS2 regions, with (a) map average annual WS; (b) map August WS; (c) % energy production (fuel supply and operation) in all NUTS 2 regions under average annual (red line) as well as minimum and maximum monthly (black lines) WS (WS > 1; F = Fuel supply; O = Operation). As an example, for nuclear O, 18% is produced under annual average WS, whereas a minimum production under monthly WS occurs in January (2%) and a maximum production under monthly WS in September (34%); (d) cumulative energy production in ktOE (fuel supply and operation) under different levels of WS in August for individual NUTS2 regions.

Source: Vanham et al (2019) ERL.



# Response Formulation

	<i>Meat diet</i>			<i>Vegetarian diet</i>			<i>Vegan diet</i>		
	<i>kcal/ day</i>	<i>litres/ kcal</i>	<i>litres/ day</i>	<i>kcal/ day</i>	<i>litres/ kcal</i>	<i>litres/ day</i>	<i>kcal/ day</i>	<i>litres/ kcal</i>	<i>litres/ day</i>
Plant-based	2,450	0.7	1,715	2,950	0.7	2,065	3,400	0.7	2,380
Dairy and eggs	450	1.7	765	450	1.7	765	0	1.7	0
Meat and fish	500	4.0	2,000	0	4.0	0	0	4.0	0
<b>Total</b>	<b>3,400</b>	<b>1.3</b>	<b>4,480</b>	<b>3,400</b>	<b>0.8</b>	<b>2,830</b>	<b>3,400</b>	<b>0.7</b>	<b>2,380</b>

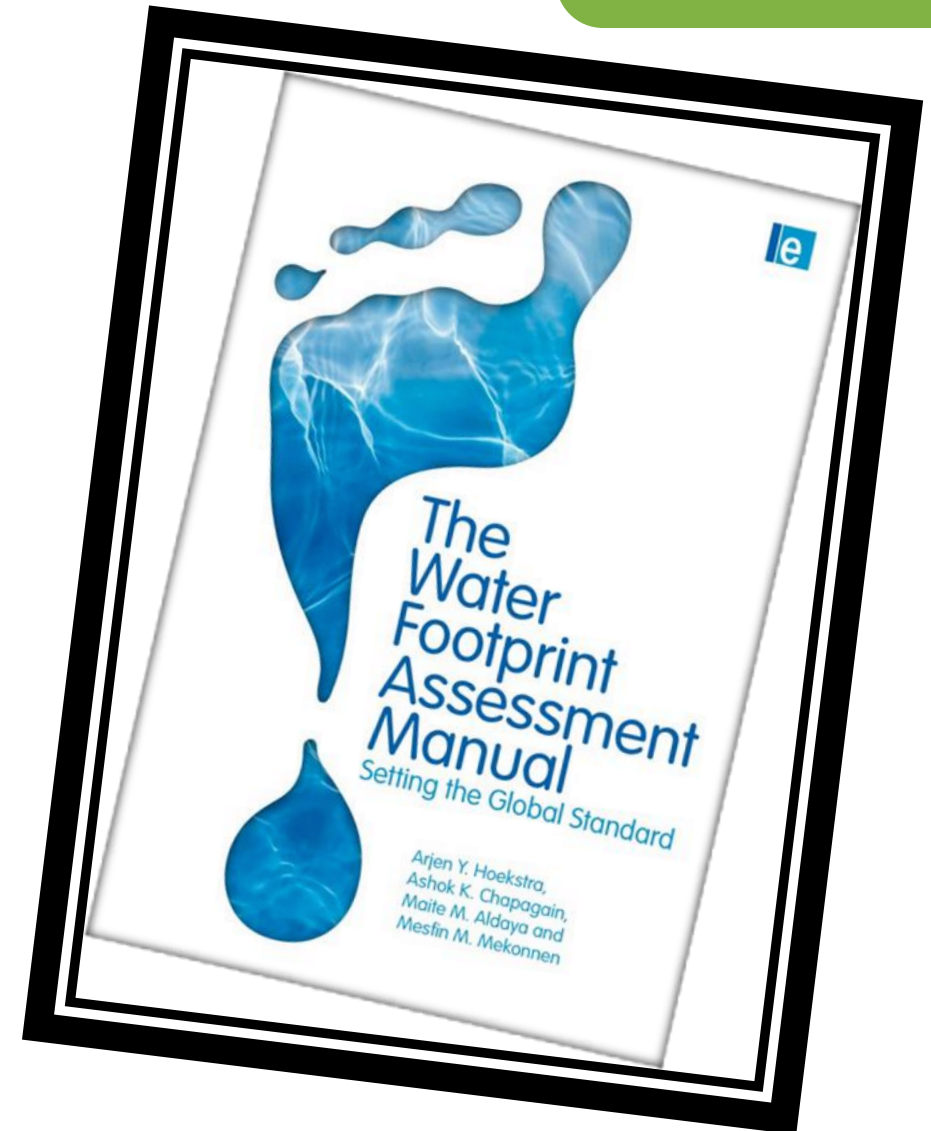
Source: Hoekstra (2020) The Water Footprint of Modern Consumer Society: Second Edition, Routledge, London, UK.

**-37%**

**-47%**

# Invitation: Reduce humanity's water footprint:

- Shared terminology and calculation standards
- Product transparency
  - Water footprint reporting / disclosure
  - Labelling of products
  - Certification of businesses
- Quantitative footprint reduction targets
  - Benchmarking WFs
  - In operations and supply chains
- Partner with us!



# Questions?





# Speaker



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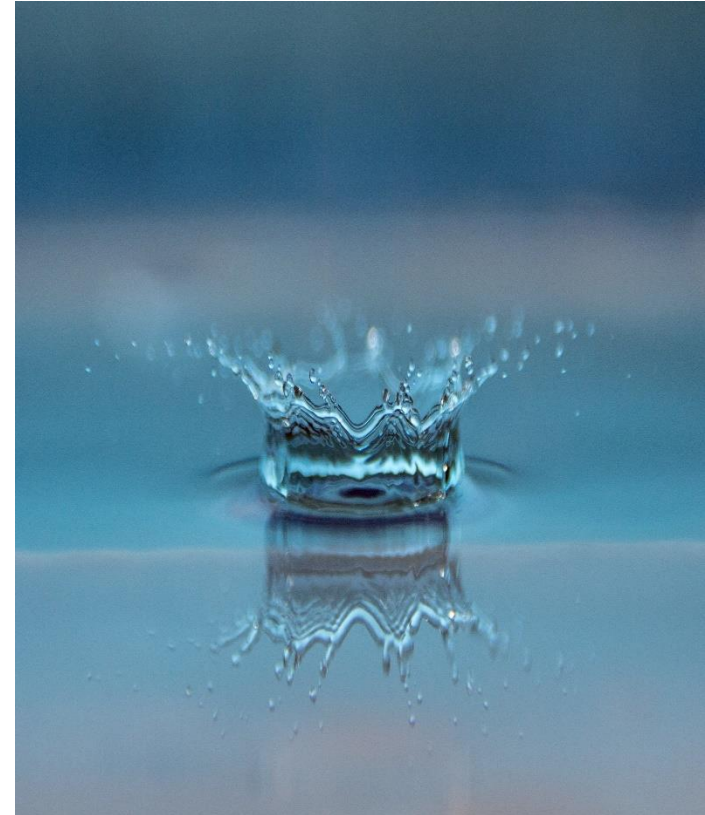


**Stephane Pouffary**  
NGO ENERGIES 2050

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# Water Sustainability, Crisis of Natural Resources, and the Citizens Part

Stephane Pouffary, NGO ENERGIES 2050



# ENERGIES 2050

*A committed organisation  
for a new development model*



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Members and partners from more than 70 nationalities. Together they are implementing projects in as many countries.

Suivez-nous/Follow us      

## OUR FIELDS OF INTERVENTIONS

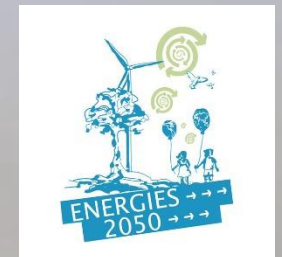
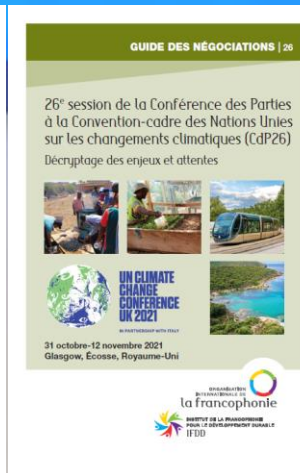
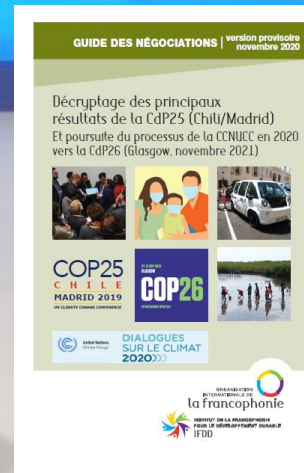
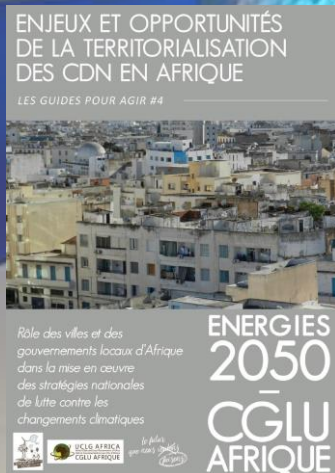




# A systemic approach to development

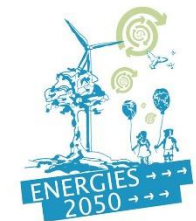
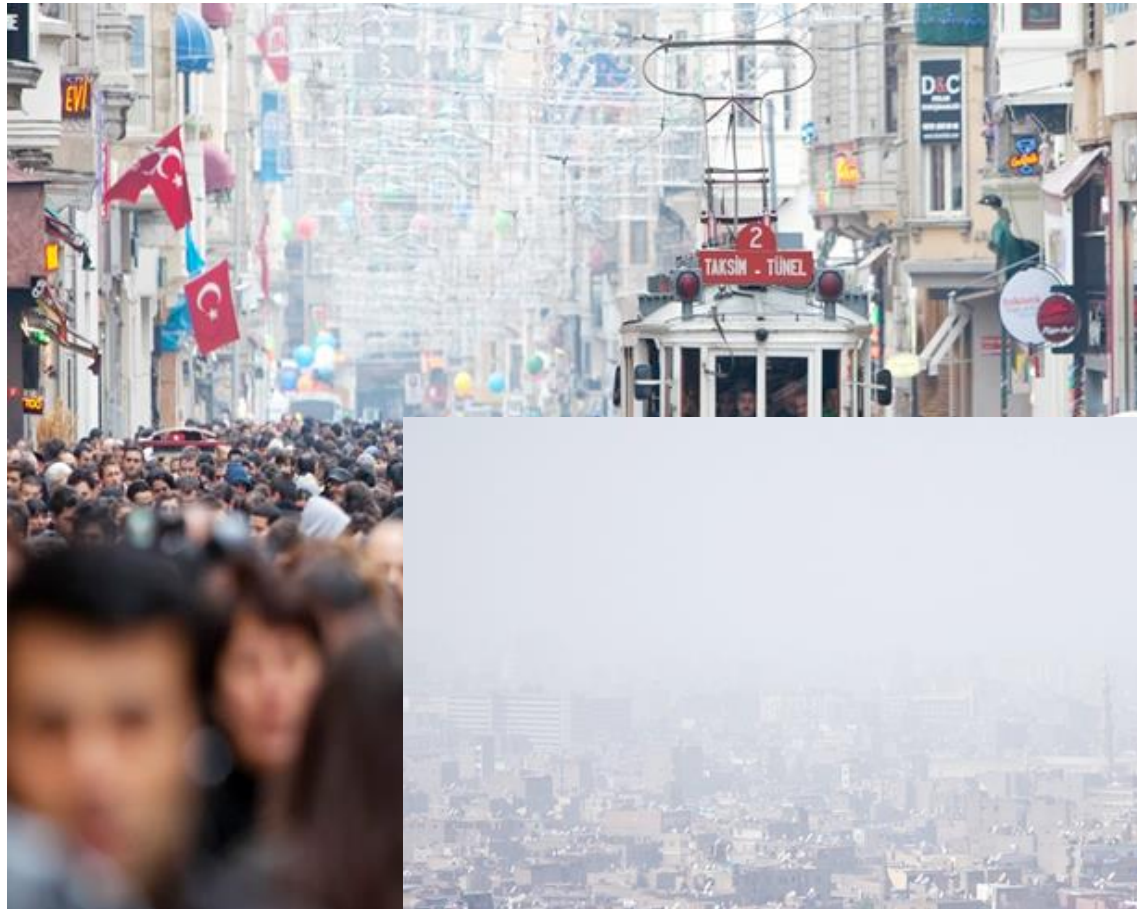
ENERGIES 2050 breaks its activities down into five complementary areas:

- Executing demonstrative and scalable implementation projects along with technical studies and research actions to enhance opportunities to act.
- Organising or attending meetings and conferences to create opportunities for exchanges and discussions.
- Publishing research results to pool and share knowledge.
- Educating, training and building capacities so that everyone can understand, know and act.
- Communicating to the greatest number to inform, mobilise and federate the desire to act.





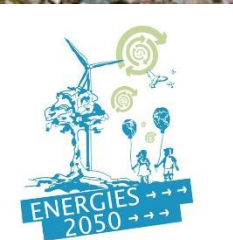
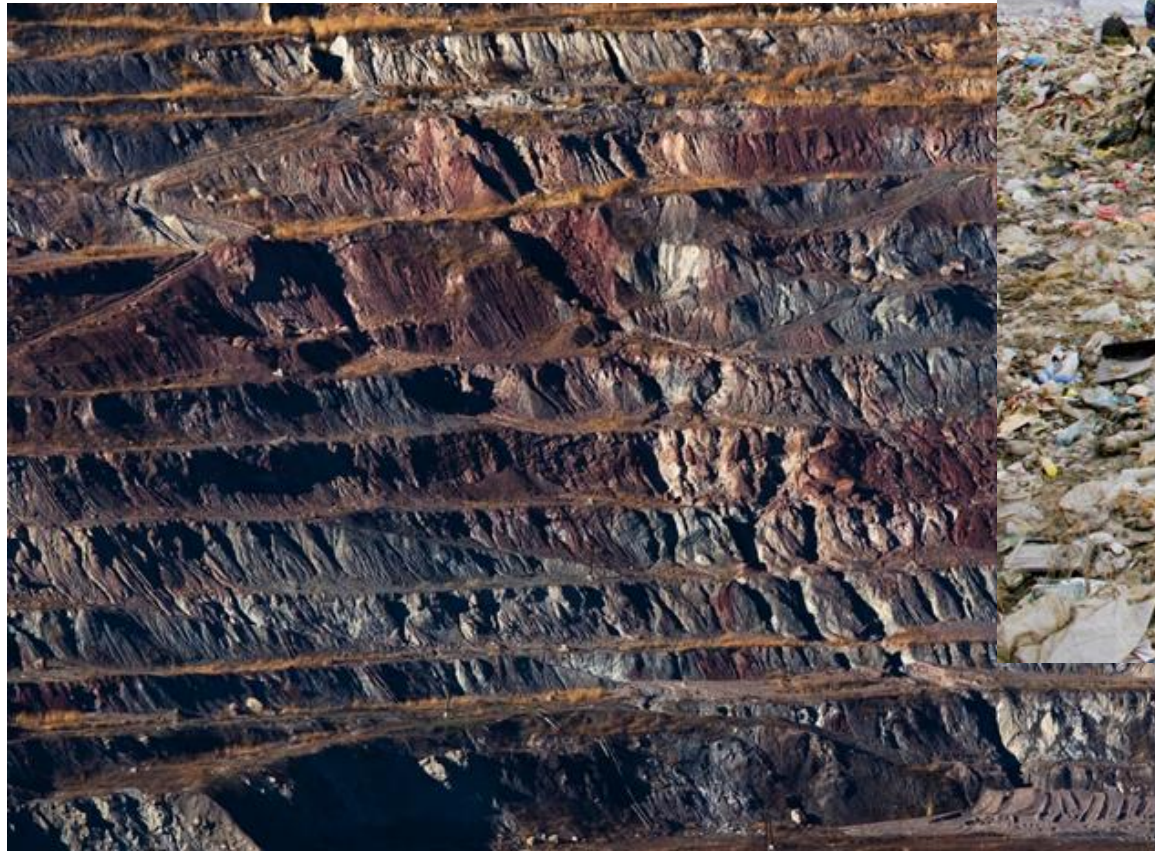
# A world of challenges





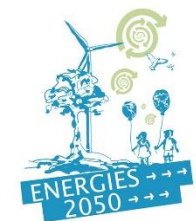
# A world confronted with the limits of its development model

- The consumer at the forefront of changes



# A science that has been alerting for years and calling for urgent action

1. The global scientific community has been mobilized for decades, as have all institutional and economic players.
  2. All the United Nations institutions are also mobilized on climate-environment and development issues.
  3. Almost all of the specialized international institutions also work on climate-development-environment issues.
- The IPCC is currently in its Sixth Assessment cycle where it will prepare three Special Reports, a Methodology Report and the Sixth Assessment Report.
  - The first of these Special Reports, in May 2018, Global Warming of 1.5°C (SR15), was requested by world governments under the Paris Agreement; In May 2019, the IPCC finalized the 2019 Refinement – an update to the 2006 IPCC Guidelines on National Greenhouse Gas Inventories; The Special Report on Climate Change and Land (SRCCL) was finalized in August 2019 and the Special Report on the Ocean and Cryosphere in a Changing Climate (SROCC) has been finalized in September 2019.





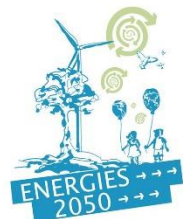
# No time to lose anymore... each second counts

- The Sixth Assessment Report (AR6) is expected to be finalized in 2022 in time for the first global stocktake the following year. The first volume was AR6 Climate Change 2021: The Physical Science Basis was published in August 2021. The second volume AR6 Climate Change 2022: Impacts, Adaptation and Vulnerability will be published in February 2022 and the Third volume AR6 Climate Change 2022: Mitigation of Climate Change in March 2022. The AR6 Synthesis Report: Climate Change 2022 will be available in September 2022.

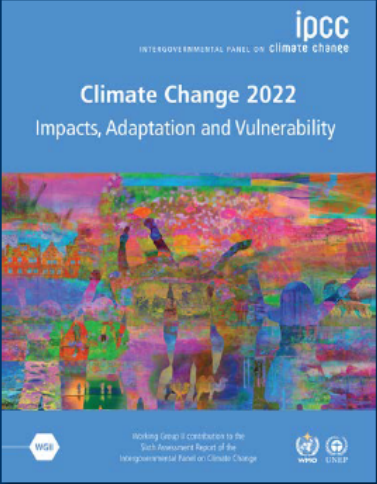
To watch on Youtube - Click on the image

<https://www.youtube.com/watch?v=VaTgTiUhEJg>

To learn more, click on the picture



# AR6 Climate Change 2022: Impacts, Adaptation and Vulnerability



“ The scientific evidence is unequivocal: climate change is a threat to human well-being and the health of the planet. Any further delay in concerted global action will miss the brief, rapidly closing window to secure a liveable future. This report offers solutions to the world.

ipcc  
INTERGOVERNMENTAL PANEL ON climate change

Climate Change 2022  
Impacts, Adaptation and Vulnerability

Working Group II contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change

ipcc  
INTERGOVERNMENTAL PANEL ON climate change

WMO UNEP

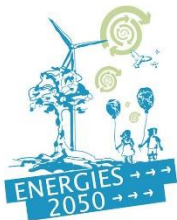
3.3 – 3.6 billion people live in hotspots of high vulnerability to climate change.



ipcc  
INTERGOVERNMENTAL PANEL ON climate change

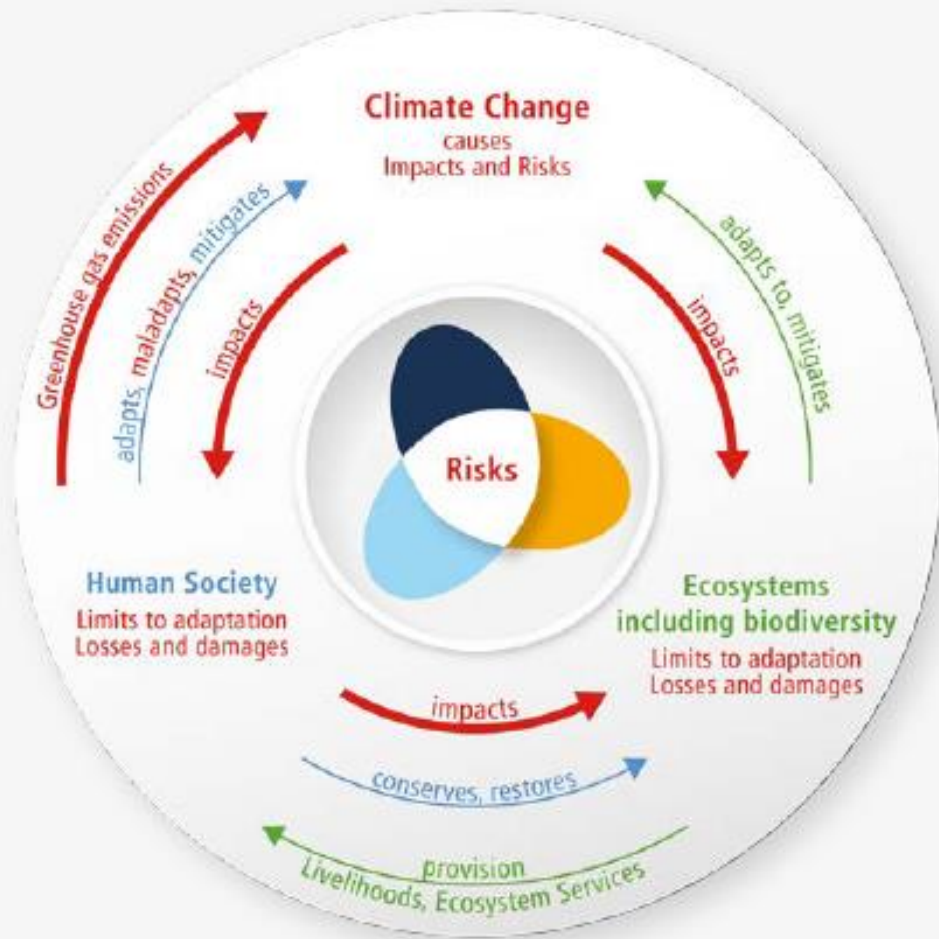
WMO UNEP

[Denis Onyed / KRCS CC BY-NC 2.0]





# New understanding of interconnections



The risk propeller shows that risk emerges from the overlap of:

- Climate hazard(s)
- Vulnerability
- Exposure

...of human systems, ecosystems and their biodiversity



[Axel Guibourg CC BY-NC-ND 2.0; Hugh Han / Unsplash; Axel Fassio/CIFOR CC BY-NC]

**SIXTH ASSESSMENT REPORT**

Working Group II – Impacts, Adaptation and Vulnerability

**SIXTH ASSESSMENT REPORT**

Working Group II – Impacts, Adaptation and Vulnerability

ipcc  
INTERGOVERNMENTAL PANEL ON climate change



## Future global climate risks



### Heat stress

Exposure to heat waves will continue to increase with additional warming.



### Water scarcity

At 2°C, regions relying on snowmelt could experience 20% decline in water availability for agriculture after 2050.



### Food security

Climate change will increasingly undermine food security.



### Flood risk

About a billion people in low-lying cities by the sea and on Small Islands at risk from sea level rise by mid-century.

[Well Bred Kannan - WBK Photography CC BY-NC-ND 2.0; Jay Huang CC BY 2.0; Cristina Anne Costello, Marcus Woodbridge / Unsplash]



# MAKING PEACE WITH NATURE

## Transforming nature puts human well-being at risk

### HUMAN DEVELOPMENT (1970–2020):

- ▶ The economy has grown nearly fivefold and trade tenfold
- ▶ Human population has doubled to 7.8 billion
- ▶ Still, 1.3 billion people are poor and 700 million hungry

### DISPOSALS OF WASTE MATTER:

- ▶ Greenhouse gas emissions have doubled
- ▶ Chemical production, waste and pollution have increased

### USE OF SPACE AND RESOURCES:

- ▶ Resource use has tripled
- ▶ Humans impact 3/4 of ice-free land and 2/3 of oceans

## Transforming humankind's relationship with nature is the key to a sustainable future

### HUMAN DEVELOPMENT (from 2020):

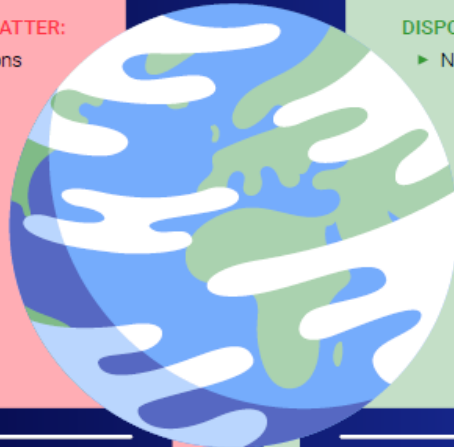
- ▶ Sustainable economic and financial systems
- ▶ Healthy, nutritious food and clean water and energy
- ▶ Healthy lives and well-being for all in safe cities and settlements

### DISPOSALS OF WASTE MATTER:

- ▶ Net-zero carbon dioxide emissions by 2050
- ▶ Management of chemicals, waste and pollution

### USE OF SPACE AND RESOURCES:

- ▶ Recycling of resources
- ▶ Protection and sustainable use of land and oceans



## Earth's capacities to

- ▶ support life
- ▶ provide resources
- ▶ absorb waste matter

**ARE DEGRADED AND SURPASSED**

### RISK to:

Livelihoods, equity, health, economic development, peace, food, water, sanitation, safe cities and settlements

## Earth's capacities to

- ▶ support life
- ▶ provide resources
- ▶ absorb waste matter

**ARE RESTORED AND ADAPTED**

### SUPPORT for:

Poverty elimination, equity, health, economic development, peace, food, water, sanitation, safe cities and settlements

# Our development model is not sustainable

- “The well-being of today’s youth and future generations depends on an urgent and clear break with the current trends of environmental decline. Human knowledge, ingenuity, technology and cooperation need to be redeployed from transforming nature to transforming humankind’s relationship with nature. Time is of the essence. Society needs to reduce carbon dioxide emissions by 45 per cent by 2030 compared to 2010 levels and reach

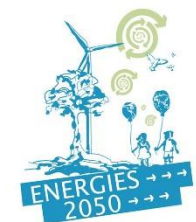


To learn more, click on the picture



# Raising awareness and education

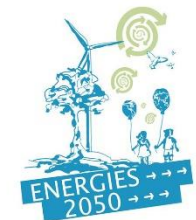
- Water is the most common substance on the Earth's surface and about 96.5% of the planet's water is held by oceans.
- Fresh water is a precious resource and its availability is threatened due to human activities. More than 2 billion people currently have no access to clean water and sanitation.
- These activities cause poor water quality, water scarcity and pollution. Our consumption habits and the availability of fresh water are inextricably linked.





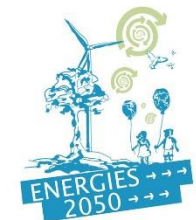
# Understanding the need for changes

- Despite this being a **global** challenge, **local** action is essential to build a path towards more sustainable water consumption patterns.
- As citizens and consumers, attention should be paid to:
  - **direct** water consumption;
  - **indirect** water consumption through the products bought in various markets.
- There is an urgent need to...
- Raise **European citizens' awareness** (children – Tomorrow's citizens- as well as adults) on water scarcity and the impacts of consumers' habits.
- Through awareness raising and education activities adapted to various backgrounds.
- Example of a past ERASMUS+ Aquapath project to lead consumers, and citizens in general, to be **more responsible** regarding their water consumption.



# A personal narrative to be changed

- ... to enhance responsible behaviours
  - *Reducing direct water consumption;*
  - *Changing consumption habits:* shifting from products intensive in water to products with lower water footprint;
  - *Pushing manufacturers to alter their processes* so they offer products with smaller water footprints
- **The implementation of law directives and regulations can only become effective if followed by a real mind-shift!**

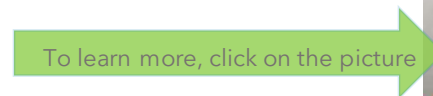


# Some Aquapath deliverables



### Context

Our pressures on freshwater resources (intensive use, pollution ...) no change are unsustainable in the long term. Faced with this global



<https://www.youtube.com/watch?v=WcbaDQLTZbl>

To watch on Youtube - Click on the image





# Some Aquapath deliverables

What do you know about your water footprint?



Training modules for all

Calculate your water footprint



Discover the AquaPath project in a few clicks



Newsletter 3

Newsletter 4

Brochure

Download

 <b>AQUAPASS</b> Comme de Bosses Guide de poche de mon empreinte eau quotidienne Erasmus+ Aquapass Download	 Module AquaPath <b>1- L'EMPREINTE EAU</b> Erasmus+ The water footprint Download	 Module AquaPath <b>2- DURABILITE DES RESSOURCES EN EAU</b> Erasmus+ Sustainability of water resources Download	 Module AquaPath <b>3- EMPREINTE EAU DE LA CONSOMMATION ET DE LA PRODUCTION</b> Erasmus+ Water footprint of production and consumption Download	 Module AquaPath <b>4- MODES DE VIE ET RESSOURCES EN EAU</b> Erasmus+ Lifestyles and water resources Download	 Module AquaPath <b>5- L'EAU AU SEIN DES MENAGES</b> Erasmus+ Water within households Download	 Module AquaPath <b>6- Gestion de l'eau dans le secteur public</b> Erasmus+ Water management in the public sector Download
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# Speaker



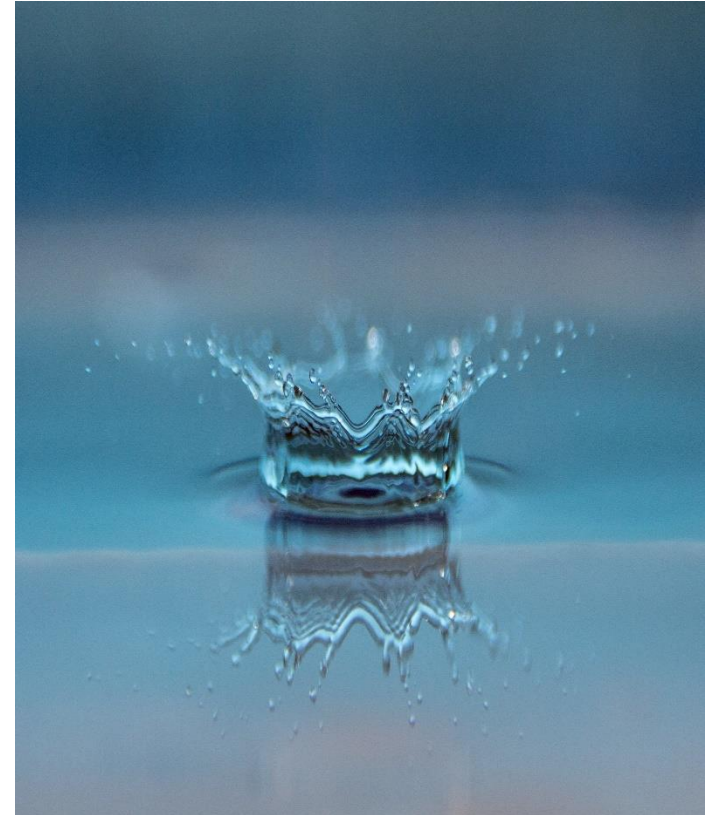
**Ciprian Nanu**

Business Development Group SRL,  
Romania

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# Local Water Forums in Danube Lower Basin

Ciprian Nanu, Business Development Group,  
Romania





# When we started

- Danube Lower Basin Water utilities are public owned ( few exceptions, Bucharest, Szeged, etc.) ;
- Their own IT dept.( SCADA, GIS) but limited contribution to their companies.
- Lack of data archives for modern IT apps or open platforms
- Limited wish to cooperate with IT department in each company
- Lack digitization strategies
- Other water topics like circular economy, water-energy-food nexus, water-health, climate change, etc. considered NOT relevant by many of water utilities in EEurope
- What is different from centralized system for stakeholders in EEurope? *Bottom-Up*
- Different cultures (RO-HU; RO-BG, etc.)

# Initiation and development LWFs

- Select DANUBE Lower basin water utilities and municipalities available and *willing to cooperate for future partnerships*
- Make them aware about social (innovation) and political engagement
- Guide them to the “end client” satisfaction; Who is the client? Not municipality!
- Assist them to recruit and *engage local informed citizens*
- *Listen to different layers in local community*
- *Select different topics to propose to different stakeholders(bottom-up approach!)*
- *Find ways to create interest around each topic ; LISTEN TO COLLEAGUE!*
- Co-design framework local partnerships water utilities-municipalities-R&D-NGOs-CITIZENS

# Arriving today

- Positive results and growing network (I think!)
- Serbia, Hungary, Romania, Bulgaria, Moldova involved in Lower Danube River basin
- Total of 12 *LWFs initiated in Europe*( some with 2 or 3 meetings already)
- Other 3 *LWFs* under preparation in Romania, Moldova, Bulgaria
- Part of the *Global Network of LWFs*, approx. 30 in Europe, Africa, South America
  
- Interested or do you know others interested? Contact me by email:

[ciprian.nanu@bdgroup.ro](mailto:ciprian.nanu@bdgroup.ro)

# Video – Great Torrington Local Water Forum

<https://youtu.be/H9sGa4zeSxA>



# Speakers



**Joshua Pocock**  
South West Water,  
Fiware4Water

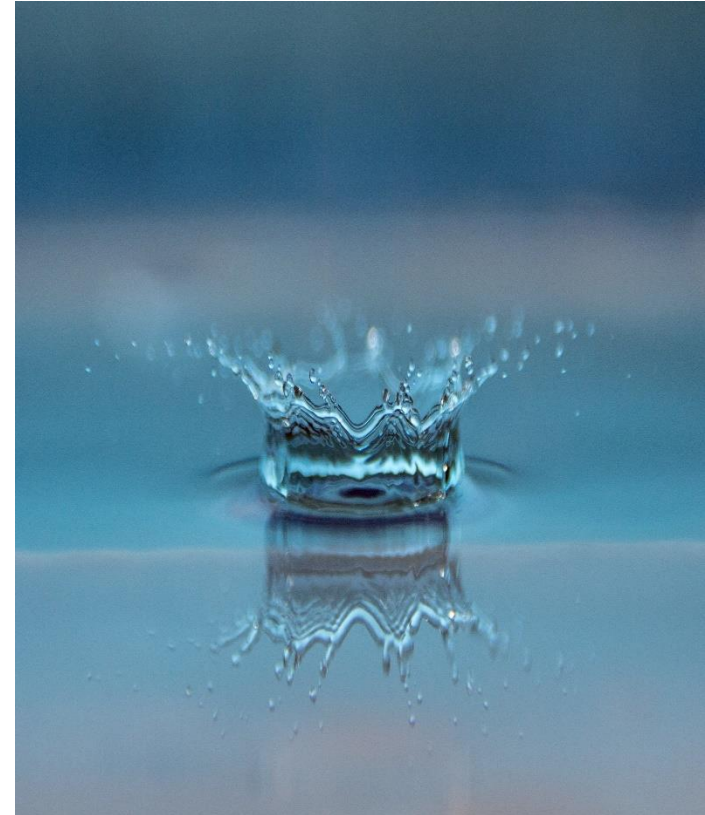


**James Mercer**  
South West Water,  
Fiware4Water

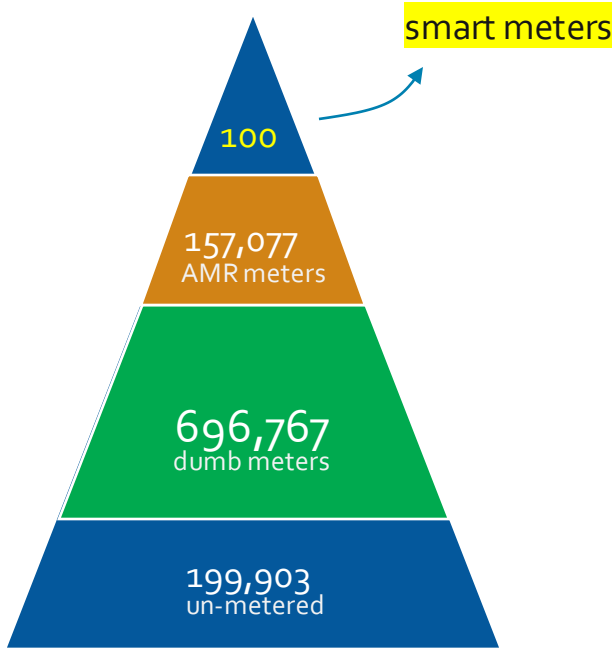
A vertical strip on the left side of the slide showing a close-up of vibrant green grass blades.

# Smart Meter Data and Customer Engagement Work

Joshua Pocock, James Mercer, South West Water



# Why engage customers?

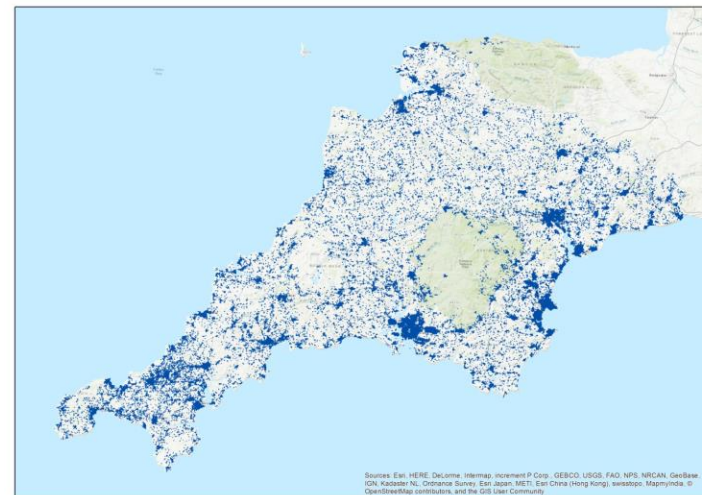


Driving positive water consumption behaviour to protect water resources, reduce energy use, and reduce leakage.

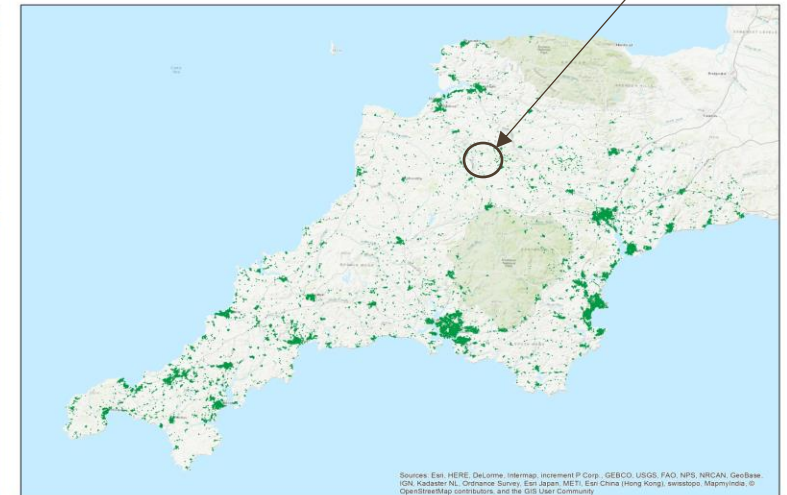
- We know metering can reduce consumption by 45%
- Can **technology** also help reduce consumption?

metered vs un-metered consumption

Un-metered	Metered
516 litres / year	237 litres / year



dumb meters



AMR meters

# What makes engagement difficult?

In the UK, water is less valued than other utilities like gas and electricity and customers lack the self-drive to change behaviour.

- Customers pay more than **double** for gas and electricity
- Energy companies are highly competitive on pricing

£397

yearly water and sewerage bill

£1,066

yearly gas & electricity bill



Without electricity at source, introducing new technology is difficult and expensive.

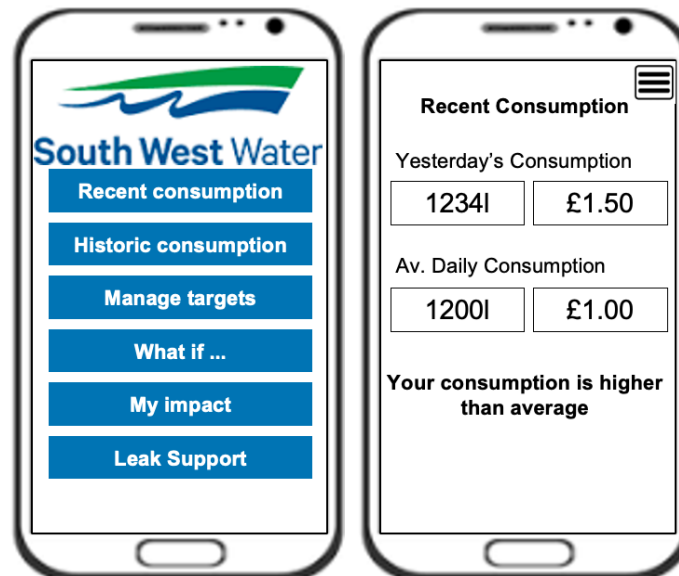
- High OPEX costs replacing meter batteries
- Poor signal due to underground chamber



# Engagement through technology

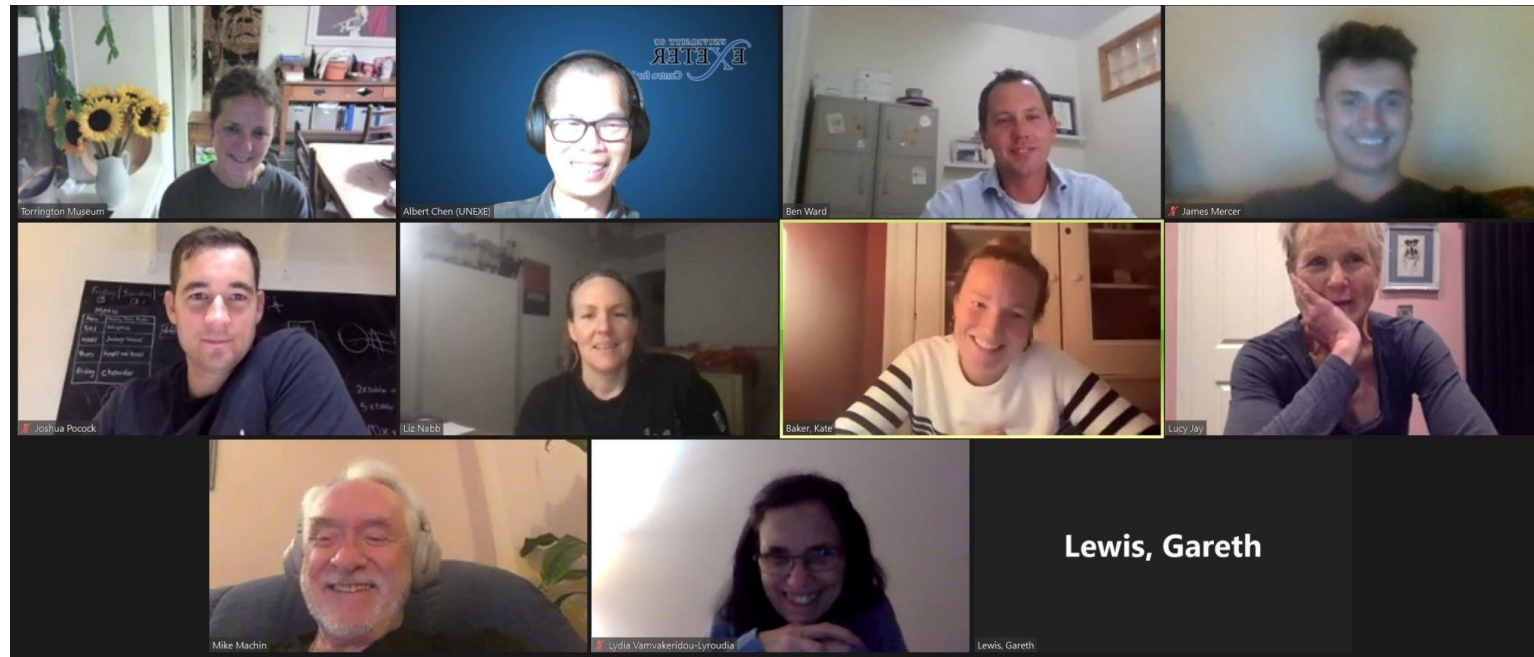
Mobile applications have the potential to engage customers with water use and drive positive behavioural changes.

- Easily view and interrogate their water use
- Compare themselves to others, set targets and earn incentives
- Empowered to reduce water bills



# Engagement through collaboration

A local water forum was established with Great Torrington residents, the University of Exeter, and South West Water. Town Hall and Zoom meetings were held to promote smart metering and design the smart mobile app.

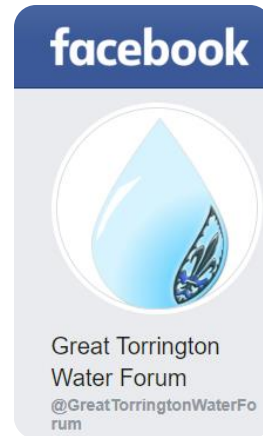


# What keeps customers engaged?





# Empowered Customers



The Great Torrington Water Forum have an **active social media campaign** and have organised community events such as **poster design competitions in schools** and a **Water Weekend Event**.



Help design a water app for Great Torrington

Tue, 28 Sep 2021 19:00 BST

Free



[Great Torrington Local Water Forum](#)

Thu, 21 Jan 2021 19:00 GMT

Free



A vertical strip on the left side of the slide showing a close-up of vibrant green grass blades.

# Panel discussion & wrap-up

A vertical strip on the right side of the slide showing a high-speed photograph of a water droplet splashing on a reflective surface, with the splash and its reflection clearly visible.

THANK  
YOU

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**[www.naiades-project.eu](http://www.naiades-project.eu)**