

EEN BROKERAGE EVENT



Today, natural resources are more precious than ever, and **water is the #1 global risk** according to the World Economic Forum.

***JUNE
2020***

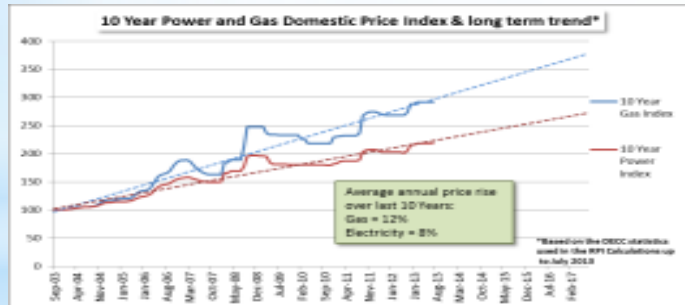
The problem : Global challenges : GHG emissions & water scarcity

Imagine the world in 2030, fully inclusive of persons with disabilities



Goal 13: Take urgent action to combat climate change and its impacts

***Europe has committed to reduce
55% of GHG emissions by 2030 !***



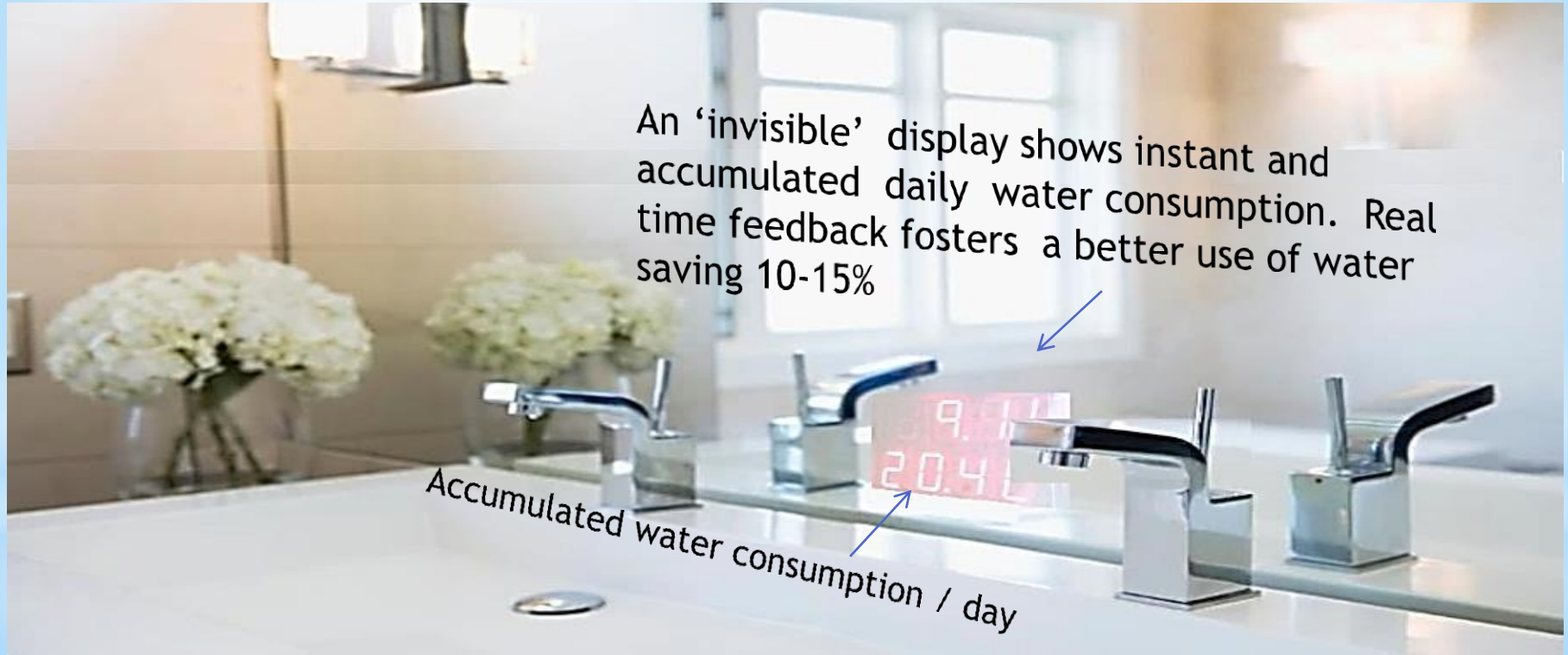
***Rising water & energy costs
in many cases over the CPI***



Water scarcity.

***According to UN water
demand will outstrip
availability by 40% in
2030.***

Our proposal: Smart Water Flow Monitor with real time feedback



It fosters behaviour changes in people . About half of the water saved is hot

Using gamification...countdown function

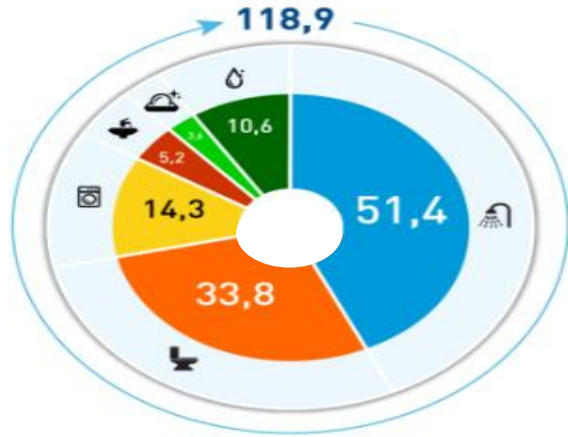
Households, schools, offices can set their **daily consumption target** and see “the remaining amount of water ‘ during every use



This feature engages because it's not imposed, users decide their own target.

Example : savings in a 2 member household

	<u>Before Defcon8</u>	<u>After</u>	<u>Savings/yr</u>
Water heating	1600 kwh	1360	240 kwh
CO ₂	0,7 Tn	0.59	0,11 Tn
Water	86 m ³	77	9 m3



Typical daily water consumption
per person : 120-130 l

Typical water use in households

Hygiene → 45% (shower, shaving, toothbrush)

Toilet → 15%

Laundry → 15% (washing machine...)

Kitchen → 17,5% (cooking, dishwasher...)

Others → 7.5 % (garden, carwash...)

Example : Hotel

100 rooms ; occupation rate 95%

Water consumption 20.000m³ / yr

Invoice 57K€ / yr

Savings

- 1900 m³ water
- 50 Mwh water heating
- 23 Tn CO₂

Total savings : 8215 € / yr

- ROI → 4,5 yrs in Barcelona
- 3,7 yrs in Hamburg, Berlin, Glasgow
- 2, 5 yrs in Copenhagen, Gent, Aarhus

Value for future generations: priceless. Carbon tax not considered for ROI



Example: Hospital

550 Rooms (1100 beds); occupation 98%

Water requirements 265.644 m³ Cost : 888K€ /yr

Out of which 65% in rooms : 172669m³

Savings 10% water : 17267 m³ / 57K€

Savings in water heating (energy source gas): 493 MWh/ 35K€

Total savings : 92K€/yr

•CO₂ emissions avoided : 229 Tn /yr

•ROI → 2,5 years



Smart Cities (need smart water)

Savings if 5% of households fitted the Smart Water Flow Monitor

Inhabitants(K)	Households(K)	Water saved	Energy saved	CO ₂ saved/yr
50	23.5	10575m ³	285 Mwh/yr	130 Tn
100	47	21150	570	261
200	95	42300	1140	522
500	237	105750	2850	1306
1000	474	211500	5700	2612

Our goal is to help cities reduce their CO₂ footprint, fight water scarcity by reducing per capita water consumption.

Side effects : better air quality , preserve aquifers, rivers and it's ecosystems and prepare cities for droughts.



***Looking for partnerships
on the following topics: (mainly Cluster 5 but not limited to)***

→ ***LC initiatives in the field of Energy efficiency in Smart buildings***

*Typically complements other solutions such as PV, efficient HVAC, eolic harvesting,
dynamic facades, isolation*

→ ***nZEB in home renovation (scalable & replicable solutions)***

→ ***Pre Commercial Procurement (Self sustainable buildings)***

→ ***Programs tackling Water Scarcity***



Snow White and the Seven Dwarfs - (Annie Leibovitz for Disney)



MIRROR MIRROR
ON THE WALL
WHO'S THE
FAIREST
OF THEM ALL



MIRROR MIRROR
ON THE WALL
WHO'S THE
MOST EFFICIENT
OF THEM ALL



UN water video <https://www.youtube.com/watch?v=S21Ho5nF4PA&feature=youtu.be>

**DEFCON8 EMPOWERS
USERS TAKE A
BETTER GRIP OF
THEIR WATER &
ENERGY USE**



THANKS !

BACKUP SLIDES

***Adding a water meter in households
without it saves 20% in average***

Metered and non-metered consumption

Less water is used in households with a meter compared to ones without.



Customers without water meter

160

litres per person per day



Customers with water meter

127

litres per person per day

Source: Water UK; England and Wales, Apr 2016 - Mar 2017

Example of how much savings can behavior changes achieve

Why does positive feedback work? <https://www.youtube.com/watch?v=xp002vi8DX4>

Current market solutions for near Zero Energy Buildings

To build passivehouses architects use solar panels, good isolation, efficient HVAC, dynamic facades, domotics, leds...

Regarding water savings there are aerators, flow limiters, temporized taps / eco shower heads, rainwater harvesting ...which do a great job.

We foster behaviour changes with real time feedback and gamification.

Shorter showers, close taps when not necessary during toothbrush, shaving, applying shampoo, not using toilets as paper bins, using washing machine / dishwashers full... are typical examples of how savings are achieved.



*We help Architects design passive houses
/ near zero energy buildings*

Typical installation



- *No maintenance*
- *Wired or RF communications between sensors & display*
- *Installation time for a new building : 20m*
- *Can monitor the whole household, only the bathroom (hotels /hospitals) or just a sink (public restrooms)*
- *Compatible with all faucets / sanitaryware*
- *Can include a flow limiter too.*