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Water efficiency of products: The implementation of certification and labeling measures in Portugal

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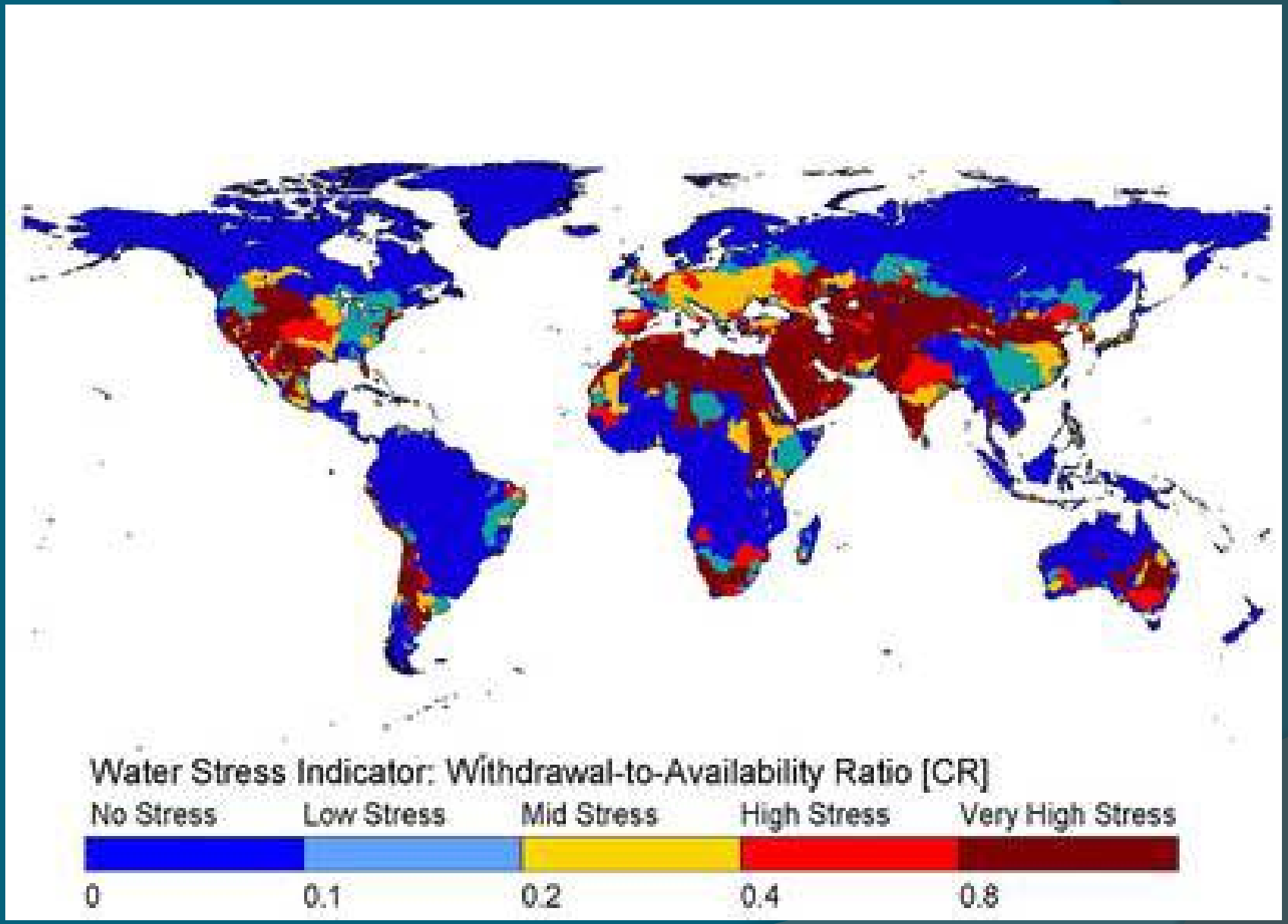
Introduction

- As water is a limited resource which has to be safeguarded and preserved, its efficient use is an environmental imperative in every country in the world.

- Climate change in Mediterranean countries, like Portugal, could significantly affect the short- and medium-term availability of this resource, so it is a matter of urgency to develop measures to improve water-use efficiency.

- It may be recalled that, according to forecasts by the World Water Council, 23 countries will be facing absolute water shortage in 2025, and between 46 and 52 countries (encompassing 3000 million people) could be suffering from ”water stress” by then.

- Countries like France, Italy, Spain and Portugal will be at risk of 40% or more water stress in at least some of their territory.



World Water Council

- In terms of sustainability, the priority measure is to increase efficiency in the use of water.

- It is reckoned that total inefficiency in water use in Portugal, in all sectors, amounts to 3100 x 10^6 m^3/year (USD \$900 x 10^3/year), which represents nearly 0.64% of national GDP. About half this figure can be ascribed to inefficiencies in urban supply, in public and building systems (≈ USD \$250/family and year).

- In the building sector, special heed should be paid to the use of efficient products and the overall efficiency of buildings. So not only should efficient fixtures and fittings be used, but water must be re-used or recycled and alternative sources tapped (like rainwater and groundwater).

- The Portuguese government has recently chosen to implement a National Plan for Efficient Water Use, which provides for the water-efficiency labeling of products and specifies incentives designed to increase water efficiency in buildings.

- The plan establishes that labeling should be entrusted to non-governmental organizations working with official government bodies in the sector. As a rule, labeling will be voluntary.

- With this objective in mind, the ANQIP (National Association for Quality in Building Installations), a Portuguese NGO dedicated to the promotion of quality and efficiency in buildings, decided to launch a voluntary certification and labeling system for product water efficiency in October 2008.

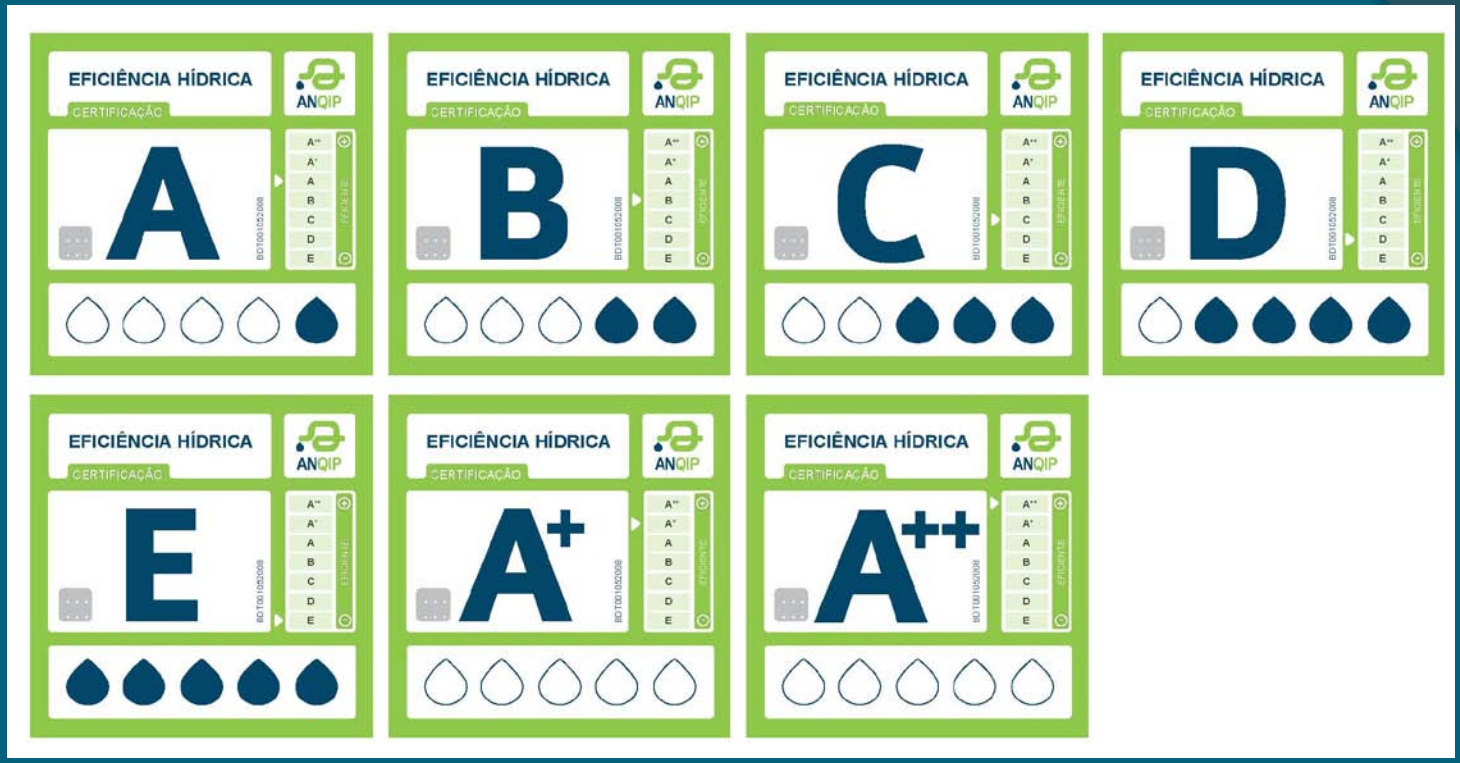
The model proposed for Portugal

- ANQIP has opted for a voluntary model for water efficiency certification and labeling in Portugal.
- In this model, the ideal classification (“A”) takes into account the water efficiency of the product as well as its user-friendliness and performance.

- ANQIP has drawn up Technical Specifications (ETA) for different products so as to create and establish the necessary benchmark values to be assigned to each letter. These Technical Specifications also establish the certification testing conditions.

- Firms signing up for the system will sign a protocol with ANQIP which will define the conditions under which they can issue and use the labels.

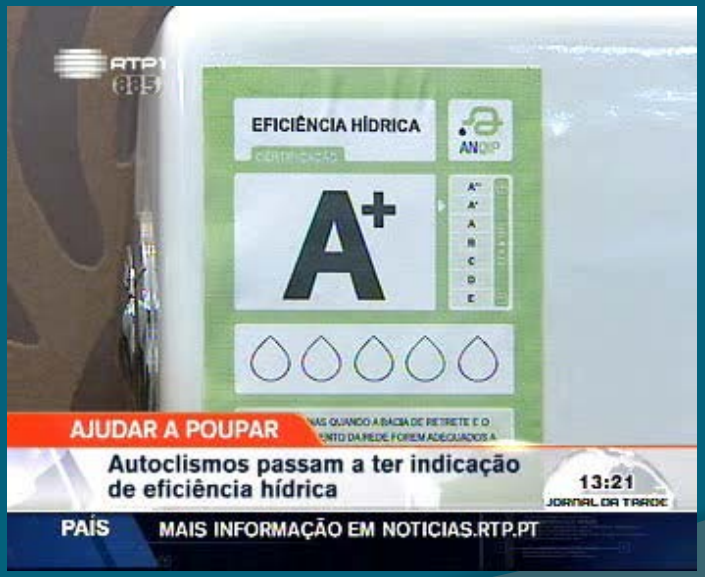
- ANQIP controls the process by randomly testing labelled products on the market, from time to time. These tests are performed by accredited laboratories.



- The label carries a letter rating water efficiency, the symbol of water drops at the bottom and a small informative bar at the side.
- The A+ and A++ ratings are meant for special applications.

Flushing Cisterns

- As mentioned earlier, cisterns were regarded as a priority since toilet flushing cisterns are one of the biggest “consumers” of water in buildings in Portugal (more then 30%). For flushing cisterns the system was implemented in January 2009.



Nominal Volume (liters)	Type of flush	Water efficiency rating	Tolerence (max. volume – complete flushing)	Tolerence (min. volume for water-saving flushing)
4.0	Dual control	A++	4.0-4.5	2.0-3.0
5.0	Dual control	A+	4.5-5.5	3.0-4.0
6.0	Dual control	A	6.0-6.5	3.0-4.0
7.0	Dual control	B	7.0-7.5	3.0-4.0
9.0	Dual control	C	8.5-9.0	3.0-4.5
4.0	Interruptible	A+	4.0-4.5	-
5.0	Interruptible	A	4.5-5.5	-
6.0	Interruptible	B	6.0-6.5	-
7.0	Interruptible	C	7.0-7.5	-
9.0	Interruptible	D	8.5-9.0	-
4.0	Complete	A	4.0-4.5	-
5.0	Complete	B	4.5-5.5	-
6.0	Complete	C	6.0-6.5	-
7.0	Complete	D	7.0-7.5	-
9.0	Complete	E	8.5-9.0	-

- Letter “A” → 6/3 liters = 1,6/0,8 US gal

- The award of A+ and A++ is reserved for the combined use of toilets suitable for low-volume flush, since not all toilets on sale in Portugal work properly with low-volume flush cisterns. The water efficiency label to be used in these circumstances must mention this factor.

- The use of these letters will also depend on whether there is a drainage system (building and public) designed for such reduced volumes. It may be recalled, for example, that European Standard EN 12056-2 (Gravity drainage systems inside buildings) does not allow the use of 4 liters flushing cisterns in drainage systems designed under System I of the Standard.

- As there is a project for a European Standard for WC and urinal flushing cisterns (prEN 14055:2007) it was decided that the water efficiency labels to be used in Portugal would comply with this Standard, where applicable.

- The label can only be awarded to flushing cisterns that comply wholly with the European Standard. In addition, the nominal and actual discharge volumes considered for the various label classes also comply with Table 3 of prEN 14055.

Showerheads and shower systems

- Shower systems and showers represent over 30% of the daily average domestic water consumption volume in Portugal.
- At this level, efficiency reduces both water consumption and the consumption of energy required for the production of hot water.
- The classification of these devices considers the following:
  - Shower heads (showers), individually;
  - Shower taps equipped with a hose and a shower head or with a fixed shower head (shower systems).

- For shower systems and showers, the model implemented (July 2009) considers the ideal usage (letter A) to represent a water consumption of between 5.0 liters/minute and 7 liters/minute (1,3 gal/min and 1,85 gal/min)

- The A and A+ labels applied to shower heads with a discharge of 7 l/min (1,85 gal/min) or less must bear the indication “Recommended for usage with thermostatic taps”, due to the increased risk of scalding.

Discharge (Q) (l/min)	Showers	Shower systems	Shower system with a thermostatic tap or an eco-stop function	Shower system with a thermostatic tap and an eco-stop function
Q ≤ 5.0	A+	A+	A++ (1)	A++ (1)
5.0 < Q ≤ 7.0	A	A	A+	A++
7.0 < Q ≤ 9.0	B	B	A	A+
9.0 < Q ≤ 15.0	C	C	B	A
15.0 < Q ≤ 30.0	D	D	C	B
30.0 > Q	E	E	D	C

(1) – Eco-stop functions are not considered of interest in these cases

Taps and other fixtures

- The certification and labeling of taps and other fixtures (urinals, etc.), are now being studied by the technical commissions of ANQIP.

Results. The case of flushing cisterns

- The water efficiency certification and labeling system for flushing cisterns was implemented in the 1st quarter of 2009. Approximately 40% of the companies on the market adhered to the new system from the outset. Initially, 29 flushing models were certified.

- Many companies and consumers have complied with the system, which now covers about 70% of the national market. 44 flushing models have been certified, corresponding to 93 commercial references.

- This table summarises the certifications awarded per category:

Category	No. of certifications awarded
A++	0
A+	2
A	86
B	5
C	0
D	0
E	0

- The situation presented was expected (i.e. no certifications awarded to the less efficient categories). In fact, because compliance with the system is voluntary, manufacturers/importers do not usually request labeling for less efficient categories.

- This is not negative for the system; quite the contrary. Since so many companies and consumers complied with the system, the lack of certification of the said flushing cisterns will gradually lead to their removal from the market, thus contributing towards ANQIP's goals.

Conclusions

- The efficient use of water is an environmental must for every country in the world.

- Some countries, like the Mediterranean countries, must develop measures to ensure this as a matter of urgency, since water availability could be significantly affected in the short- and medium-term.

- In the building sector, it is imperative to pay special attention to the use of efficient products as well as to the overall efficiency of buildings.

- This means using efficient fixtures and fittings as well as recycling water and tapping alternative water sources (like rainwater and groundwater).

- By using water-efficient products and practices, homeowners can help save natural resources and cut their water consumption and costs.

- In order to achieve these savings, consumers need to be able to identify products and services that use less water without sacrificing performance.

Thank you very much for your attention

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