

WATER RECOVERY AND REUSE



bioblu biogrigio



Starplast 



ENVIRONMENT NEEDS US

Water scarcity is the most serious problem that we are facing.

New researches reveal that 500 million people live in places where the annual consumption of water is double compared to the quantity that rainwater is able to restore.

Such occurrence is quickly bringing the groundwater to an irreversible degradation, making entire communities vulnerable.

Starplast wants to play its part;

therefore, it has already designed, for several years, two innovative plants for the recovery and reuse of water, saving the use of common water and thus costs of bills of 50%.

Water consumption per capita

WATER ON EARTH

Our planet is covered for 2/3 of its surface by water, divided as follows:

97,2%	salt water	oceans
2,8%	fresh water	2,1%" ice (polar ice caps and glaciers)
		0,6%" underground water
		0,01%" surface water
		0,001%" water present in the atmosphere



Therefore, fresh water represents only a very small part of the whole water present on Earth.

WHERE DOES TAP WATER COME FROM?



from purification plants



from groundwater



from mountain springs

SOME NUMBERS

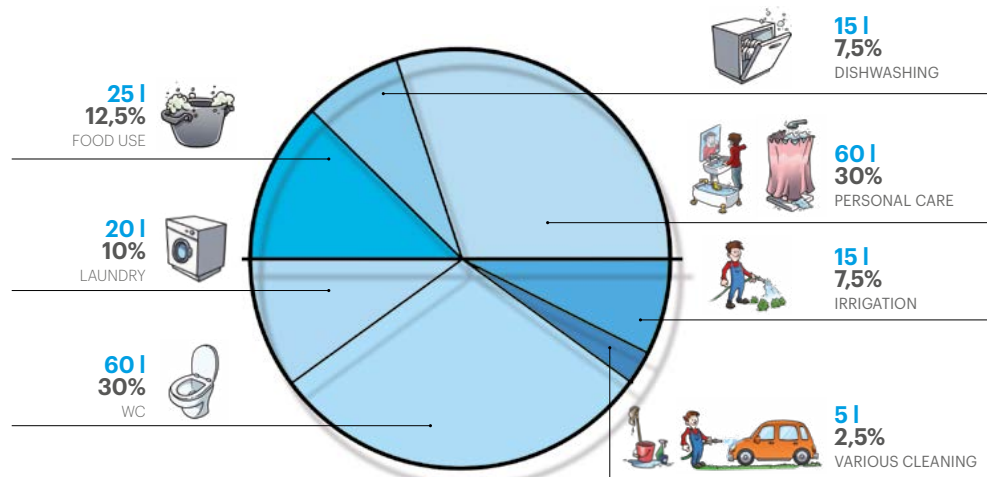
- 30%** pumped and purified water for domestic use
- 47%** lost water because of pipes breakage
- € 226.000.000** lost water cost
- 200 litri** daily water consumption per person



DAILY CONSUMPTION SCHEME

200 lt

DAILY WATER CONSUMPTION PER PERSON





plant for

**RAINWATER
RECOVERY**

bioblu

Risparmia il tuo oro blu

bioblu

Risparmia il tuo oro blu

A RESOURCE COMING FROM THE SKY

With the patented system Bioblu, Starplast can provide a series of complete plants which allow to recover and reuse rainwater, all of it maintaining an extremely easy management of the plant and ensuring a safe and certain economy of water saving. The fresh water resource on Earth represents a very small percentage of all that is present on the planet. Climate change, wastage and aqueduct's breakages affect the availability of drinkable water resources. Moreover, energetic costs for pumping, transfer and purification are extremely high.

For such reasons, the cost of drinkable water will raise in the next years with percentages until two digits.

About this, STARPLAST coined the slogan "save your blue gold", offering various plant engineering solutions.

We consider fundamental to provide inside buildings adequate systems which allow to save drinkable water and to reuse less precious waters (rain and grey) for some services which don't need drinkable water with a consumption saving even higher than the 50%.



KEY

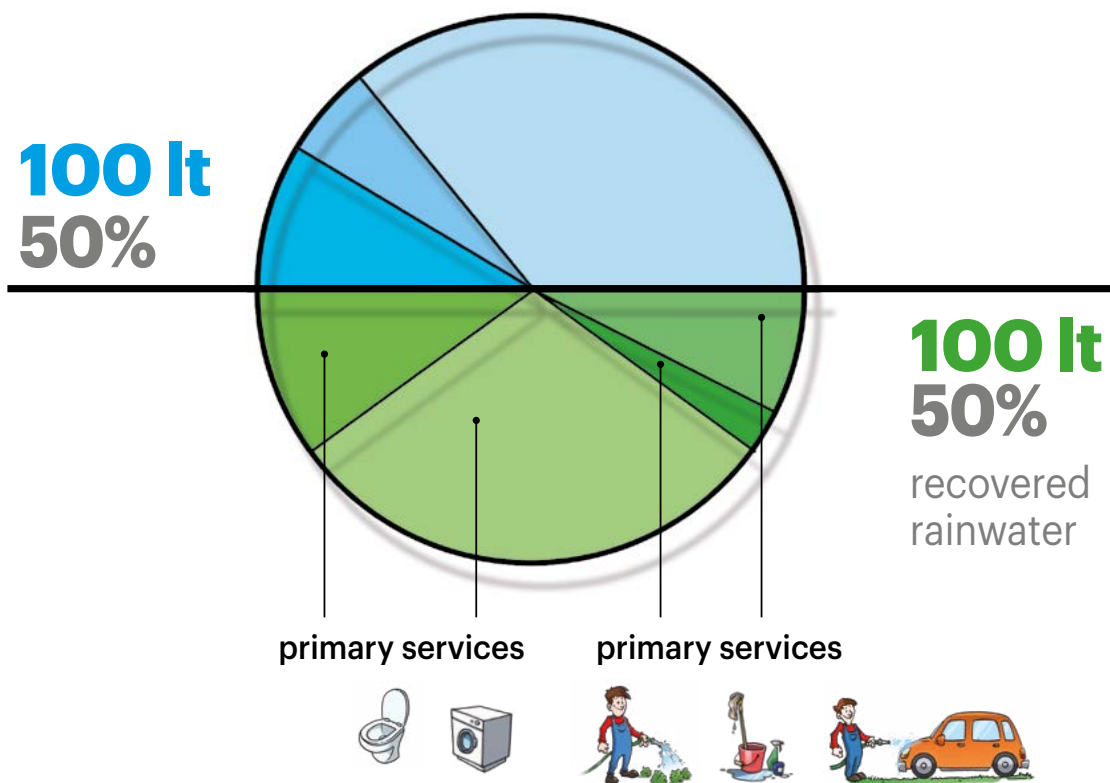
- (A) Rain water storage tank
- (B) Leaf filter, overflow and decanter pipe
- (C) Service tank with one-way valve
- (D) Pressurization pump
- (E) Control unit IRR / IDRO
- (F) Control unit protection box

ADVANTAGES OF BIOBLU PLANT

- Compact, non-invasive
- Easy to install, low cost of installation
- Easy and cheap management and maintenance
- Excellent performance and water treatment for reuse
- Low cost of purchase and management
- SAVING OF WATER CONSUMPTION UP TO -50% (water bill and sewage)
- SAVING OF DETERGENTS UP TO 50% for minor water hardness
- SAVING OF ELECTRICITY AND MAINTENANCE (washing machine, for absence of calcareous deposits in ducts and resistors)
- It moderates water outflow in discharges during thunderstorms
- It helps to limit big investment of hydraulic engineering which ravage the environment



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SOME RULES FOR WATER SAVING

- Don't let water flow unnecessarily when: we brush our teeths, we soap ourselves in the shower, we wash dishes
- Equipe the flush regulating the flows
- Fix all the leakages
- Don't forget the faucets semi-open
- Install the rainwater recovery plant for water dedicated to:
flush, laundry, irrigation, various cleaning



plant for

**GREY WATER
REUSE**

biogrigio

biogrigio

The Biogrigio plant is employed to purify, recover and reuse grey waters, coming from domestic discharges and it is able to ensure a daily water saving equal to 50%.

Grey waters to be treated come from the following uses:

sinks | showers | bathtubs | washing machines.

It allows the recovery and reuse of grey waters for irrigation and domestic uses. By "grey waters" we mean those coming from sinks, showers and bathtubs (excluding kitchen sinks). They are collected and treated to be sent to domestic users which don't need drinkable water. They are generally used for big numbers of users such as hotels, schools, apartment buildings, and so on.

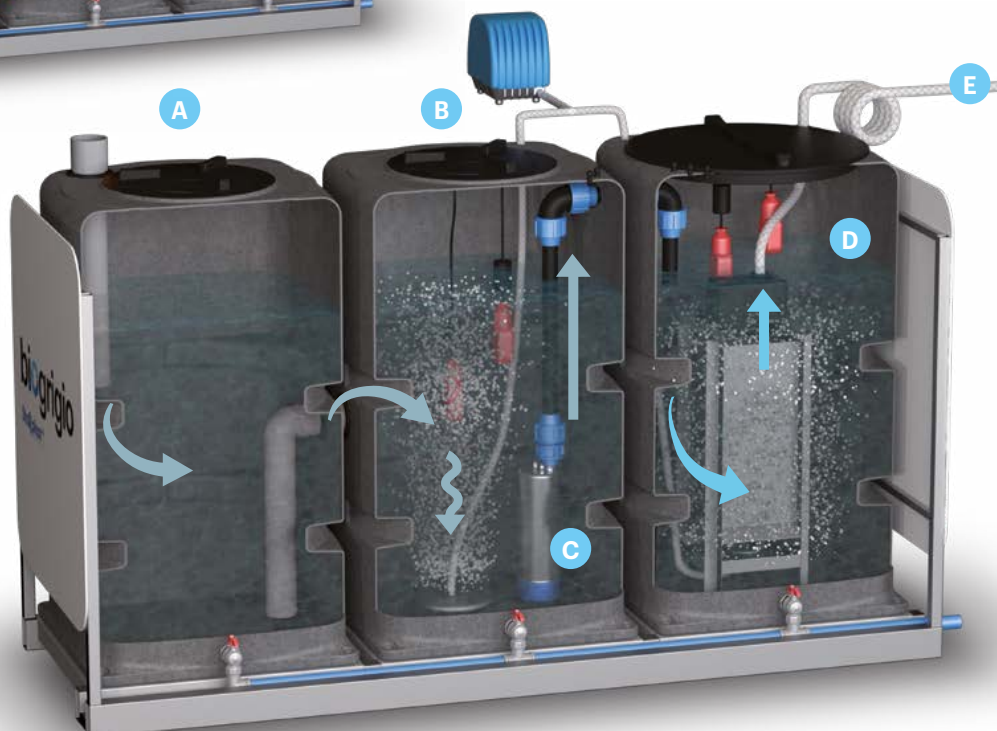
ADVANTAGES OF THE PLANT

- Higher quality of water
- Easy assembly
- Low costs of operation
- High water savings
- It ensures continuity of service in absence of rainfall events



KEY

- (A) Primary sedimentation
- (B) Biologic oxidation
- (C) Equalization pump
- (D) Ultrafiltration
- (E) Extraction of the permeated



GREY WATERS

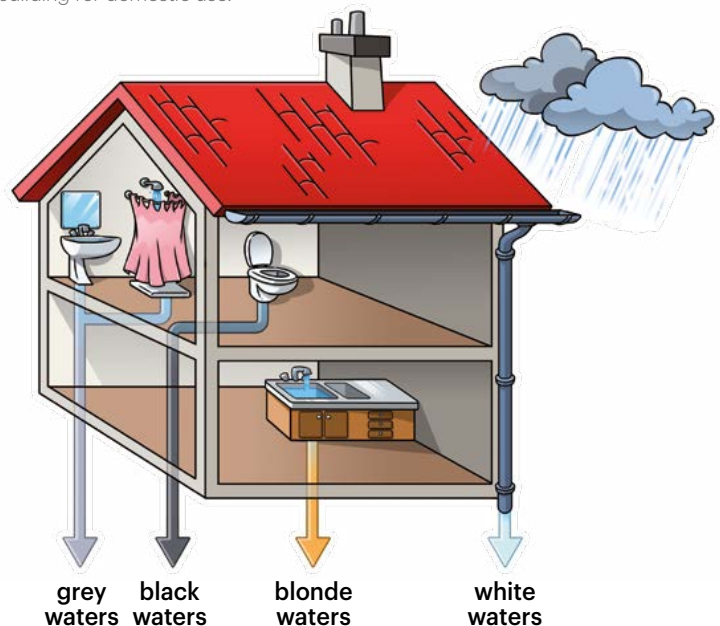
By "grey waters" we mean those coming from sinks, showers and bathtubs (excluding kitchen sinks) and that (because of their contamination degree) can be collected and treated to be then sent to domestic users which don't need drinkable water.

In a generic domestic user, in order to satisfy water necessities, drinkable water is collected from public network: such high quality water is indistinctly used for drinkable purposes (personal care and food cooking) and for non drinkable purposes (toilet cassette flushing, irrigation, and so on).

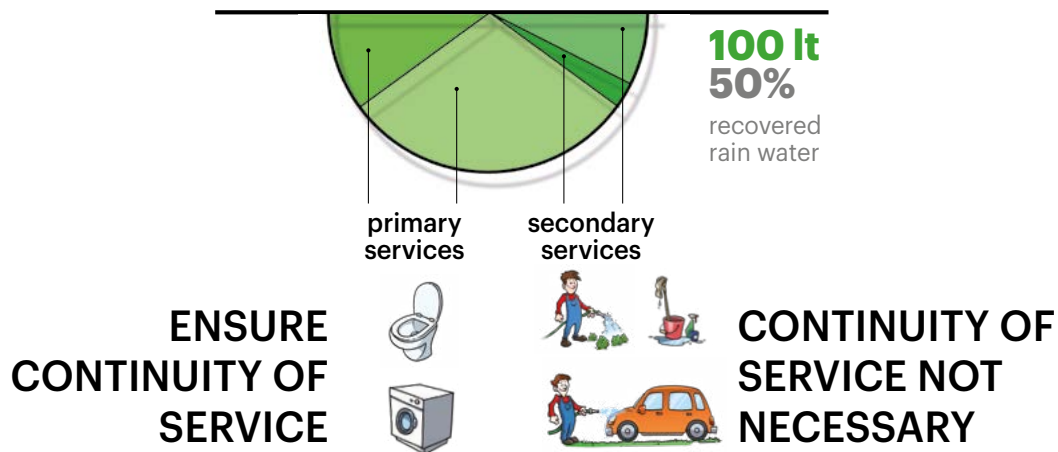
Therefore, it follows that a rate of high quality water is collected from the public aqueduct, used for non drinkable purposes and thrown into the sewage through the discharges of the domestic user.

A sustainable management of the waters cycle is instead based on the enhancement of less noble waters (grey waters and rainwater recovery) and on the use of high quality waters exclusively where such characteristics are requested.

Distribution of the discharges of water used in a residential building for domestic use.

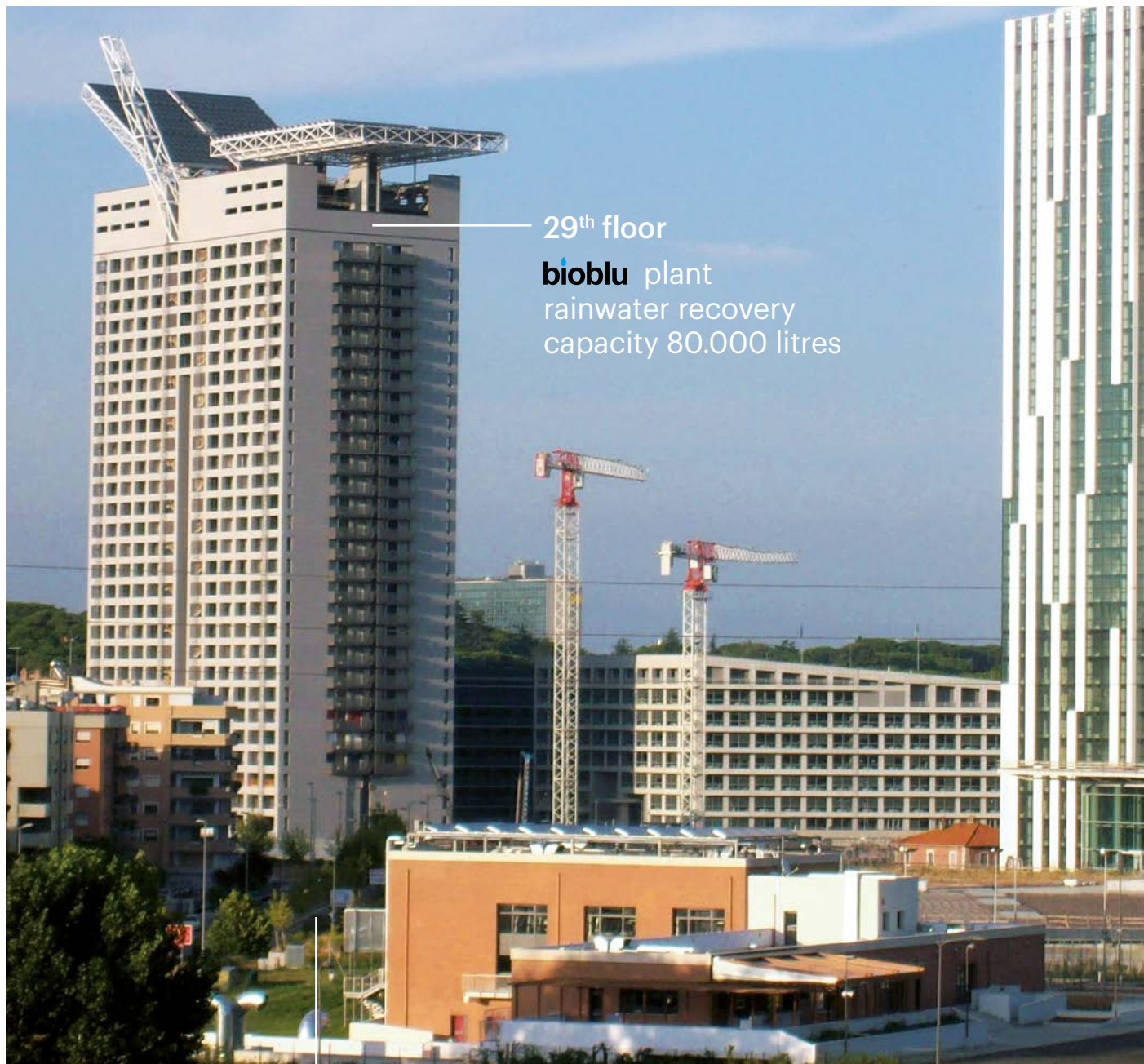


HOW TO ENSURE CONTINUITY OF SERVICE



consumptions	water source	litres per capita	%	classification	typology of treatment
Food use	Aqueduct	25	12,50	Blonde	Grease trap
Dish washing	Aqueduct	15	7,50	Blonde	Grease trap
Laundry	Rainwater	20	10,00	Grey	Grease trap
Various cleaning	Rainwater	5	2,50	Grey	Grease trap
Personal care	Aqueduct	60	30,00	Grey	Recovery
WC flush	Grey recovery	60	30,00	Black	Imhoff
Irrigation	Rainwater / Grey recovery	15	7,50	-	-
CONSUMPTION TOTAL		200 lt	100%"		
AQUEDUCT		100 lt	50%		
RAINWATER/GREY RECOVERY		100 lt	50%		

ROMA, Eurosky Tower



29th floor

bioblu plant
rainwater recovery
capacity 80.000 litres

basement -2

biogrigio plant
grey water recovery
capacity 24.000 litres/day

OTHER ADVANTAGES

Rainwater recovery: the topic of rainwater recovery for the maintenance of green areas and for car washes is present in 556 municipalities, in 449 of them it is a mandatory requirement.

Grey waters recovery: such topic is present in 199 regulations and in 39 of them is a binding requirement both in case of a new construction and in case of big renovations. For all the savings coming from recovery and reuse, in some cases incentives systems are foreseen.



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