

Rainwater  
Harvesting

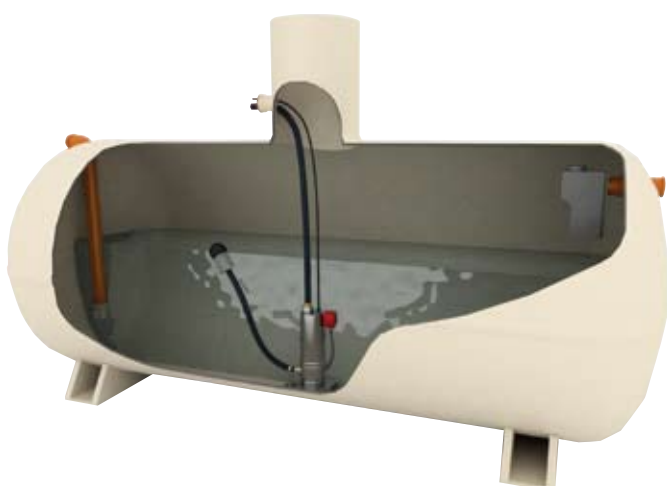
**BORD NA MÓNA** 

BORD NA MÓNA ENVIRONMENTAL LIMITED



# Rainwater Harvesting

[www.bnm.ie](http://www.bnm.ie)



Use of a Natural Resource

Easy to Install

Easy to Maintain

Fully Automated, User Friendly

Collection & Delivery of Rainwater

Storm Water Management Solution

Reduced Water Bills

## RainSava: The Bord na Móna Environmental Rainwater Harvesting Solution

**Rainwater harvesting is not a new concept.** Its popularity has increased significantly in recent years with the recognition that mains tap water is becoming an increasingly precious commodity. Rainwater offers a **sustainable, environmental alternative** to purified drinking water for non-potable use. Collecting rain from your roof also reduces surface water from your development and may offer a **storm water management solution**.

Nature delivers an abundant supply of soft rainwater, directly to your property. The roof, gutters and down pipes act as an inbuilt collection system. The RainSava rainwater harvesting system works by taking this rain, filtering out leaves and debris and storing the water in an underground tank. The water is then pumped into the property to be used for non-potable applications such as toilet flushing, washing machines and for outside use such as garden watering and car washing.



### Three Important Principles of Rainwater Storage:

1. **Water that enters the tank must be 'calmed'** - i.e. rather than openly discharge into the tank it should be directed to the bottom where it can gently percolate upwards, below the minimum water level.
2. **The tank must overflow periodically**, at least twice per year, in order that any floating debris can be removed by the skimming effect of a suitable overflow device. For this reason the volume of the tank should be carefully calculated to ensure that overflow conditions occur.

These first two principles are taken care of by the 'smoothing inlet' and the 'multisiphon' overflow trap fitted to RainSava tanks as supplied by Bord na Móna Environmental Ltd.

3. **Water should be extracted from the cleanest part of the tank**; i.e. just below the surface, as achieved by the use of a fixed or floating suction filter. This ensures that the water extracted avoids both floating debris and bottom sediments. It is important that this bottom sediment is not disturbed as in time it will form a beneficial biological layer that assists in maintaining water quality.

Cleaning the leaf filter is the only routine maintenance necessary for the operation of the system, although a visual check of the tank and its components should be carried out on an annual basis.

The RainSava system is made up of a number of separate components. Some of these are to be located in the underground storage tank, whilst the flow controller, the mains water top-up assembly and the level gauge (if used) are to be fitted in a convenient location within the building (e.g. utility or plant room).

## RainSava Designed to Perform

The RainSava system from Bord na Móna Environmental has been **designed to the highest standard**.

- It is easy to install, maintain and use (full installation and operation manual supplied with each system).
- The superior quality of each individual component in the RainSava system ensures optimum performance and durability of the system.
- The Bord na Móna technical team and national network of Customer Agents can design a tailor made RainSava system to meet both Domestic and Commercial requirements.

**RainSava Underground Storage Tank:** Underground storage tanks are available in a range of sizes to suit domestic or commercial applications as required.

**Leaf Filter:** The RainSava system incorporates a leaf filter which is **located separately** in the rainwater pipe after it goes underground. (The leaf filter is installed similar to a gully trap). The unit contains a stainless steel filter which diverts the rainwater into the supply pipe to the RainSava underground storage tank.



**The filter design ensures:**

- That the rain water passes through the vortex filter and into the RainSava tank and any debris and leaves are filtered out.
- **Access to the filter** is simple ensuring ease of cleaning which in turn ensures that the quality of the water entering the RainSava storage tank is not compromised by having dirt or leaf particles in it.

**Other Features of the RainSava System:**

- **Smoothing Inlet Filter:** Calms the flow of water into the tank
- **Submersible Pump with Floating Suction Filter:** The floating suction filter maintains the position of the filter intake just below the water surface which is the site of the cleanest

water. A fine mesh filter provides added filtration. The pump supplies water on demand by pumping it to specific appliances in the house.



- **Pressure Switch:** The pump is controlled by a combined pressure switch/flow controller which turns the pump on and off when required and also provides dry running protection for the pump should it be necessary.
- **Mains Water Top-Up:** The control system senses the water level within the underground tank. When stored water is not available the system automatically switches to mains water top up, provided by a solenoid valve, controlled by a float switch in the tank, thereby ensuring that a constant water supply is maintained without user intervention.
- **Overflow Trap:** This allows excess water in the tank to overflow into the on site drainage system, it also provides a water seal against any foul odours from drains and acts as a barrier to rodents.



- **Level Gauge (optional):** Gives a visual indication of the water level in the underground storage tank.

## RainSava Commercial System

Ideally Suited to Commercial Applications, the large roof area can catch a large volume of rain water. Suitable for:

- Office Buildings
- Warehouse & Factories
- Industrial Developments
- Schools & Public Buildings
- Farms and Agricultural Buildings
- Garden Centres & Nurseries
- Housing Developments
- Car & Truck Washes

### Benefits of the RainSava system for Commercial applications:

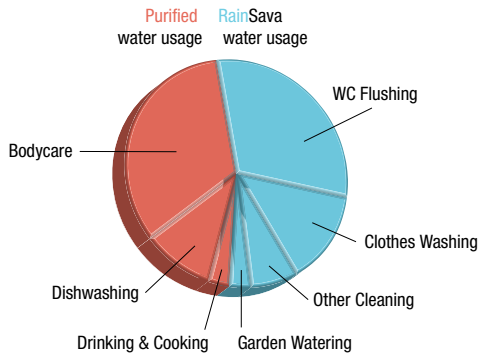
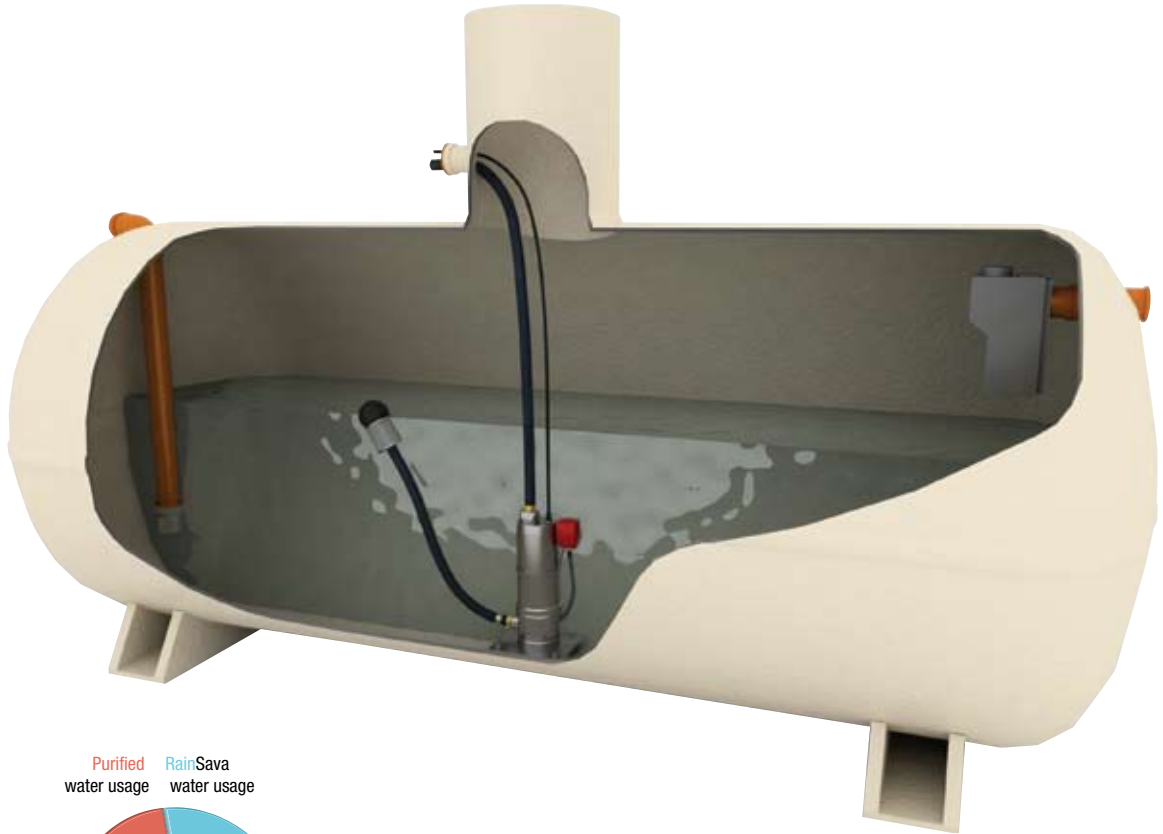
- Commercial developments have a greater requirement for non-potable water for uses such as toilet flushing, wash down etc. Rainwater collected from the roof can be used for non potable requirements.
- Commercial water is metered and businesses have to pay for water used – the RainSava allows you to replace mains water with rain water from your roof.
- The financial benefit by converting from mains water to rain water usage begins as soon as the RainSava system is installed and operational.
- Many commercial premises have large roof areas and are therefore able to collect large volumes of rainwater.
- The RainSava system can be designed specifically by the Bord na Móna Environmental technical team to meet the individual requirements of the business or premises – tailor made for your specific development.
- Direct or Gravity options are available – the Direct system pumps water from the RainSava storage tank. The Gravity system uses a header tank to store the filtered water from the RainSava tank and delivers the water by gravity to the required location.



### Rainwater can be used for:

- Toilet Flushing
- Wash down
- Vehicle Washing
- Irrigation
- Washing Machines





Purified water is required for drinking, cooking, dishwashing and bodycare; but these uses account for less than half the water usage of a typical household. Almost one third of the average household's water is flushed down the toilet. Rainwater can be used for toilet flushing, washing machine, garden watering and car washing.

### Why Choose Bord na Móna Environmental?

- Over 20 year's industry experience.
- Supplier of reliable, sustainable rainwater harvesting solutions.
- Never compromise on quality.
- A range of options: Rainwater harvesting systems for a broad range of applications (single house and commercial systems available).
- Customer focused and responsive: assistance from pre-planning to delivery.
- International experience: Ireland, UK & USA.

### Advantages of Rainwater Harvesting

- Can save up to 50% mains water usage.
- Reduced water bills.
- Improves sustainability of water use.
- Adds value to property.
- Low maintenance.
- Soft rainwater creates no lime scale.
- Below ground tank (cool and dark), low visual impact, no algae growth.
- Rainwater best for garden watering.



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## Product Range:

### Rainwater Harvesting:

- RainSava Domestic & Commercial Systems

### Single House:

- Puraflo Single House
- Platinum Single House (Package Plant)
- Puraflo Tertiary Treatment
- Phosphorus Reduction

### Surface Water Treatment:

- Silt Traps
- Separators
- Storm Water Attenuation Tanks

### Services:

- National Network of Agents/Installers
- Pre-Planning Site Specific Reports/Quotations
- Delivery/Installation/Commissioning
- Service Contracts
- Maintenance Call Out Service

### Commercial/Small Community Systems:

- Puraflo Multiple Module
- Puraflo Peat Filter Bed
- Puraflo Tertiary Treatment
- Moving Bed Biological Reactor (MBBR - Concrete Tank Mechanical Aeration)
- Platinum 2000 Series (GRP Package Mechanical Aeration)
- High Rate Sand Filters
- Reed Beds
- Pumping Stations
- Nutrient Removal
- Telemetry Monitoring
- Flow Metres
- Composite Sampling