

# GREEN SPLASH

## Read Inside

- SOLAR- UV AND OZONE WATER TREATMENT
- GREYWATER AND RAINWATER SYSTEM
- IMPLEMENTATIONS
- GLOBAL MARKET TRENDS

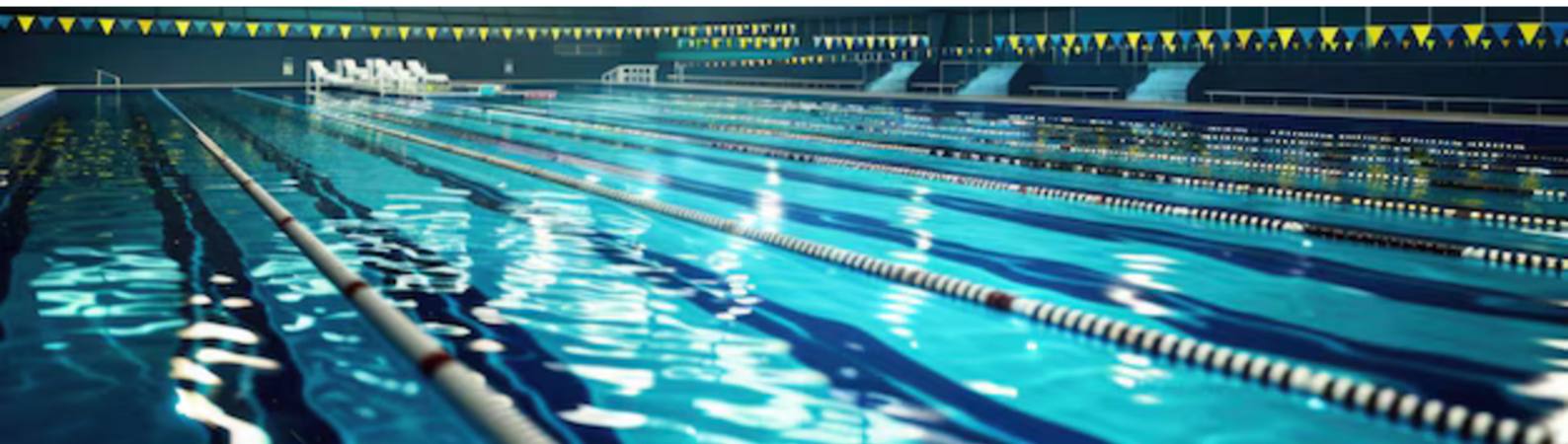






# GREEN SPLASH

The use of circular water systems as part of pool design is increasingly urgent given the rising global water crisis. Using renewable energies and new water recycling strategies, we can mitigate water use and promote sustainable practices through our recreation facilities!







# SOLAR- UV AND OZONE WATER TREATMENT

Chlorine remains the most utilised pool water disinfectant. However, due to the chemical nature of chlorine, we are all too familiar with Disinfectant By-Products (DBPs) and their negative and unsafe effects on the swim experience.

- **Effectiveness:** UV light at 254 nm causes inactivation of viruses and bacteria by damaging the microorganisms' DNA, while Ozone destroys and oxidises the microorganisms' cell membrane.
- **Chlorine Reduction:** UV/ozone systems can reduce chlorine use by more than 53%. This was the case during a 27-day study based on a 28,000-gallon pool.
- **Health Benefits:** UV and ozone systems reduce chloramines and are subsequently much less irritating to skin and eyes, and improve air quality around pools.
- **Energy Savings:** UV Systems are being designed for efficiency in energy consumption, higher and lower energy means using lower energy levels for the same efficacy.



# GREYWATER AND RAINWATER SYSTEMS FOR POOL TOP-UPS

Using greywater (from baths, sinks, and washing machines) or rainwater to refill pools can offer considerable savings on potable water supply.



- **Water Conservation:** A study measuring a household's use of a combination of rainwater and greywater found that with the system installed, average household consumption of potable water was decreased by 38% each month.
- **Garden Irrigation:** Greywater reuse has long empowered sustainable gardening and holds importance for dry countries, such as Australia, which has allowed the use of greywater in garden maintenance during periods of drought.
- **Public Perception:** Greywater reuse is generally effective for these systems; however, public acceptance varies due to health risk perception. Education and treatment can help alleviate some of these concerns.



# REAL-LIFE IMPLEMENTATIONS



## ITC Grand Chola Hotel, Chennai

The ITC Grand Chola Hotel represents an unprecedented integration of sustainable pool and landscaping.

- **Water Management:** The hotel has satisfied all its irrigation, flushing and cooling tower water requirements with treated effluent, significantly reducing the use of fresh water.
- **Rainwater Harvesting:** On-site buildings collect and retain all stormwater where no runoff occurs, and groundwater recharge is encouraged.
- **Energy Efficiency:** The hotel uses solar and wind farms and, in an environmentally sustainable way, can fulfil all of its energy demand from renewable sources.
- **Certifications:** The hotel is the world's largest hotel to be recognised with the esteemed LEED Zero Carbon Certification, illustrating its commitment to sustainable tourism.

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## Heritance Kandalama, Sri Lanka

The hotel is designed by architect Geoffrey Bawa and melds into nature.

- **Water Systems:** Rainwater harvesting and wastewater treatment are used for landscaping and non-potable uses.
- **Certifications:** The most advanced LEED-licensed hotel in Asia and the first green hotel to be LEED certified in the world.



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## Shangri-La's Mactan Resort & Spa, Cebu, Philippines

The resort is a striking example of balance with nature, not just in design but also in operations.

- **Water Management:** Uses rainwater harvesting and water waste treatment systems.
- **Landscaping:** incorporates a fish sanctuary and recycled water lagoon pools.





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## Playa Viva – Juluchuca, Mexico

Playa Viva is an eco-resort designed to showcase sustainable water management and includes the following:

- **Greywater Recycling:** Treated greywater from showers and sinks is used for the irrigation of the gardens.
- **Biological Pool System:** Swimming pool is naturally cleaned through aquatic plants and does not need chemicals.
- **Solar-Powered Desalination:** Ocean water is converted to drinking water using solar power.
- **Rainwater Harvesting:** Rainwater is collected and is the main water source for the hotel.





# Global Market Trends

The worldwide swimming pool market is transitioning to sustainable options:

- **Market Growth:** The swimming pool market is expected to grow substantially from the increasing demand for sustainable solutions.
- **Consumer Preferences:** More than 60% of consumers in Europe and North America prefer products that are environmentally friendly, creating a market niche for sustainable pool products.
- **Technological Advancements:** New innovations in solar pool filtration systems and energy-efficient equipment are becoming standard in new designs.

Incorporating circular water systems in pool design in a way that is sustainable and environmentally and economically sustainable. With solar-powered UV and ozone treatments and greywater and rainwater systems, facilities can significantly cut back on water and energy consumption while providing a great benefit to the environment.



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