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مجلس الشرق الأوسط وشمال أفريقيا للترفيه والجذب السياحي
Middle East and North Africa Leisure & Attractions Council

VENDOR TALK – JANUARY 2022

IMPLEMENTING SUSTAINABILITY IN THE WATER PARK INDUSTRY



Water is a precious element, essential to all life on earth, sustaining us both physically and emotionally. Water parks use this and other vital resources to create wonderful, shared experiences all around the world. The WhiteWater team recognizes that creating fun with water must not risk our planet's future.

We are hard at work across every area of our business to minimize our carbon footprint and waste, empowering our people and investing to ensure our products are the benchmark for sustainability in our industry.

To develop a more sustainable future, we wanted to share some tips and practices parks and other manufacturers can implement to ensure we are reducing our impact on the environment.



Park Planning & Design

Having an experienced architect and landscape architect to consult on your park's design is one way to make sure that you are considering the environment from the earliest stages of park planning. Especially in the Middle East, where temperatures can be extreme, architects are an essential resource to help take a holistic view of the water park and create concept designs that incorporate

green materials and enhanced landscaping for carbon absorption, natural shade, and reduction in irrigation needs.



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In a similar fashion, on the materials side of park planning, deck surfaces such as Life Floor are a great solution to mitigate heat absorption and associated evaporation. These materials can be designed to fit the aesthetic of the water park or extend the theme of the slides into the floor.

Engineering & Product Design

Water slides should be designed with water and energy efficiency in mind, from beginning to end. One way to design slides with water efficiency is to use low-water entry tubs to minimize water use and enable self-dispatch. During the ride experience and at the run-out lane, different riser types should be used to not only ensure maximum water containment, but to also provide guests with an even more exhilarating ride. By running safety simulations, manufacturers can detect where splash-outs may occur and then take preventative measures to prevent water loss.



Another example of reducing water usage can be found in the water play zones. Instead of having water running and spraying the whole time, you can install “cause and effect” features where children can activate a water jet or a tipper with their hands or feet. (Bonus: This increases the play value.)



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Water & Energy Conservation

Though not as visible, except on your electricity bill, energy is an important consideration in a water park's sustainability plan. There are ways for water parks to drastically reduce that cost. One energy conservation method is to use variable frequency drives to adjust pump speeds during operation in a wave pool or uphill on a water coaster. In the past, the jets used to power guests uphill on these rides would have been continuously on, pumping water non-stop, resulting in an inefficient use of power and water. However, variable frequency drives (VFDs) dynamically adjust pump speeds while the ride is in operation. The new system saves significant power by only ramping up motor speed when it needs to drive riders uphill. It also reduces the wear and tear on the mechanical equipment and is more energy efficient because the motor is not constantly running at a set speed.



Or, in water play zones, you can increase the auto play time of the tipping buckets to save energy, which heightens the anticipation among the children waiting for the water to pour onto their heads. While saving electricity, you can try to use greener forms of energy at the same time. You can install solar panels on buildings, structures, or kiosks to run lighting, POS terminals, or as a guest amenity to charge phones. You can use electric vehicles to shuttle guests and staff around.

Conclusion

Because our industry can be quite resource-intensive, it's important for all of us to make small changes to help fight the climate crisis. Download the graphic below for a complete list of sustainability practices that can be implemented in water parks and theme parks and visit www.whitewaterwest.com/en/about/sustainability/ for more information and ideas.



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Sustainability Steps Parks Can Take

SLIDE PATH ENGINEERING

- Use low-water entry tubs to provide low water use and self-dispatch.
- Install launch controls to automate and enhance efficiency in rides to minimize water use per rider.
- Utilize rider splash containment (defined in simulations) where most water loss would occur and take preventative measures to contain water.

PARK PLANNING & DESIGN

- Select deck materials such as Life Floor to mitigate heat absorption and reduce evaporation.
- Work with an architect on strategic shade integration to reduce evaporation and mitigate temperature impacts.
- Apply enhanced landscape development to act as a carbon absorption and provide natural shade.

WATER & ENERGY CONSERVATION

- Make energy efficiency a primary goal.
- Install timed flow rate taps to reduce water waste.
- Invest in low flow showers and toilets.
- Utilize landscape irrigation for reuse of locally generated wastewater.
- Employ drainage systems tied to recharge wells.
- Adopt solar heating, biofuel, and other energy alternatives.

MECHANICAL & WATER TREATMENT

- Reduce water use for savings on chemicals and heating.
- Reduce backwash through enhanced filters.
- Heat recovery in backwash.
- Utilize salt-generated chlorine for reduced delivery footprint and general safety.
- Employ UV disinfection for environmental safety.

SUSTAINABLE CONSTRUCTION

The World Green Building Council suggests:

- Plan to minimize energy use, making new and renovated buildings less expensive to run.
- Harvest rainwater to aid in flushing toilets.
- Bring fresh air inside, while avoiding materials that create harmful emissions.



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