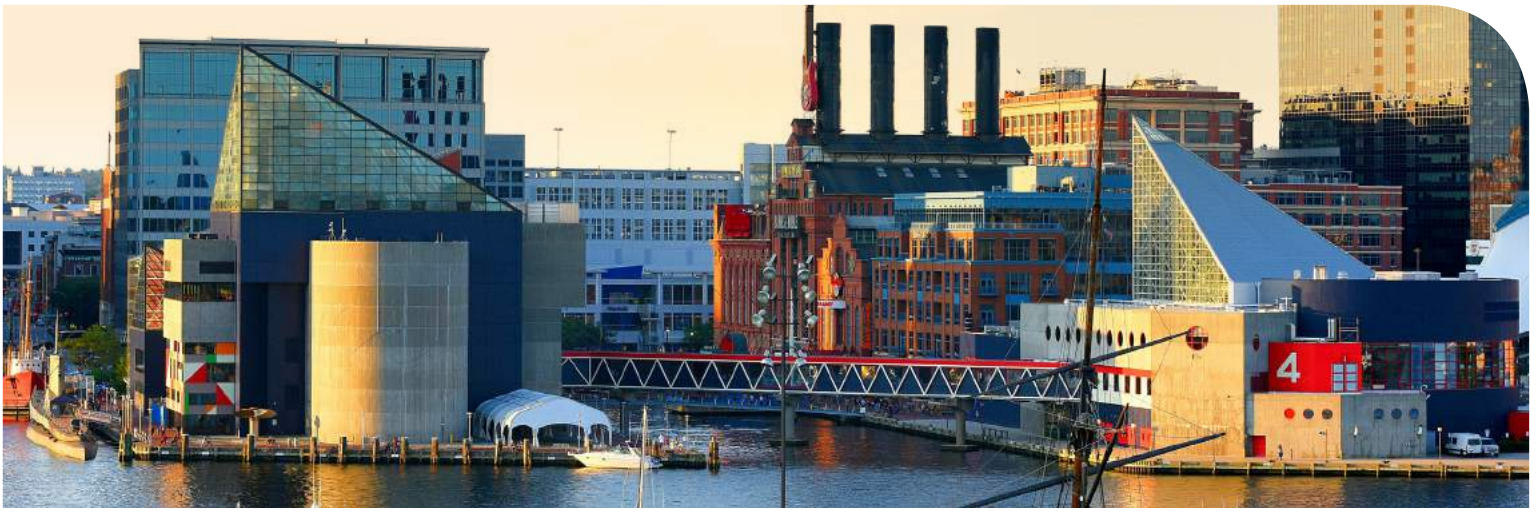


NATIONAL AQUARIUM IN BALTIMORE, MARYLAND

Sustainable partnership with Veolia helps cool aquatic treasures



“Through this partnership with Veolia, we are able to maintain the comfort of our visitors and support the delicate air and water temperature requirements of our aquatic plants and animals,” said John C. Racanelli, president and CEO of the National Aquarium. “The use of Veolia’s chilled water system and electronics recycling services stands as a testament to the National Aquarium’s focus on sustainability and supports our mission to conserve the world’s aquatic treasures.”



NATIONAL AQUARIUM



1.3 million
annual visitors

20-year
chilled water agreement

1,250 tons
of chilled water cooled
to 37 degrees °F

25 chilling units

2,500
lamps & ballasts recycled
annually (approx.)

8 miles
worth of fluorescent
lamps recycled

310,155 mg
of mercury recovered
from electronics and diverted
from landfills

Scope

Since 2001, Veolia has been providing 1,250 tons of district chilled water to the National Aquarium in Baltimore, where 1.3 million people visit annually. In addition to helping cool the facilities and various exhibits, Veolia also provides electronics recycling. The 30-year-old national landmark consists of three buildings that contain hundreds of different species of plants and animals.

Challenge

Spanning across two piers within the historic Inner Harbor seaport, the iconic National Aquarium is home to nearly 20,000 aquatic animals, with over 700 species of fish, birds, amphibians, reptiles, and mammals – all requiring specific air and water temperature. To support its growing cooling needs for general spaces and various exhibits, the Aquarium required additional chilling capacity in 2001. Due to Veolia's exceptional chilled water system reliability, the Aquarium opted to supplement its cooling capacity through a long-term supply agreement.

Veolia's solution

For over 15 years, Veolia has delivered reliable chilled water to the National Aquarium, cooled to a precise 37 degrees °F, from its nearby centrally produced chilled water system. Used mostly in summer months, Veolia's chilled water is also used to offset the heat caused by guests, weather and lighting year-round. In addition to supplementing the cooling requirements throughout the Aquarium, Veolia also supplies chilled water for roughly a dozen exhibits, including the coral reef, kelp forest, anemones, puffins and octopus.

Since fluctuations in water temperature can cause stress and harm to the animals, the Aquarium uses the district chilled water system to maintain temperatures from fluctuating more than 2-3°F from the ideal temperature requirements for each exhibit. Certain species of seabirds, such as the Atlantic puffin, require cooler environments, mirroring their native habitat in the northeastern Pacific. Using Veolia's chilled water, the water in the Puffin exhibit is cooled to approximately 40 degrees °F and the air temperature set to a frosty 42 degrees °F. The Pacific octopus, named Lorelai, also requires and enjoys cooler water temperatures.

Since 2012, Veolia has also provided recycling of lamps and ballasts—ridding these electronics of harmful mercury. Mercury, even in small amounts, is extremely toxic to aquatic life and humans. Once mercury enters into the food chain, it remains indefinitely, continuing to contaminate different species of fish and animals.

Result

Recently, Veolia was engaged to refurbish some of the Aquarium's on-site heat exchangers, eliminating downtime and ensuring appropriate chilled water temperature and quality. By partnering with Veolia, the Aquarium is able to meet its cooling needs, support the cooler air and water temperature requirements of various aquatic species and further its conservation efforts through electronics recycling.

SPECIES SUPPORTED:

- **Pacific Octopus (Lorelai)**
- **Puffin:**
 - Razor bill
 - Black Guillemot
 - Atlantic puffin
- **Kelp forest:**
 - Multiple kelp plants
 - Different types of fish and starfish
 - Horn shark
 - Eel
- **Various anemones, including:**
 - Painted tail
 - Rose
 - White spotted
- **Various fish, including:**
 - Red Irish Lord Sculpin
 - Pacific Sanddab
 - Kelp perch