Association of Aquatic Professionals

The Association **for** Aquatic Professionals
by Aquatic Professionals

Position Paper by the Association of Aquatic Professionals (AOAP)

Environmental Sustainability in Aquatic Operations: Frameworks for Energy Efficiency, Water Conservation, and Carbon Footprint Reduction

Executive Summary

Environmental sustainability is an urgent priority for aquatic facilities nationwide. The Association of Aquatic Professionals (AAP) strongly advocates for the adoption of robust frameworks that promote energy efficiency, water conservation, and reduction of carbon footprints. Adhering to local, state, and federal guidelines, as well as the Model Aquatic Health Code (MAHC), is not only a regulatory necessity but also a moral imperative to ensure the longevity of aquatic operations and their positive impact on communities and the environment.

Introduction

Aquatic facilities—pools, waterparks, aquatic centers—are essential community assets, providing recreation, education, and wellness opportunities. However, these operations are resource-intensive, consuming significant energy and water, and contributing to greenhouse gas emissions. Environmental sustainability in aquatic operations is crucial for regulatory compliance, operational efficiency, cost reduction, and community health.

The Importance of Environmental Sustainability in Aquatic Facilities

1. **Resource Efficiency**: Massive energy and water consumption can strain local resources and budgets.
2. **Regulatory Compliance**: Local, state, and federal guidelines increasingly require sustainable practices.

3. **Public Health and Safety**: The MAHC links environmental management to user safety and health outcomes.
4. **Community Leadership**: Facilities can model environmental stewardship, fostering wider sustainability adoption.
5. **Financial Savings**: Efficient operations lower long-term costs, supporting fiscal health.

Frameworks for Environmental Sustainability

1. Energy Efficiency

- **Benchmarking and Auditing**: Regular energy audits to identify inefficiencies.
- **Efficient Equipment**: Install variable speed pumps, high-efficiency heaters, LED lighting, and automated controls.
- **Renewables**: Integrate solar, geothermal, or other renewable sources where feasible.
- **Building Envelope Improvements**: Insulate pool covers, doors, and windows to reduce heating/cooling losses.
- **Demand Management**: Schedule operations to minimize peak energy use.
- **Training and Policies**: Educate staff on energy-saving practices and establish routine maintenance for optimal performance.

2. Water Conservation

- **Leak Detection and Repair**: Implement regular leak checks and rapid repair protocols.
- **Evaporation Reduction**: Use pool covers and windbreaks; optimize water features to limit unnecessary spray/aerosol.
- **Filtration and Recirculation**: Employ advanced filtration systems and backwashing protocols to minimize water waste.
- **Rainwater Harvesting and Reuse**: Collect rainwater for irrigation or non-potable uses.
- **Low-Flow Fixtures**: Install water-saving showers, toilets, and faucets in facility restrooms.

3. Reducing Carbon Footprints

- **Carbon Accounting**: Measure direct and indirect facility-related greenhouse gas emissions.
- **Operational Optimization**: Schedule activities and maintenance for minimal resource use.
- **Alternative Transportation**: Encourage staff and visitors to use public transit, cycling, or carpooling.
- **Green Procurement**: Source eco-friendly chemicals, cleaning agents, and materials.

- **Waste Reduction**: Implement robust recycling and composting programs.

Regulatory and Code Compliance: Local, State, Federal, and MAHC

Local Guidelines

- **Land Use and Zoning**: Ensure new and renovated facilities meet municipal sustainability ordinances.
- **Stormwater Management**: Adhere to local drainage and water quality standards.

State Guidelines

- **Energy Codes**: Comply with state-level building and energy codes (e.g., Title 24 in California).
- **Water Restrictions**: Abide by state mandates for drought response and water use reduction.

Federal Guidelines

- **EPA WaterSense and ENERGY STAR**: Use certified products and processes.
- **Clean Water Act and Clean Air Act**: Avoid discharges and emissions that violate federal standards.
- **Americans with Disabilities Act (ADA)**: Ensure upgrades support accessibility and inclusion.

Model Aquatic Health Code (MAHC)

The MAHC, developed by the CDC, provides a comprehensive, science-based model for aquatic facility operation. It incorporates environmental sustainability as a core component of public health, with explicit recommendations for:

- **Efficient design and retrofitting**
- **Water quality and management protocols**
- **Energy-conscious facility management**
- **Waste minimization**
  Adhering to the MAHC ensures that facilities not only meet but exceed best practices, protecting user health and the environment.

Why This Is Essential for Facilities

- **Health and Safety**: Sustainable practices reduce risks of waterborne diseases, air quality issues, and accidents.
- **Operational Resilience**: Efficient resource use buffers facilities against rising utility costs and supply disruptions.

- **Community Trust**: Demonstrated commitment to sustainability builds public confidence and patronage.
- **Long-Term Viability**: Integrating sustainability ensures continued facility operation amid evolving regulations and environmental challenges.

Conclusion and Recommendations

The Association of Aquatic Professionals urges all aquatic facility operators to adopt comprehensive environmental sustainability frameworks. By aligning with local, state, and federal guidelines, and following the Model Aquatic Health Code, aquatic facilities can:

- Reduce operational costs
- Enhance public health safety
- Demonstrate environmental leadership
- Secure long-term operational success
  AAP stands ready to support aquatic professionals with resources, training, and advocacy to advance sustainable aquatic operations nationwide.

Endorsed by the Association of Aquatic Professionals Board, 2026