

# Solve the Energy Dilemma in Your Water/Wastewater Operations

Solutions And Consulting In Energy Management, Performance Contracting and Support Services

Make the most of your energy®

**Schneider**  
Electric

# You need reliable, safe, efficient and cost-effective operations 24/7...



## Key energy facts<sup>1</sup>

- Water and wastewater plants account for 75 billion kilowatt-hours of U.S. demand.
- One-third of a municipality's energy bill is for water and wastewater.
- More than \$4 billion is spent annually on power for water and wastewater treatment.
- Due to population increases and regulations, water and wastewater loads are expected to increase by 20% over the next 15 years.

<sup>1</sup> EPA – Ensuring a Sustainable Future: An Energy Management Guidebook for Wastewater and Water Utilities – January 2008

Rising energy costs? Growing populations and limited system capacity? Increased operating costs and reduced financial budgets? Ongoing equipment maintenance and needed upgrades? State and/or local mandates for “greener” facilities? Few operations face tougher requirements or more demanding circumstances than modern water and wastewater treatment plants. To meet these challenges, you need a dedicated partner with the energy services expertise and proven water and wastewater experience to make a positive impact on your current and future operations.

## Make Schneider Electric your partner of choice.

Our Energy Solutions organization provides peace of mind by optimizing your facility's financial and energy resources. Through performance contracting and energy efficiency consultation, we provide turnkey solutions to make energy improvements across your plant with guaranteed system performance and energy savings. And, in the unlikely event you don't achieve the guaranteed savings, Schneider Electric will pay the difference.



# The Performance Contracting Advantage

## Guaranteed system performance with assured energy savings

Performance Contracting from Schneider Electric is a turnkey solution that can help publicly funded entities make energy-saving capital improvements over longer payback periods. This all-in-one approach includes the delivery of a comprehensive set of energy conservation and reliability measures with stated performance guarantees. To remove any project funding obstacles, we work with you to set up flexible funding options for the identified improvements, with payments made from the generated energy savings and Schneider Electric paying any difference.

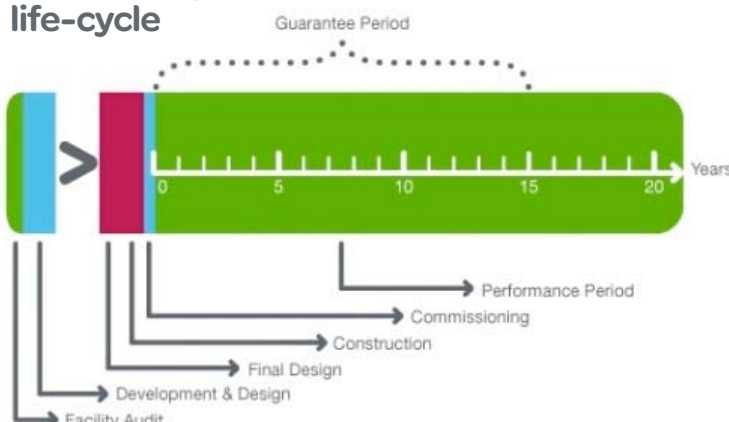
The new or upgraded equipment implemented as part of this program will make a positive impact on your operations – and the environment. That's because more efficient facilities and systems generate utility savings, maximize energy efficiency, decrease life-cycle costs and improve your ability to meet future mandates and operational demands. Our extended energy services can additionally include long-term energy planning, energy remote monitoring, executive reporting, regular energy auditing, and facility checkups.



### All-in-one approach

- Capital needs assessments
- Energy/utility auditing and master planning
- Comprehensive energy management strategy
- Conversion to renewable energy sources
- Project design/development/construction
- Project financing
- Performance guarantees
- Staff training
- Remote monitoring and control

### Performance Contracting life-cycle



## \$1 billion saved

Since 1992 Schneider Electric has successfully completed hundreds of Performance Contracts for our customers.

# Optimizing Energy Savings

## Engineering solutions for your facility

To understand your needs and how you define a successful partnership, we host a workshop for your decision-makers to assure that all stakeholders understand how your Performance Contract will work and the value it will bring.

From this, we then conduct a preliminary energy audit to identify potential savings opportunities and energy conservation measures (**ECM**). After completing the preliminary audit, we submit our proposal for a Performance Contract tailored to address **your** plant's specific needs.

After you take standard procurement steps to select Schneider Electric, we will then conduct a more comprehensive audit and provide you with a detailed scope of work statement along with the project's cost and our guarantee for energy savings.

Then, our expert teams, design consultants and contractors work to implement the recommended ECMs in your facility. We manage the entire process, leveraging the power of our global brands to deliver and install the highest quality, energy-efficient products, services and solutions available.



The environmental impact of Schneider Electric's Performance Contracts between 1992 and 2009 equated to removing 332,585 cars from the road... planting 452,315 acres of trees... or reducing CO2 emissions by 1,662,923 tons.

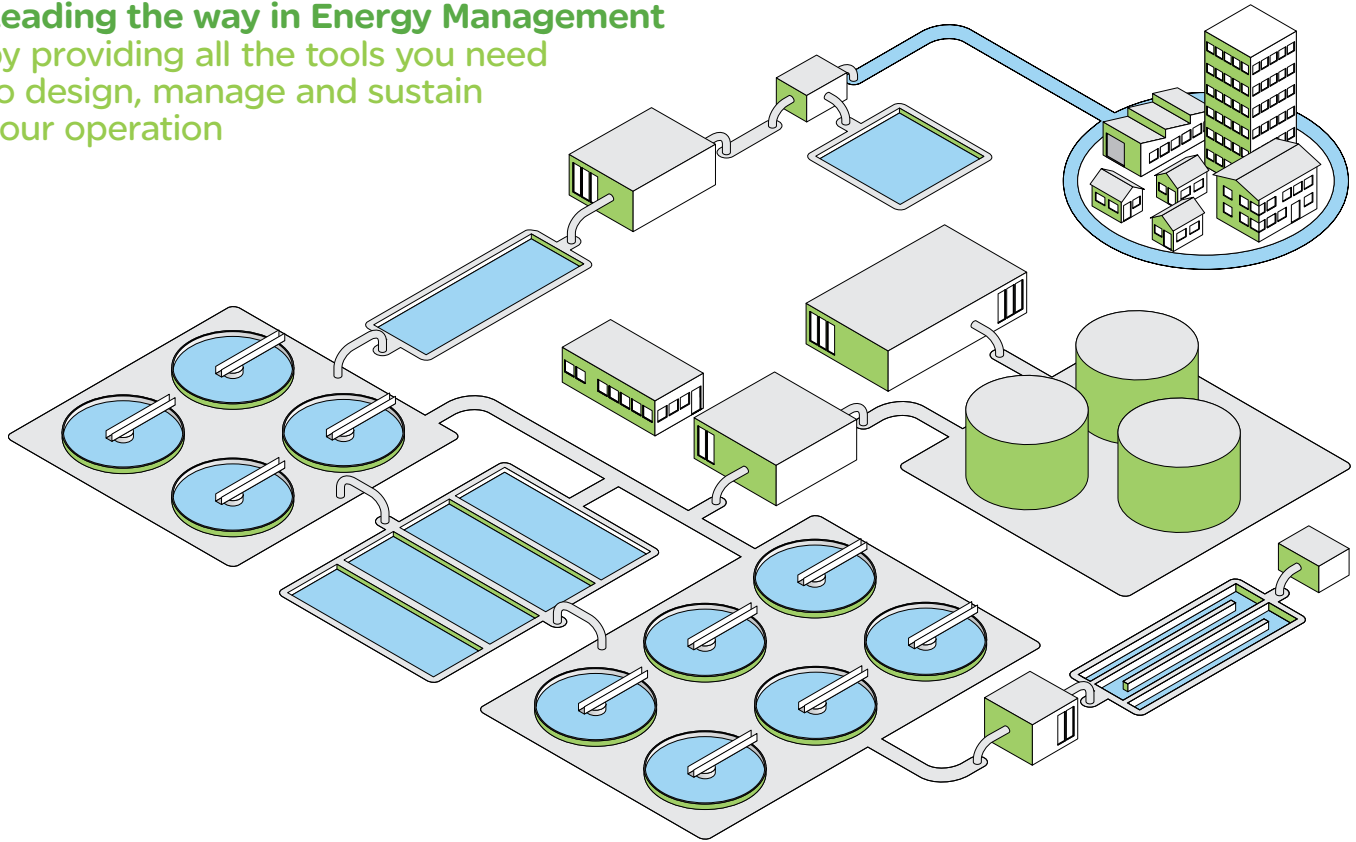


### Common ECMs for Water Treatment

- Pump optimization (backwash, finish water)
- Energy-efficient motors for high-service pumps
- Replace discharge throttling valve with VFDs
- Membrane system optimization
- Reduction of rapid mixers/implement VFDs
- Ozonation production control
- Demand response/load shifting/curtailment
- Maximize production during non-peak hours
- Disinfection enhancement/alternatives
- Energy management system/control – SCADA
- Energy monitoring

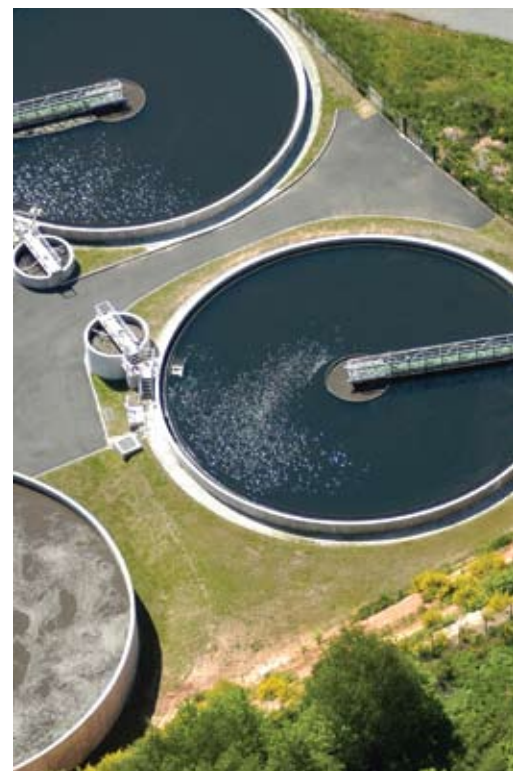


**Leading the way in Energy Management**  
by providing all the tools you need  
to design, manage and sustain  
your operation



### Common ECMs for Wastewater Treatment

- Pump optimization (influent, biosolids, recirculation)
- Install energy-efficient motors on raw sewage pumps
- Reduce air-flow input to grit works
- Rotating biological contactors (RBCs) optimization
- Install dissolved oxygen (DO) control system for activated sludge
- Aeration system enhancements/alternatives
- Disinfection system enhancement/alternatives
- Demand response/load shifting/curtailment
- Shift digester mixing to off-peak hours
- Install digester gas cogeneration system
- Reduce trickling filter recycle rate
- Energy management system/control – SCADA
- Energy monitoring



# Ongoing Energy Support Services



## Measurable results

- Guaranteed energy savings
- Centralized/remote access and control
- Seamless systems integration
- Enhanced system performance
- Long-term sustainability

## Measuring energy usage and verifying results

After the initial installation, we continuously monitor and validate the energy savings for your facility. Through a complete analysis and reporting of your project's performance, energy use and generated savings, we make sure our solutions are meeting contract requirements, adjust where it's necessary, and reconcile any differences.



## Energy efficiency consultation

For energy projects without a Performance Contract, our energy efficiency consultation services give you the unprecedented flexibility to select energy solutions based upon your specific needs. From stand-alone studies for addressing individual cases to the implementation of comprehensive energy action programs with ongoing support and guaranteed results, you can choose the right type and proper depth of energy solutions required to perfectly match any situation.

Energy Action Plans summarize the potential savings and recommended efficiency projects to optimize your facility's energy usage. Each recommendation is fully explained and all recommendations will be presented on the basis of energy savings, cost savings and economic payback criteria.

Our full range of energy services cover a wide variety of energy analysis and planning studies to develop detailed Energy Action Plans for your facility:

- Renewable Energy – Alternative Fuels Planning
- Leadership in Energy and Environmental Design (LEED®) Certification Planning/Design
- System Energy Studies
- Carbon Footprint Analysis
- Rebates/Incentives
- Financial Analysis
- Demand Response Study



# Integrated water and wastewater expertise from a leader in energy, power, automation and control

Schneider Electric's integrated solutions make water and wastewater management efficient, reliable and sustainable. From the smallest pumping station to the most complex treatment plant, we are dedicated to serving your requirements, and, in turn, the needs of your community. Our solutions can help you save up to 30% in energy and design costs, which is good for your budget, and even better for the environment.

## Water/Wastewater Competency Center

Schneider Electric brings together a dedicated team of water and wastewater experts from multiple disciplines to provide complete solutions, from integrated product design to a variety of services. Because of our expertise and focus, we can help you exceed your requirements for sustainability and energy efficiency, site and data security, process control and optimization, lighting, demand response and renewable energy.

## > Put our experience to work for you.

Find out how Schneider Electric can make a difference for your facility. To learn more, visit [www.schneider-electric.us/solutions/water-wastewater](http://www.schneider-electric.us/solutions/water-wastewater)

### Schneider Electric USA, Inc.

295 Tech Park Drive  
LaVergne, TN 37086  
Tel: 615-287-3500  
[www.schneider-electric.us](http://www.schneider-electric.us)

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