CASE STUDY

Smart Grid Integration: Barclays Capital's EV Managed Charging Implementation with EVoke Systems

Quick Facts

Location: Barclays Capital Campus

Scale: 96 Level 2 EV chargers

User Base: 600+ EV drivers

Peak Load: Previously exceeded 500 kW daily

Load Reduction: 200 kW (40% reduction)

Future Solar Integration: 1.4 MW solar PV array (planned for 2025)

Key Partners

Barclays Capital (Site)

Argonne National Labs (Research Partner)

U.S. Department of Energy (Funding)

EVoke Systems (Software Platform)

Technical Highlights

IEEE 2030.13 and OpenADR 3 compliant

Dynamic load management capabilities

Real-time charging optimization

Solar PV integration ready

Overview

In a groundbreaking collaboration with Argonne National Labs and supported by the U.S. Department of Energy, EVoke Systems has successfully deployed its advanced EV Managed Charging APIs at Barclays Capital's campus. This innovative project demonstrates the transformative potential of smart charging technology in reducing grid stress while preparing for renewable energy integration. The implementation serves as a model for large-scale EV charging deployments nationwide, showcasing how intelligent software can optimize energy usage and support sustainability goals.

Challenges and Opportunities

The Barclays Capital project presented several key challenges that needed to be addressed:

Complex Load Management Requirements

- Daily EV charging load exceeding 500 kW created a significant strain on the local grid
- Peak demand periods risked system stability and increased operational costs
- Need for dynamic load balancing across 96 charging stations

Future-Ready Infrastructure Demands

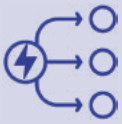
- Planned integration with a 1.4 MW solar PV array required advanced preparation
- System needed to support seamless renewable energy integration
- Compliance with emerging industry standards was essential

User Experience Considerations

- Large user base of 600+ EV drivers required consistent service delivery
- Need to balance grid optimization with user convenience
- Requirement for real-time communication and scheduling capabilities

Why EVoke Software was the Right Choice

EVoke's managed charging solution was selected for its comprehensive capabilities:



Advanced Load Management

- Smart Charging APIs enabled dynamic adjustment of charging schedules
- Real-time monitoring and control of charging sessions
- Achieved **200 kW reduction in daily charging load**
- System maintains optimal charging levels while ensuring service reliability

Standards Compliance and Interoperability

- Full compliance with **IEEE 2030.13** and **OpenADR 3** standards
- Open architecture enables seamless integration with other systems
- Future-ready platform supporting renewable energy integration

User-Centric Design

- Real-time scheduling options through EVoke's platform
- Intuitive interface for both operators and EV drivers
- Balanced optimization of costs and charging efficiency

Impact

Operational Excellence

- **40% reduction** in peak charging load
- Improved grid stability and reliability
- Reduced operational costs through optimized energy usage

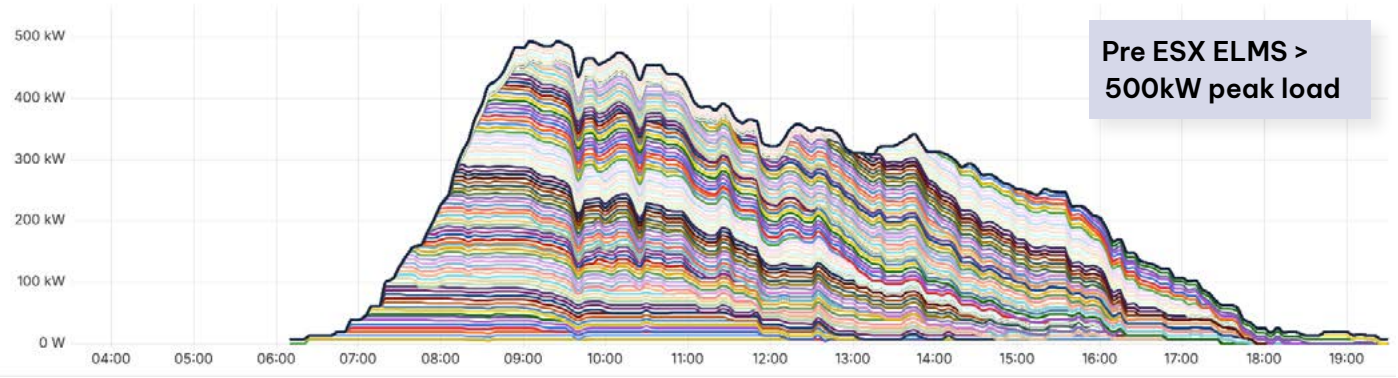
Environmental Benefits

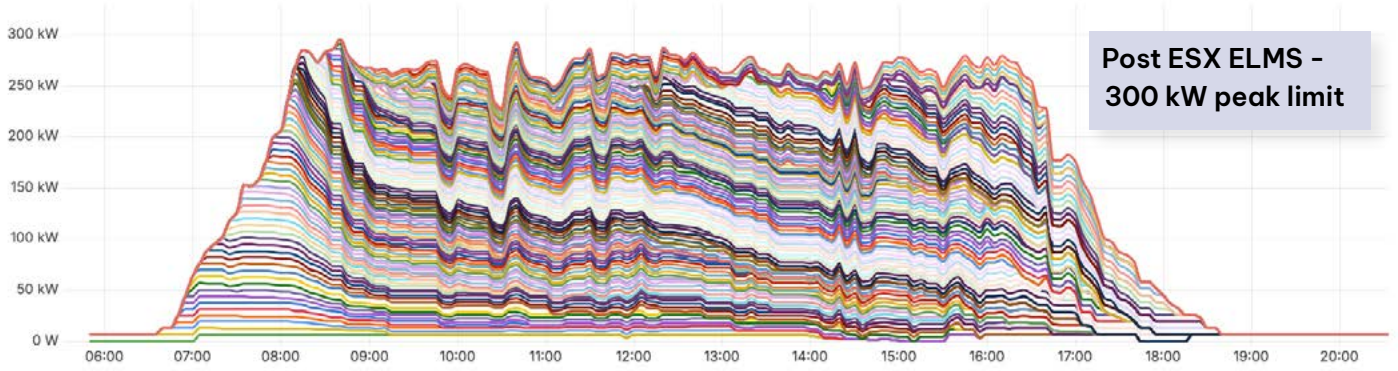
- Prepared for integration with **1.4 MW solar PV array**
- Reduced carbon footprint through smart load management
- Framework established for renewable energy utilization

Future Readiness

- Scalable platform supporting future expansion
- Ready for advanced grid services integration
- Model for sustainable EV charging infrastructure

Barclays Whippany NJ Campus





Conclusion

The Barclays Capital campus implementation showcases Evoke Systems' ability to deliver sophisticated charging management solutions at scale. Through intelligent load management and preparation for renewable energy integration, this project sets new standards for sustainable transportation infrastructure. As organizations worldwide transition to electric vehicles, the Barclays Capital deployment serves as a blueprint for successful large-scale EV charging implementations.

The project's success in achieving a 40% reduction in peak load while preparing for solar integration demonstrates the powerful combination of advanced technology and thoughtful implementation. As the EV charging landscape continues to evolve, EVoke Systems remains committed to driving innovation and supporting sustainable transportation solutions.

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