

CASE STUDY: Canolfan Pentre Awel EV Charging Hub – Sustainable Infrastructure for Wales’ Flagship Development

Funded and delivered by UK EV Charger.

Overview

Located on the coastline of Llanelli’s iconic Millennium Coastal Park, Canolfan Pentre Awel is a landmark £200m development owned by Carmarthenshire County Council. As a future hub for health, leisure, education, and business, the site required a long-term EV charging strategy capable of supporting staff, fleet vehicles, visitors, and future expansion. **UK EV Charger part of The Nest Group**, delivered a fully integrated, multi-format EV charging network across the site, designed for scalability, accessibility, and seamless user experience.

The Challenge

As a **brand-new development still under construction**, the site required:

- A charging network that could serve **fleets, staff, accessible users, and the public** from day one.
- Infrastructure aligned with the project’s **CSR targets**, net-zero ambitions, and future sustainability plans (solar-ready).
- Smart systems capable of managing mixed-capacity chargers without overloading the grid.
- A solution that dozens of competing suppliers tendered for, meaning **UK EV Charger needed to demonstrate superior engineering, service, and value.**

Example A: Pentre Awel Site



Objective

To deploy a **future-proof EV charging hub** that:

- Supports all user groups (fleet, staff, visitors, accessible bays)
- Provides seamless payment and authentication
- Uses intelligent power distribution to protect the grid
- Offers a scalable backbone for a future solar + battery microgrid
- Enhances the sustainability credentials of Pentre Awel

The EV Charging Solution

UK EV Charger installed a **mixed-capacity AC & DC charging network**, delivering flexibility, reliability, and extremely high throughput capacity.

System Installed

- **12 × 22kW AC Sockets**
 - Ideal for staff, fleet dwell charging, and workplace users
 - Dynamic load balancing for stable operation
- **8 × 160kW DC Ultra-Rapid Sockets**
 - High-speed charging for fleet turnover and public rapid use
 - Perfect for emergency services, council fleets, and high-demand vehicles

- **1 × 7kW AC Socket**
 - Dedicated for long-stay users or slower overnight charging

Smart Energy & Software Features

- RFID access groups for fleets, staff, and public users
- Full tariff control for peak/off-peak pricing
- Remote diagnostics & live system monitoring
- Real-time reporting dashboard provided to Carmarthenshire County Council
- Load management to protect the grid and optimise performance

Example B: Chargers on-site at Pentre Awel



Key Features & Benefits

- **Multi-Format Charging (7kW–160kW)** for every user type
- **Unlimited Public Access** with user-friendly payment options
- **Fleet & Staff Priority Modes** via Monta backend
- **24/7 Helpline + On-Site Maintenance** by our Wales Support Hub
- **Routine safety inspections and proactive alerts**
- **Future-ready design** enabling rapid expansion into solar PV + battery storage
- **Accessible bays** and easy access layout for disability compliance
- **Encouraged loyalty rates** for frequent users, council staff, and fleet operators

Results

Significant Financial Savings

- High-efficiency hardware and smart load balancing have already reduced site operational energy costs.

Major CSR Enhancement

- Supports Carmarthenshire County Council's decarbonisation strategy.
- Reduces emissions through intelligent energy use and promotion of EV adoption across the site.

Future-Ready Infrastructure

- Solar-compatible design supports the long-term sustainability vision of Pentre Awel.

Chosen over Numerous Industry Competitors

- UK EV Charger secured the tender due to technical excellence, reliability, and best-value offering.

Who Benefits

- **Visitors & Public Users:** Easy-to-use chargers with varied speeds and competitive tariffs.
- **Staff:** Dedicated access groups and workplace charging support.
- **Fleets:** High-power rapid chargers with priority access and automated reporting.
- **Council & Stakeholders:** Strong ESG outcomes and a scalable EV roadmap.

Why This Project Stands Out

The Canolfan Pentre Awel EV hub sets a new benchmark for **sustainable infrastructure in Wales**. Combining multi-format charging, smart software, and council-aligned sustainability goals, it provides a robust blueprint for future public-sector EV adoption.

Supported by UK EV Charger's 24/7 English and Welsh service hub, the site benefits from continuous monitoring, routine inspections, and long-term operational reliability ensuring a world-class EV experience for all users.

Example C: Site overview illustrating charger layout and accessibility



Conclusion:

UK EV Charger has delivered a powerful, future-proof EV charging ecosystem for Canolfan Pentre Awel, supporting Carmarthenshire County Council's commitment to sustainability, innovation, and community wellbeing.

By integrating ultra-rapid charging, workplace AC solutions, intelligent software, and expansion-ready infrastructure, this project positions Pentre Awel as one of Wales' most forward-thinking destinations for electric mobility.