

Connected Energy (CNRG) offers a full-suite of Advanced Load Management solutions from single-phase residential to three-phase industrial loads. Our turn-key Irrigation Load Control (ILC) solution taps the highest value demand-side resource on the utility grid. Minimizing the impact of enrolled customers by shaving off the peaks and shifting them to non-peak times without affecting crop production. CNRG proudly offers the leading ILC solution on the market today.

# Demand Management

## IRRIGATION LOAD CONTROL



A proven solution with inherent recruitment incentives for farmers, asked for by name. The same load control equipment provides farmers remote control of their water pumps, grain dryers, etc. through a web portal; saving them many hours of drive time, conserving water through precise control, and increasing crop production by customizing watering schedules for improved soil moisture conditions.

The CNRG DM Platform utilizes high fidelity data, incorporating a revenue grade metering chip inside all of our load controllers. Capable of sampling at 4KHz, we can detect motor failures before they occur and alert the farmers.

Comms Neutral

Advanced M&V

Maximum Yield

### Utility Benefits

Advanced 4G LTE M&V controllers dispatch load within seconds and meet all ancillary service requirements. Maximize curtailed load using our Maximum Sustained Yield algorithm.

### Farmer Benefits

Remotely Start / Stop enrolled pumps with the tap of a finger on any smart phone, through a secure Farmer Portal. Weather data provides visibility to improve watering sched-

### Real-time M&V Data

Collect the most accurate data all the time, without needing to calculate estimated deemed savings reductions.

### Reporting Analytics

All of the rich data deserves deeper analysis and study. Ask about our Data Analytics package to learn about the savings.

### Any Device

Built with HTML5 and javascript technology, and testing to support all major browsers and devices.

### Weather Data & Forecasts

Granular weather data support highly accurate forecasts by identifying like day parameters.



Barcode  
Provisioning



Hosted Software  
as a Service



SOC2 Compliant  
Data Center



Rapid ROI  
Payback



OpenADR  
2.0b Certified



Geospatial View  
of All Assets

## Communications

The CNRG DM solution is communications neutral; currently compatible with many AMI networks, as well as 4G cellular. While many utilities lean towards leveraging an existing AMI network for load control programs, Connected Energy recommends utilities evaluate the advantages of 4G cellular communications for irrigation load control

(ILC); to list a few:

1. Lowest downtime
2. Cellular offers higher bandwidth, lower latency and response times
3. Failed units are isolated cases
4. No network studies required
5. No network maintenance or troubleshooting
6. Lower upfront investment vs. purchasing mesh radios
7. Cellular networks are up, ready to go

99%  
Up Time

Our experience shows cellular networks provide the highest customer satisfaction for irrigation load control. Network technology continuously improves, with an average lifecycle of ~10 years until the next generation network is available. With 4G LTE and 5G, utilities are supported for the foreseeable future.

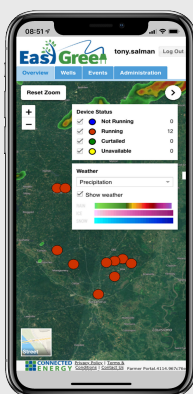


High-level System Architecture

## Farmer Portal

Every ILC program includes the Farmer Portal, offering participating farmers secure access to manage their enrolled wells. The portal displays each well location on a geospatial map with real-time weather data showing precipitation, temperature, humidity, wind direction, heat index, cloud cover, etc.

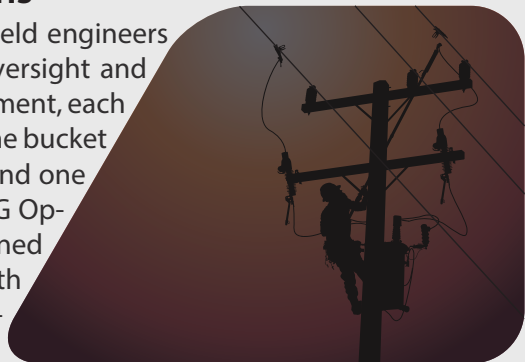
The Farmer Portal provides irrigation load control programs with higher participant satisfaction and minimizes participant churn. Enrolled Farmers begin to rely on this portal to save them hours of driving time between wells. The Farmer Portal offers intuitive control with minimal to no training required. Farmers can also access their historical watering schedules, as well as past and present curtailment events.



## Field Operations

Connected Energy field engineers offer experienced oversight and onsite crew management, each crew consisting of one bucket truck, one lineman and one electrician. The CNRG Operations Team is trained in and familiar with all utility safety procedures; going on

15+ years without a safety incident. The Connected Energy Team provides utility customers with unmatched service. Our expert field supervisors regularly go the extra mile to execute the scheduled plan while maintaining a high level of service. Overtime is used to recover from weather delays or challenging field conditions. Local electrical contractors can be used based on utility recommendations.



## Advanced M&V

Take advantage of revenue-grade M&V controllers; deploy a small sample size within your existing DR footprint and get accurate, live load reduction reading for the entire footprint.

## Load Forecasting

Based on historical like-day weather with matching duty cycle data, many variables are taken into account to provide advanced and highly accurate load forecasts.

## Customer Satisfaction

Irrigation Load Control participants are highly satisfied with the program and benefits; many recruitments come through word of mouth from neighboring farmers. ILC participant opt-outs are rare, contributing to the highest value demand-side resource. ILC customers are minimally affected, with far less complaints than residential programs.



### Program Hotline

Our turn-key service includes a US located participant hotline that answers any program related questions. Farmers hear familiar voices with dedicated customer service personnel, assigned to support specific programs.



### Event Alerts

Participants can elect to receive either SMS and/or email event updates. Event date and times as well as all targeted enrolled devices are identified in the event updates. Opt-outs are available per approved program rules.

Connected Energy provides electric utilities with a suite of smart grid solutions that support advanced distribution automation from substations through customer premises. Our solutions collaborate across the grid, helping utilities increase efficiency and reliability to improve their financial, operational and environmental performance. Connected Energy combines our experience in applying smart grid solutions with our market-leading technology to successfully serve leading utilities.

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