ODIN

OUTAGE • DATA • INITIATIVE • NATIONWIDE

A NETWORK OF ELECTRIC UTILITY RESILIENCE LEADERS

SPEAKERS

Chris Irwin
US Department of Energy — Program Manager; Transactive Energy, Communications and Interoperability

Supriya Chinthavali
Oak Ridge National Laboratory — Group Leader; Critical Infrastructure Resilience Group

Chad Lynch
Ocala Electric Utility — Deputy Director

Matt Highfill
ReadyKilo — Outage Data Initiative Nationwide (ODIN)'s Project Manager

Problem:

Outage data from utilities is valuable to customers, neighboring utilities, and regional emergency management partners, but data is too often fragmented, unavailable, and/or lacking commonalities

Solution:

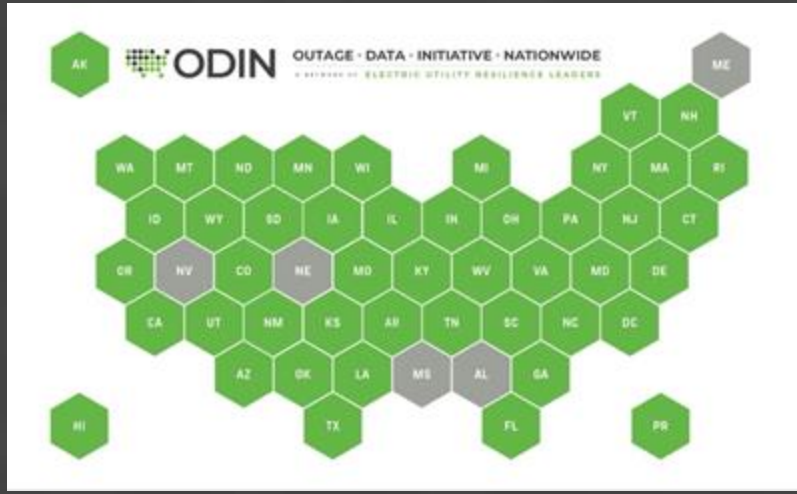
ODIN is is a network of leading electric service providers who are committed to providing comprehensive interoperable power outage data that enables utilities and others to exchange data freely with designated stakeholders at all levels — helping restoration, reliability, risk mitigation, storm response, and more

ODIN OUTAGE DATA INITIATIVE NATIONWIDE

SINCE THE WHITE HOUSE CTA

THANK YOU to the White House Office of Science & Technology Policy and to utilities and vendors for committing to leading resilience!

- 35 Outage data commitments announced at the White House Electrification Summit in December 2022, 31 are now implemented with 4 underway
- ODIN participation has grown to:
  - 45 States + Puerto Rico
  - Over 45 Million customers
  - Over 150 utilities and 16 vendors



= STATES & TERRITORIES SUPPORTING **ODIN**

ODIN OUTAGE DATA INITIATIVE NATIONWIDE


ODIN
OUTAGE DATA
INITIATIVE NATIONWIDE
conEdison, inc.
FirstEnergy
Avangrid
Central Hudson
evergy
EVERSOURCE
PG&E
aps
LUMA
MIDAMERICAN ENERGY COMPANY
nationalgrid
SOUTHERN CALIFORNIA EDISON
Seattle City Light
Hawaiian Electric
VERMONT CO ELECTRIC CO
Lake Country Power
CenterPoint Energy
Beltrami Electric Cooperative Inc.
TACOMA POWER
Portland General Electric
PUD
BENTON P.U.D
PSE
PUGET SOUND ENERGY
SNOHOMISH COUNTY PUD
PUBLIC UTILITY DISTRICT NO. 1
AVISTA
PUD
Jefferson County
Public Utility District
DAKOTA ELECTRIC ASSOCIATION
ECE
East Central Energy
DOUGLAS COUNTY P.U.D.
McLeod COOPERATIVE POWER
KPC
KANDIYOHI POWER
COOPERATIVE
RSA
Runestone Electric
ASSOCIATION
Goodhue County Cooperative Electric
PUD
MASON PUD 3
PUBLIC UTILITY DISTRICT
CENTRAL LINCOLN
MLEC
Mille Lacs Energy Cooperative
GVP
GRAND VALLEY POWER
Grayson Collin
Electric Cooperative
Habersham Electric Membership Corporation
Unitil
Fitchburg Gas and Electric Light Company
TANNER ELECTRIC
CORE
ELECTRIC COOPERATIVE
BEMC
BRUNSWICK ELECTRIC
DEC
JOEMC
Jones-Onslow Electric Membership Corporation
South Central Indiana
SCI REMC
BENCO
BLUE RIVER ELECTRIC
Meeker Cooperative
Lights and Power Association
Freeborn Mower Electric Cooperative
TRAVERSE ELECTRIC
Dixie
mjenergy
COOPERATIVE
WILD RICE ELECTRIC
COOPERATIVE, INC.
SIOUX VALLEY ENERGY
Poudre Valley REA
TRICO
AN ENERGY COOPERATIVE
AND MORE!
CHELCO
UNITED POWER

USE CASE

FEDERAL EMERGENCY RESPONSE

Standardized Outage data (from ODIN) is now ingestible into DOE's real-time situational awareness platform namely EAGLE-I.

- Support emergency management as ESF#12[1] coordinator
- Improves interoperability

FEMA

Homeland Security

[1] Emergency Support Function - Energy focused

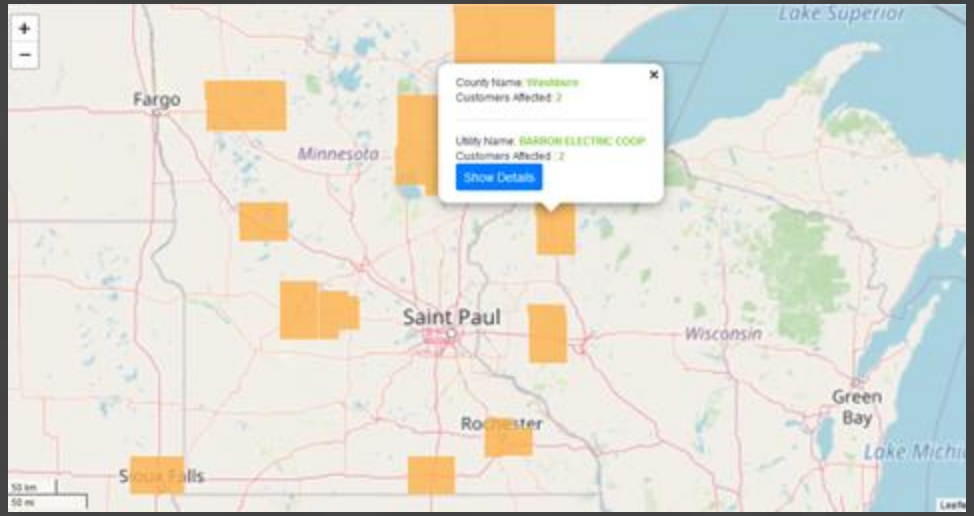
ODIN OUTAGE DATA INITIATIVE NATIONWIDE

ODIN's focus is on the data standard, not the map

ODIN OUTAGE DATA INITIATIVE NATIONWIDE

ODIN MAP

Not intended to replace vendor products and services



Outage ID: 6167c3b5-200b-4f38-9e32-e405fc50f9dd

Meters Out: 3

Last Updated: 01/05/24, 12:15 PM

Start Time: 01/05/24, 11:38 AM

Estimated Time to Restore: 01/05/24, 05:30 PM

Outage ID: af477dea-b3c8-4647-8927-a1eec7e17a1e

Meters Out: 14

Last Updated: 01/05/24, 12:15 PM

Start Time: 01/05/24, 09:09 AM

Estimated Time to Restore: 01/05/24, 06:00 PM

ODIN OUTAGE DATA INITIATIVE NATIONWIDE

WHAT IT IS / WHAT ITS NOT

- Near-Real-Time - Updates every 5-15 minutes
- ODIN **IS** an interoperability standard
- ODIN **IS** focused on Restoration and Recovery Phases
- ODIN **IS** working to provide granularity down to census block group
- ODIN is **NOT** a competitor to IEEE 1366, 1782 or any reliability standard
- ODIN is **NOT** a replacement for existing utility outage maps
- ODIN does **NOT** include any PII

“Screen-Scraping” = Substandard Data

- If you have an outage map today, it’s almost certain that your data is being screen-scraped; gathered and shared by public and private actors, often as “stale” data.
- Bots slow your website response times and increase upkeep costs.
  And simply blocking unknown IPs can have unintended effects.
- Inconsistent outages cause confusion and inefficiencies for customers and emergency response.
- Websites are often unavailable in emergencies.

ODIN OUTAGE DATA INITIATIVE NATIONWIDE

BENEFITS OF DATA SHARING

1. Less time on the phone in an emergency, allowing you to concentrate on crucial restoration efforts
2. ODIN allows you to control and authoritatively share YOUR data
3. Saves lives in underserved communities and for the electricity-dependent
4. Unlocks opportunities for federal funding
5. Committing to ODIN is a commitment to leading on resilience

ODIN OUTAGE DATA INITIATIVE NATIONWIDE

WHO NEEDS DATA?

Customers, Communities, Agencies

- IOUs, Cooperatives, Municipal Utilities
- Emergency Management Agencies (all levels)
- First Responders
- Medically Dependent Individuals
- Underserved Communities/Energy Equity
- Utility Associations (e.g.; EEI, NRECA, APPA)
- FEMA, HHS, DOE
- And more…

NEIGHBORING UTILITIES

EMERGENCY MANAGEMENT

OUTAGE RESTORATION

ODIN OUTAGE DATA INITIATIVE NATIONWIDE

Ocala Electric Utility

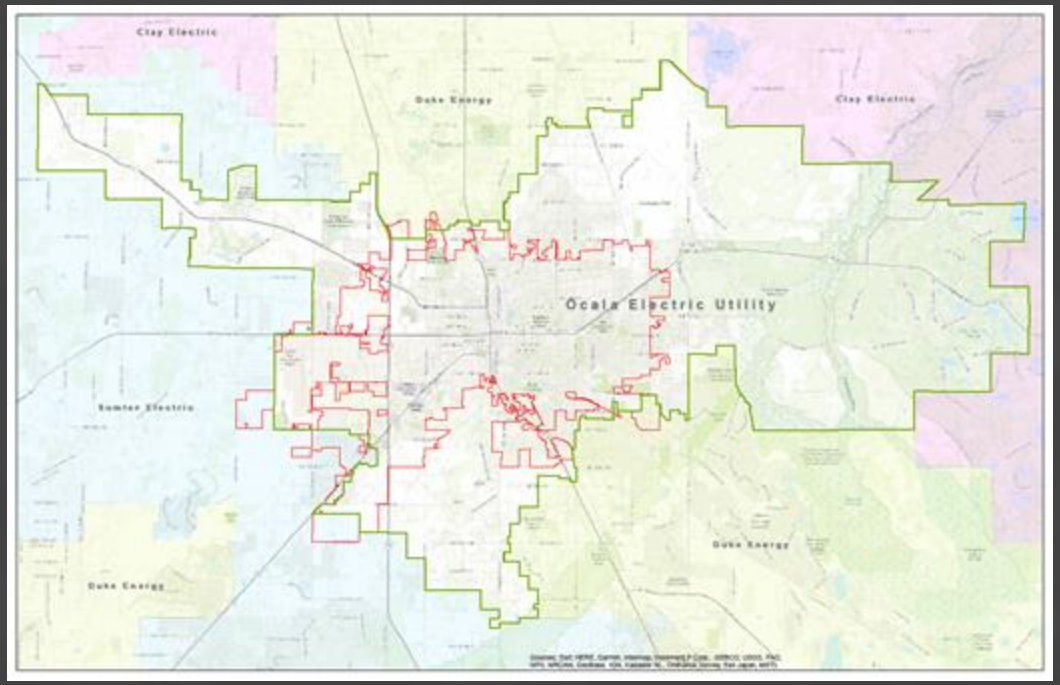
Community Owned & Locally Managed → Designated RP3: Reliable Public Power Provider

1,321,357,833 Kilowatt-hours sold during FY2023 → One of 33 public power utilities across Florida

~120 Employees → 56,000+ Customers

ODIN OUTAGE DATA INITIATIVE NATIONWIDE

Ocala Electric Utility



Service Territory

- 160 Square Miles
- 774 Miles of Overhead Lines
- 466 Miles of Underground Lines
- 47,786 Power Poles & Pad Structures
- 21 Substations

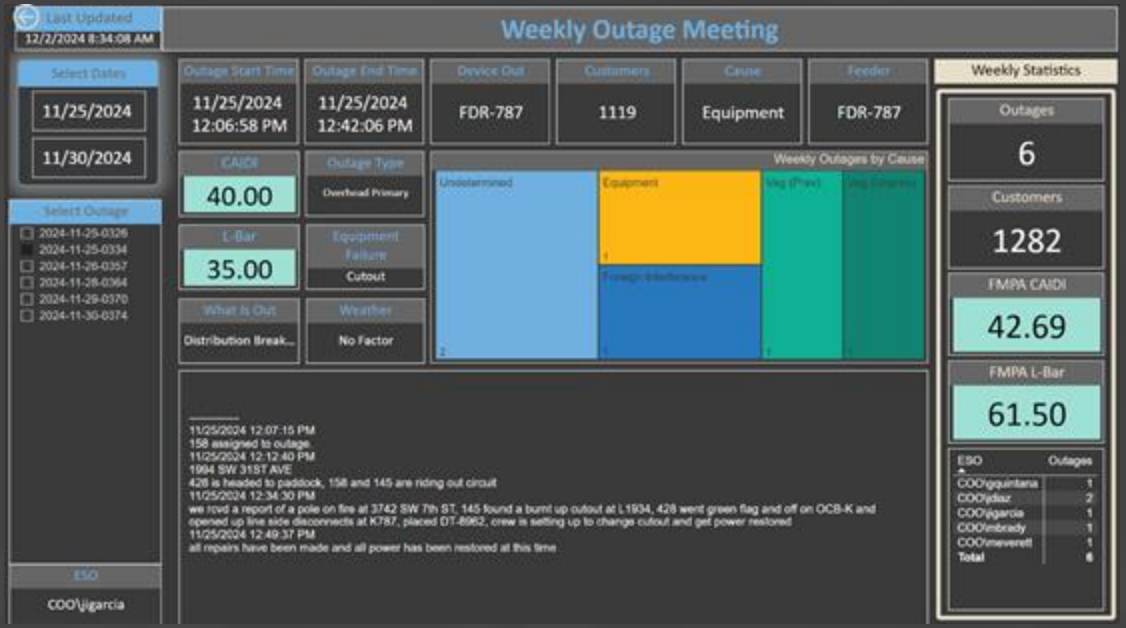
ODIN OUTAGE DATA INITIATIVE NATIONWIDE

OEU Projects

- ODIN Integration
- Dearmin Substation (230kV) TX Upgrade
- Ocala Palms 832 Feeder (New)
- Shaw 824 Feeder (New)
- Airport Substation Upgrade
- New (unnamed) Substation
- Shaw Transformer #4
- 15 circuit breaker upgrade
- White Substation Relocation
- 69kV Dearmin to White Upgrade
- Aging Underground Cable Replacement

ODIN OUTAGE DATA INITIATIVE NATIONWIDE

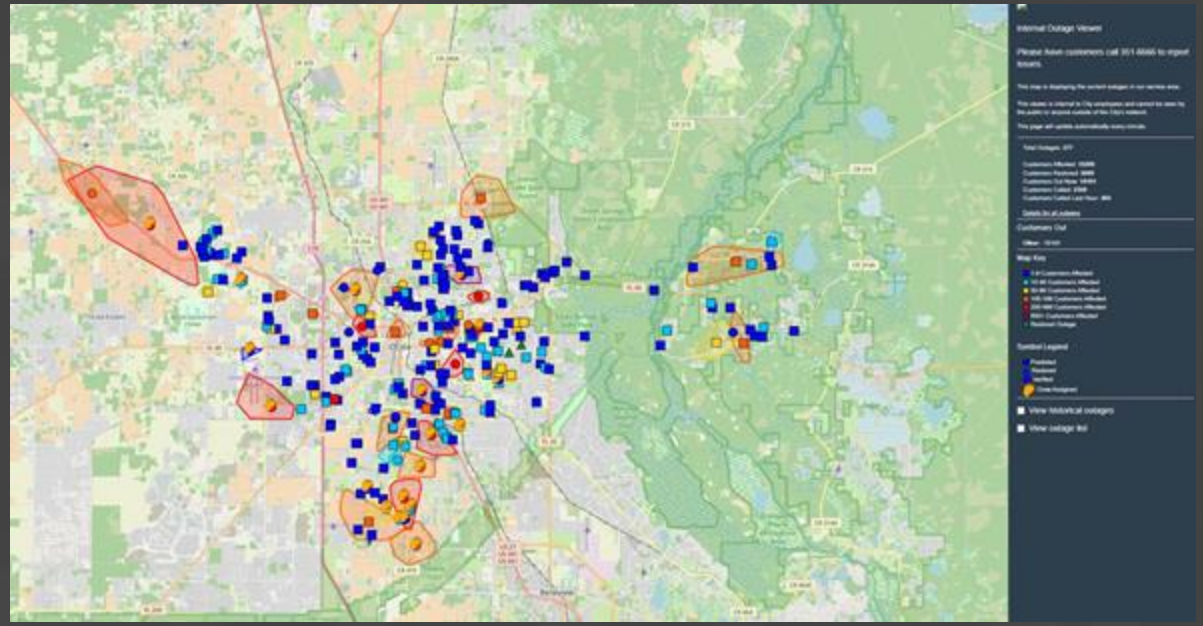
OEU Outage Data



- Weekly Outage Meetings
- Granular individual outage details
- Weekly Reliability Indices

ODIN OUTAGE DATA INITIATIVE NATIONWIDE

OEU & Hurricane Milton



10/10/2024 around 8:00AM

- Uses for ODIN data:
- County Emergency Operations Center
- Mutual Aid Planning & Awareness

ODIN OUTAGE DATA INITIATIVE NATIONWIDE

Announcing: ODIN User Consortium

Goal: Inform ODIN on improving value to utilities, improving input/output interfaces and addressing industry use cases.

Utilities

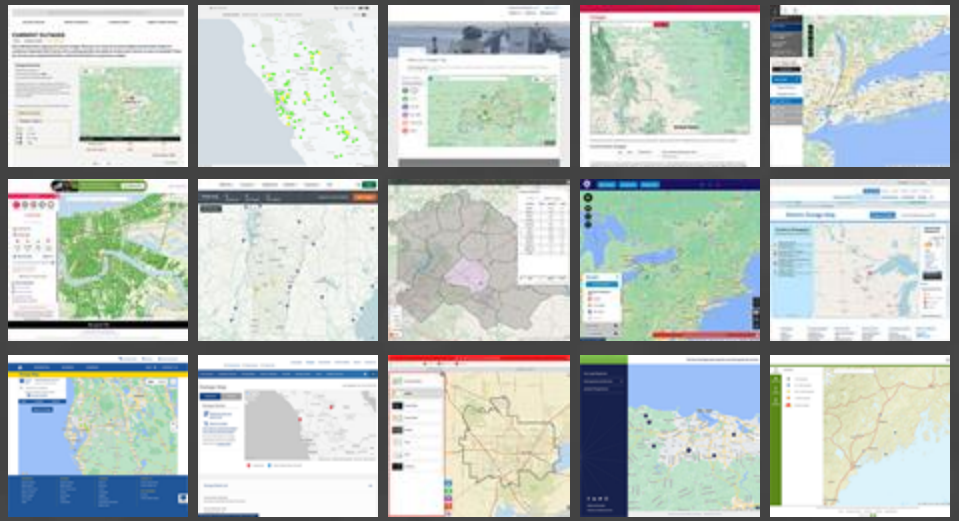
- Munis
- Coops
- IOUs

Other Stakeholders

- OMS Vendors
- State Emergency Management
- Industry SMEs

COMMON OPERATING PICTURE

A standardized, single “pane of glass” can tell the complete story



© Dorothy Lozowski, POWER

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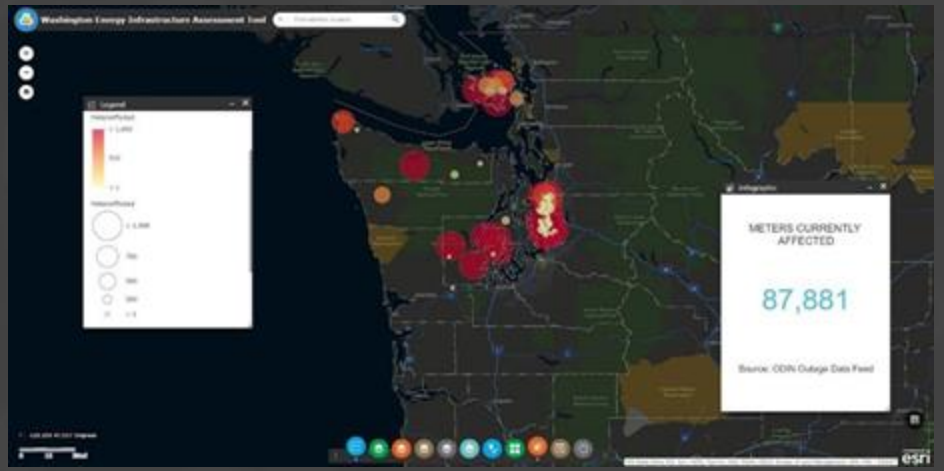
USE CASE

ODIN + State of WASHINGTON

WASHINGTON ENERGY INFRASTRUCTURE ASSESSMENT TOOL

Collaborative efforts operational since 2021

- Monitoring electric outages from storms and other causes in a single “pane of glass”
- Energy sector operational status changes due to high-impact events, infrastructure, county status, and other factors
- Covers wildfires and utility service territories
- Supports planning efforts for resilience and coordinates mitigation planning between utilities and local emergency management



ODIN OUTAGE DATA INITIATIVE NATIONWIDE

CASE STUDY

MINNESOTA RURAL ELECTRIC ASSOCIATION

A statewide association representing 44 not-for-profit coops

85%	⅓ Pop.	138k Miles
of Minnesota's Landmass	of Minnesotans Served	of Electric Line

Standardized outages provide visibility to multiple stakeholders

MREA

"Creating a state-wide map of outage data will benefit stakeholders in Minnesota before, during, and after high-impact grid and weather events."

~ Darrick Moe, President & CEO, Minnesota Rural Electric Association

ODIN OUTAGE DATA INITIATIVE NATIONWIDE

INTEGRATION OPTIONS

Standards

- Common Information Model (CIM) IEC 61968-3
- MultiSpeak v4.1 (and greater)

Methods

- Vendor Supported Integration
- ESB Integration
- Utility Development via API

As fast as a 30-minute integration setup
One-on-one support available at no additional cost

PARTICIPATION MADE EASY

Integrate through your outage data vendor

AERINET SOLUTIONS	CGI	datacapable	esri	FUTURA SYSTEMS	HITACHI ABB	MILSOFT Utility Solutions	nisc
ORACLE	OSI An AspenTech Business	Schneider Electric	Sentient ENERGY	SEW	SIENA	STR energy services	Survalent.

Contact ODIN@ORNL.gov today to see if your vendors support ODIN

ODIN OUTAGE DATA INITIATIVE NATIONWIDE

SECURE EXCHANGE OF DATA

The Outage Data Initiative Nationwide is part of the the **U.S. Department of Energy** and **Oak Ridge National Lab**

OAK RIDGE National Laboratory

U.S. DEPARTMENT OF ENERGY

EPRI ELECTRIC POWER RESEARCH INSTITUTE

Oak Ridge National Laboratory is managed by **UT-Battelle LLC** for the **U.S. Department of Energy**

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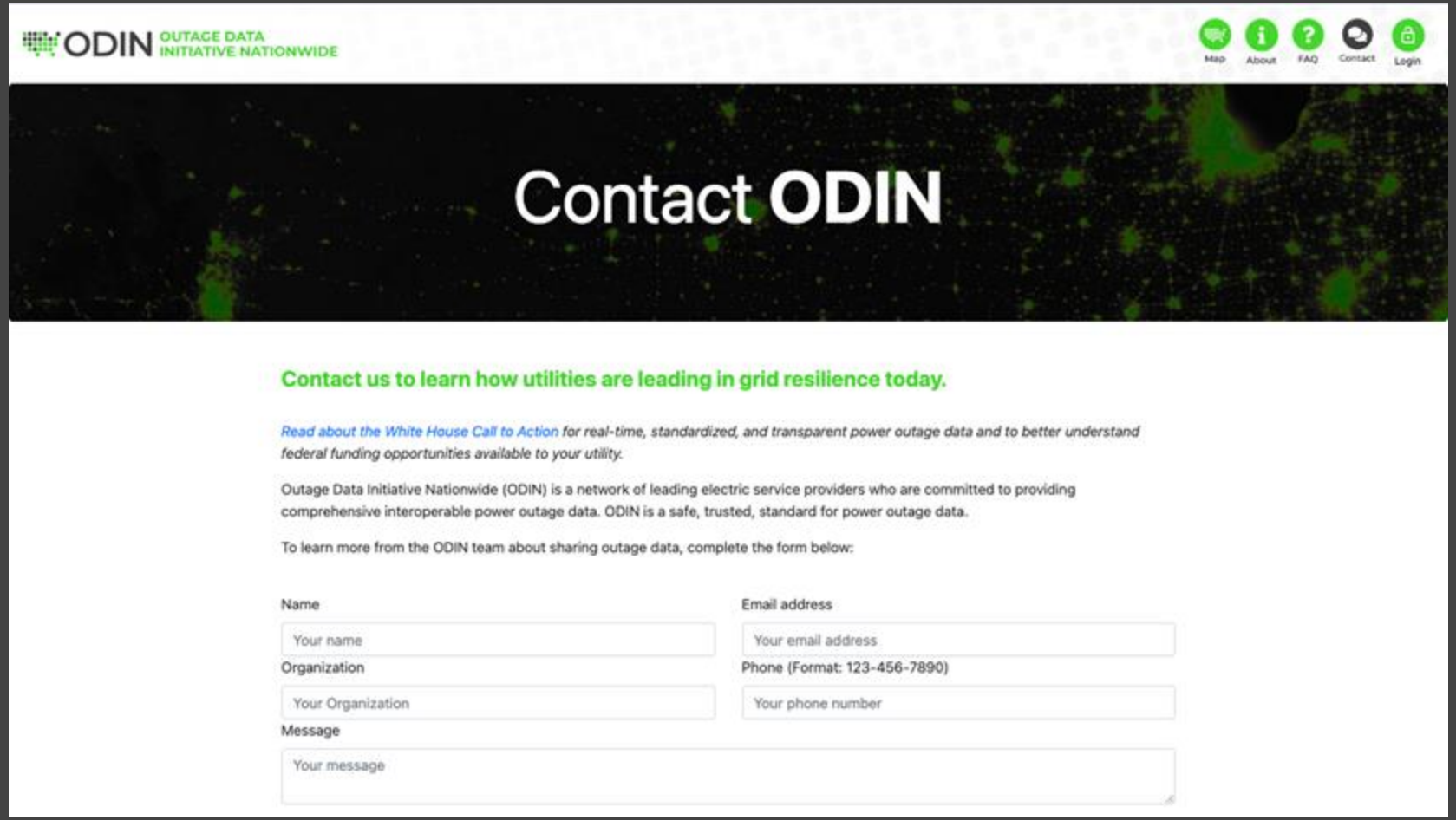

https://odin.ornl.gov/pages/contact.html

COMMIT TO LEAD RESILIENCE TODAY

1. Fill out and send the **Participation Letter** to ODIN
2. The ODIN team will schedule a 30-minute kickoff meeting, if needed
3. Within 2 weeks, project implementation and testing begins

VISIT ODIN.ORNL.GOV

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