OAK RIDGE National Laboratory

November 13, 2025

Critical Infrastructure Resilience:
Grid Reliability, Affordability and Data Centers

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U.S. DEPARTMENT OF ENERGY

ORNL IS MANAGED BY UT-BATTELLE LLC
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Controlled by: ORNL, Critical Infrastructure Resilience Group,
Geospatial Science & Human Security Division,
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Agenda

CIR Center

CIR Energy Projects

MEGA-DC

Critical Infrastructure Resilience at ORNL

Critical Infrastructure Resilience Group at Oak Ridge National Laboratory

National Security Sciences Directorate

Geospatial Science & Human Security Division

Human Dynamics Section

Critical Infrastructure Resilience Group (CIR)

CIR is an emerging research center at ORNL
that will serve as the *premier hub for advanced, cross-cutting infrastructure resilience research, innovation, talent, & collaboration – providing decision support systems & ensuring affordable, secure, and resilient energy, communications, water & transportation*.

OUR MISSION

Supporting US Energy resilience & National Security goals.

Improving grid resilience, reliability, & energy affordability.

Empowering municipal, cooperative, & Tribal distribution utilities.

Preparing States for large load additions to the grid.

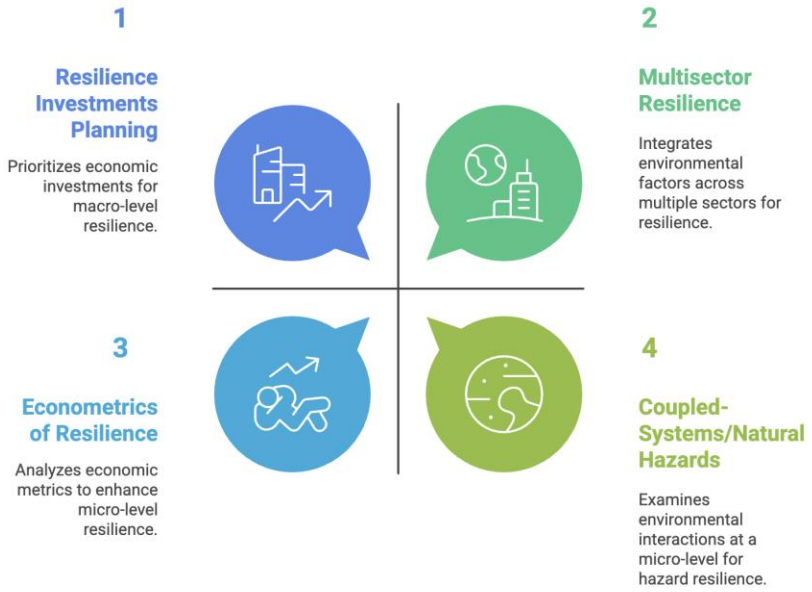
Leading the nation in security, governance, & management of critical infrastructure data across scales.

CIR Vision and Research Pillars

CIR Vision: To enable a ***sustainable, safe, affordable and secure critical infrastructure*** for all

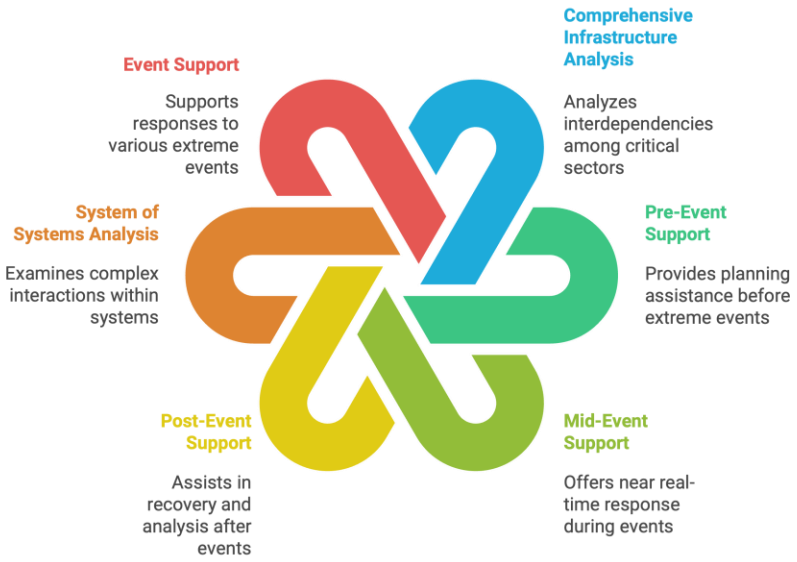
Risk and Resilience Modeling and assessments

- **Quantifies resilience** and risk through data-driven approaches at macro- and micro-level
- **Informs investment and policy decisions** to enhance community and multisector resilience.



Infrastructure and Interdependency Modeling

- **Analyzes interdependencies** across critical sectors under normal and extreme events.
- **Supports planning, response, and recovery**



Data Strategy and Interoperability Initiatives

- **Enables secure**, privacy-preserving, and federated **data sharing** across sectors.
- **Advances standards, interoperability**, and governance for trustworthy and efficient knowledge exchange.

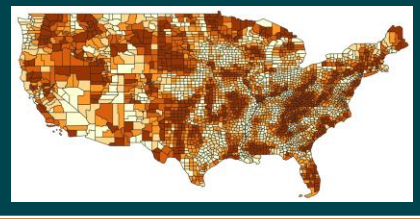
CIR-Center

***The premier hub for advanced, cross-cutting infrastructure resilience research**, innovation, talent, & collaboration – providing decision support systems & ensuring affordable, secure, and resilient energy, communications, water & transportation.*

Supporting US Energy Resilience & Security Goals

TASTI-GRID

Technical Assistance for States & Tribes Initiative:
Grid Resilience Investment Decision-making



10+ yrs of outage data for >90% of the US – 3,144 counties & 3,000 electric utilities.

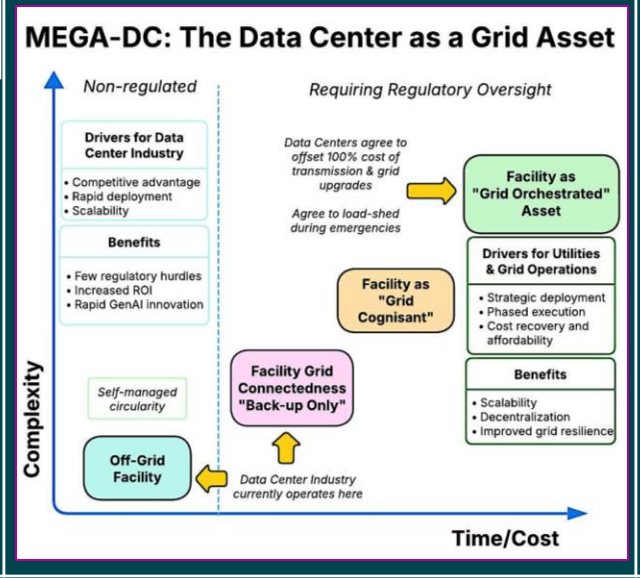
Providing technical assistance to states via a nationwide, comprehensive situational awareness tool.

- Economic costs of power outages
- Weather analysis, wildfire & hazard risk
- Canopy & Invasive vegetation mgmt. schema
- Grid resilience recommendations

Preparing States for Large Load Additions & Energy Affordability

MEGA-DC

Modeling Energy Growth Associated With Data Centers



Empowering Electric Utilities & Transforming Industry Standards

EDGAR

Enhancing Distribution Grid Anticipatory Resilience

EDGAR's text notification engine will deliver advisories up to 48-72 hours before an outage event occurs.

Weather Prediction & Distribution Network Models

Grid, Critical Infrastructure & DIN Layer Integration

Grid Event Signature Library & GenAI-Enhancements

Quarterly Resilience Reports & CoP

Municipal & Cooperative Utilities <50K customers

Proactive Asset & Vegetation Management

Hazard & Landscape Vulnerability Insights

Cost-Benefit Analyses of repair vs. replace

GTMI

Grid Technology Modernization Index

Utility asset & management baselining for scalable grid resilience

GTMI incorporates attribute-based metrics, moving beyond theoretical concepts of utility resilience ratings, providing the foundational model for EDGAR's notification engine.

Setting the standards for critical infrastructure data

DATA STRATEGY

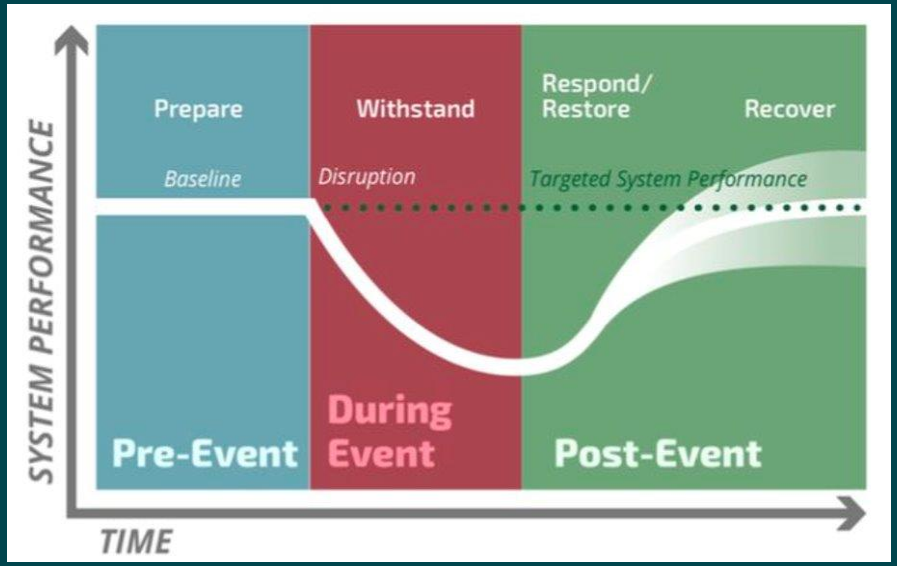
ORNL leads in energy data governance, management, curation, risk assessment & mitigation to protect controlled & private energy infrastructure information.

Validity	**Repeatability**
Data Governance	**National Security**

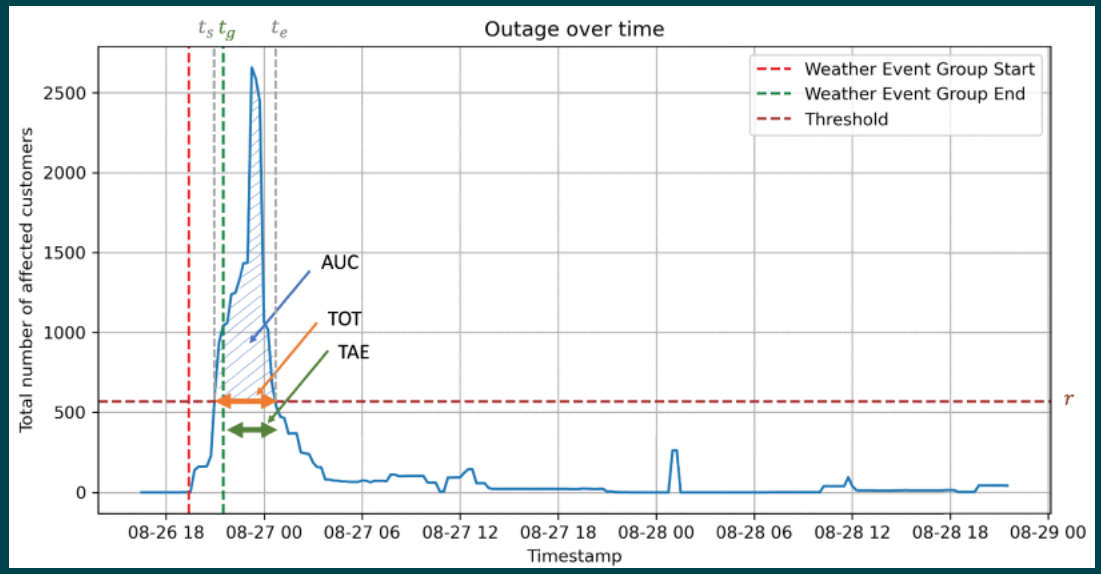
Critical Infrastructure Resilience Projects

Reliability & Resilience

- Reliability ≠ Resilience
  - *Resilience is an **inherent, anticipatory** quality of systems*
  - *Disruption (e.g., data centers?) vs. failure & maintenance*
  - ***Robustness vs. adaptation & learning***
  - ***Modernization & intelligent systems***
  - Grid Resilience vs. Territorial Resilience
- Scale & Interdependence
  - *Generation, transmission, distribution…*
  - *NG, supply chain, water & transportation…*
- Measurement
  - ***Performance-based***
  - ***Structural***



Source: OE/DOE/PNNL/Sandia Sept 2023 paper



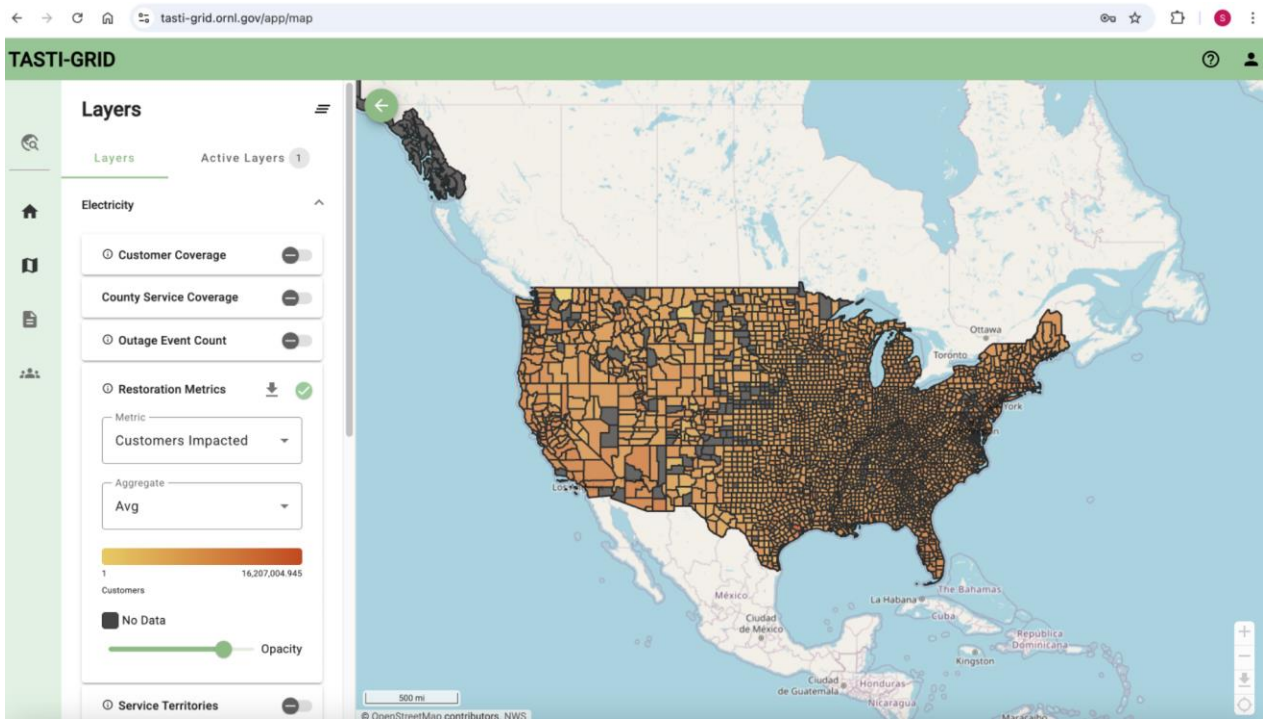
Lee, S. M., Chinthavali, S., Bhusal, N., Stenvig, N., Tabassum, A., & Kuruganti, T. (2024). Quantifying the Power System Resilience of the US Power Grid Through Weather and Power Outage Data Mapping. *IEEE Access, 12,* 5237–5255. IEEE Access. https://doi.org/10.1109/ACCESS.2023.3347129

Technical Assistance for States & Tribes Initiative – Grid Resilience Investment Decision making (TASTI-GRID)

Objective: Where is our grid most vulnerable, and how can we invest most effectively to strengthen it?

ORNL's TASTI-GRID is an interactive grid resilience modeling and decision support *platform & program*

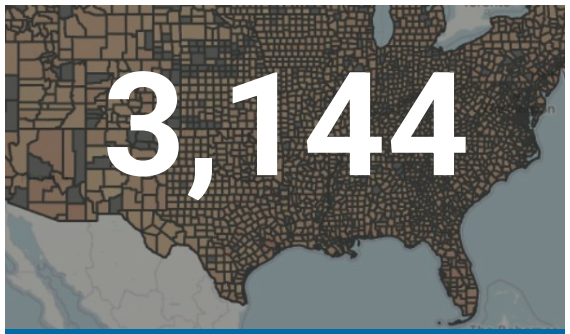
- Helps state, county, and utility industry officials better understand the reliability and resilience of US distribution grid, guiding local resilience investment decisions.
- Represents a shift from a reactive to **proactive approach to grid resilience**.



tasti-grid.ornl.gov

True power of TASTI-GRID: Immense data behind the scenes

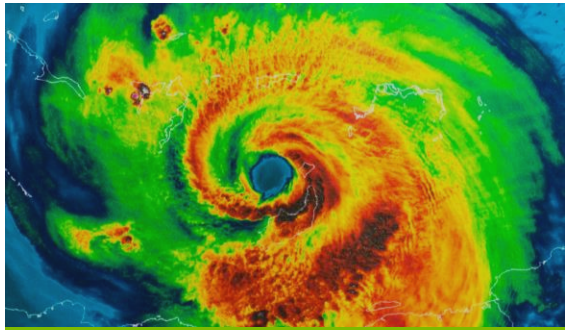
Electrical utilities represented



Counties represented across all 50 states

US counties' outage data for 10+ years

Population covered



Weather analytics from last 5 years integrated

Economic modeling for cost of power outages

What is the real cost for each customer type?

*By linking detailed outage data with the **Interruption Cost Estimate Calculator**, we can finally translate power outages into real dollars and cents for customers- residential, non-residential*

TASTI-GRID Integration of Interruption Cost Estimate Calculator 2.0

Bridge between data and ICE calculator.

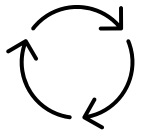
Outage Data: ORNL

- Start time and end time (determines outage duration, season, and day of week)
- Customers impacted
- Area Under Curve (AUC)
- Location

Who was affected, where it happened, and for how long

API (Version 2.0)

Run separately for each outage event



Customer Data by Location: ORNL

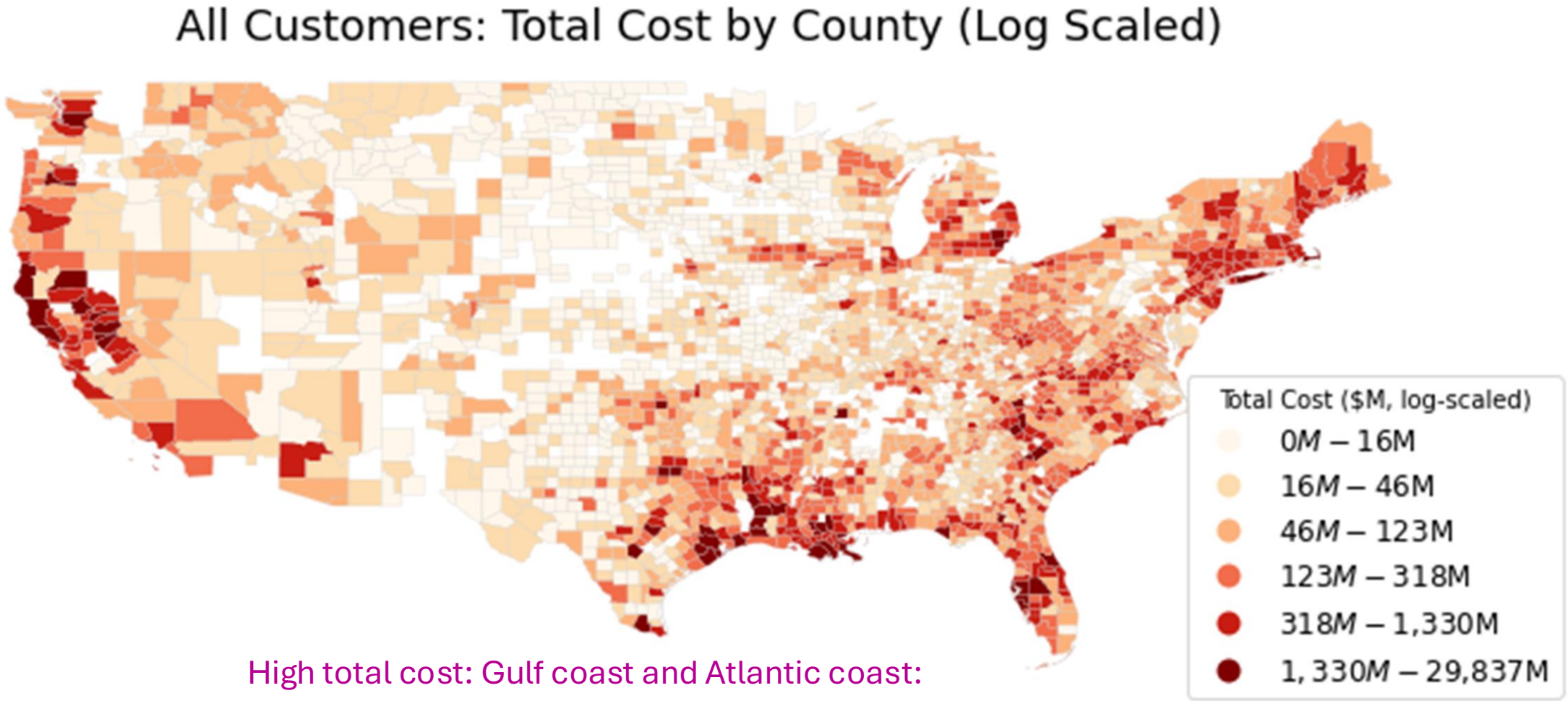
- Residential/non-residential customers impacted
- Average usage for residential / non-residential customers
- Industry mix
- Several other data sets

Economic Impact Estimates

- Disaggregated data with ICE 2.0 estimates for each outage event
- Ready to be integrated into TASTI-GRID user stories and dashboards

How does Interruption Cost Estimate Calculator estimate cost ?

TASTI-GRID research innovations provide cost of outage information for residential and non-residential customers at the US county level



High total cost: Gulf coast and Atlantic coast: pathways of hurricane.

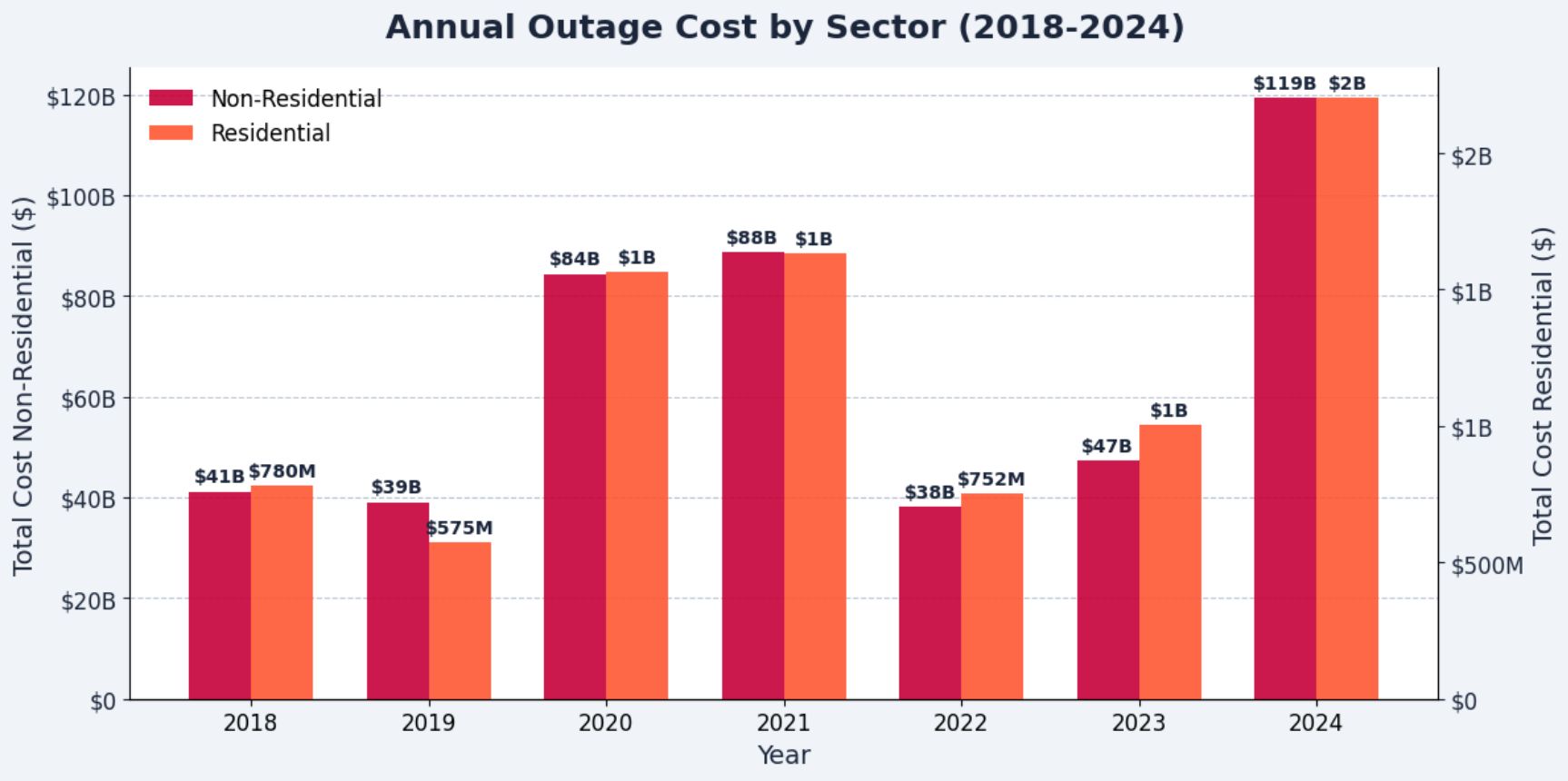
Science-informed resilience investment is the best solution for the rising cost of power outages

$67B

Real loss for businesses and real expenses for households.

$121B

Economic Impact in 2024



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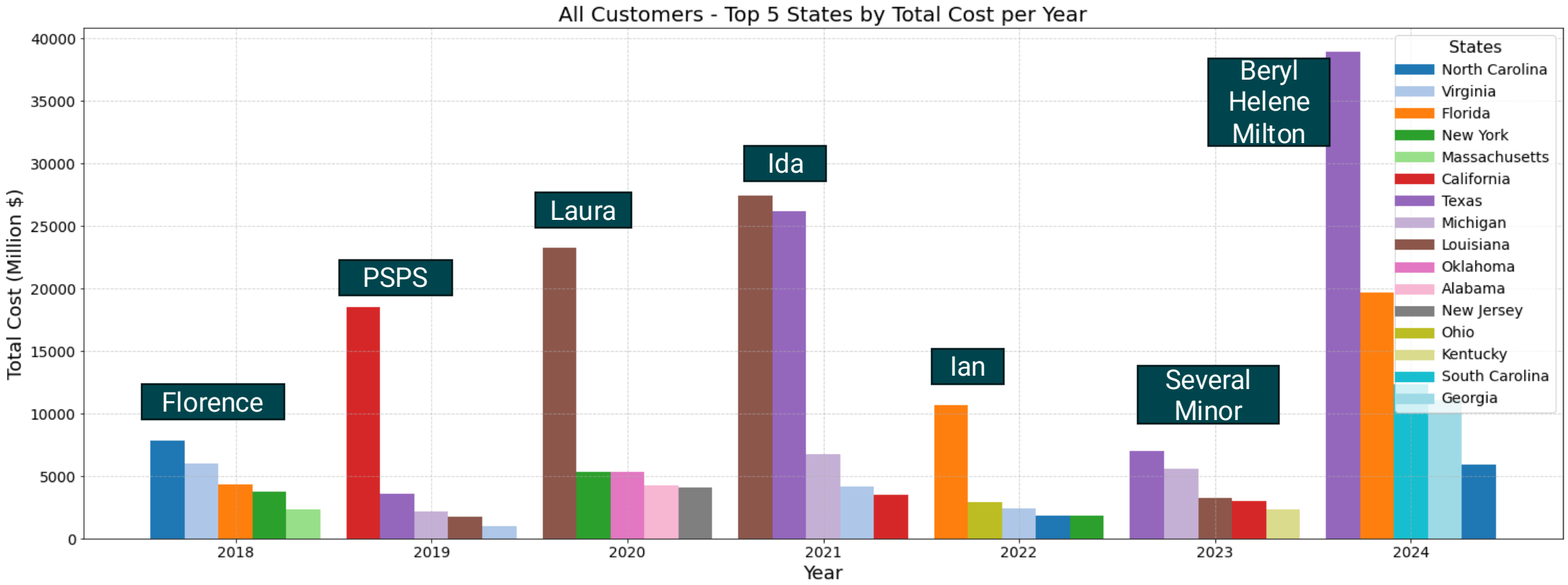
Economic Costs of Natural Hazards



EDGAR

Enhancing Distribution Grid Anticipatory Resilience

Oak Ridge National Laboratory (ORNL) is providing "Resilience as a Service" through EDGAR, a 3-year project. EDGAR will enable leaps towards greater critical infrastructure system robustness and adaptability.

EDGAR's text notification engine will deliver advisories up to **48-72 hours before** an outage occurs. With practical, real-world insights, ORNL is empowering utilities to anticipate, mitigate, and prevent major outage events in their service area.

EDGAR is powered by ORNL's interdisciplinary team, with expertise in critical infrastructure resilience, national security, computer science, human system dynamics, and data engineering.

All shared data and resulting outputs will conform to the project's data management plan, the Department of Energy's Policy for Digital Research Management, and the policies of the project's sponsoring office. Storage, outputs, and artifacts are officially reviewed to identify, protect, and handle potentially sensitive personal or identifiable information.

EDGAR is offered free of charge, and participating utilities will receive specific actionable insights aimed at:

- Reducing unplanned outages by 20-40%.
- Creating yearly cost savings of up to $250,000 (average <50K meters)
- Empowering decision-making resilience reviews and annual reporting

EDGAR will integrate utility-provided data to benchmark service territories via a **5-stage Grid Technology Modernization Index**, leveraging ORNL capabilities like:

- Weather Prediction Models
- Distribution Network Models
- Grid Infrastructure Layers
- Critical Infrastructure Overlays
- ODIN Layer Integration
- Grid Event Signature Library
- GenAI-based Contextual Enhancement

At each stage of resilience and data-sharing, additional predictive features and insights will be enabled, such as notification engine integration, zip-code level resilience, and increased automation – empowering 24/7 year-round utility response.

TO PARTICIPATE

To establish baseline measurements for EDGAR's utility-specific insights & notification engine, we invite you to respond to a short survey using the QR code (left).

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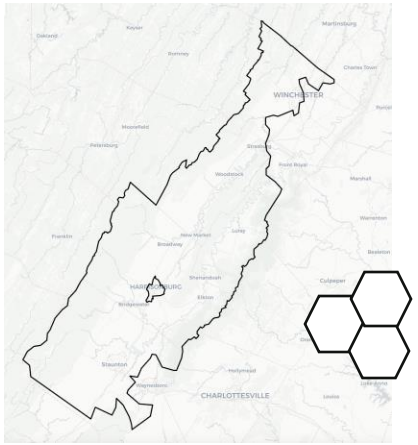
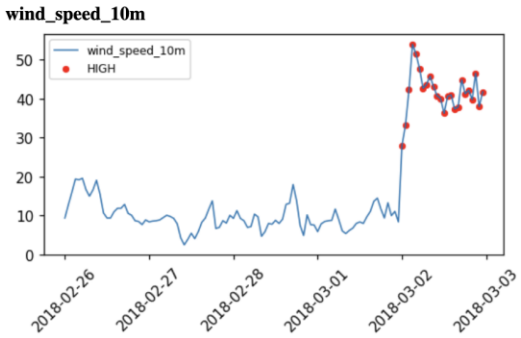
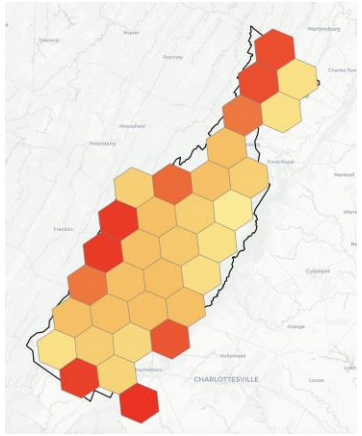
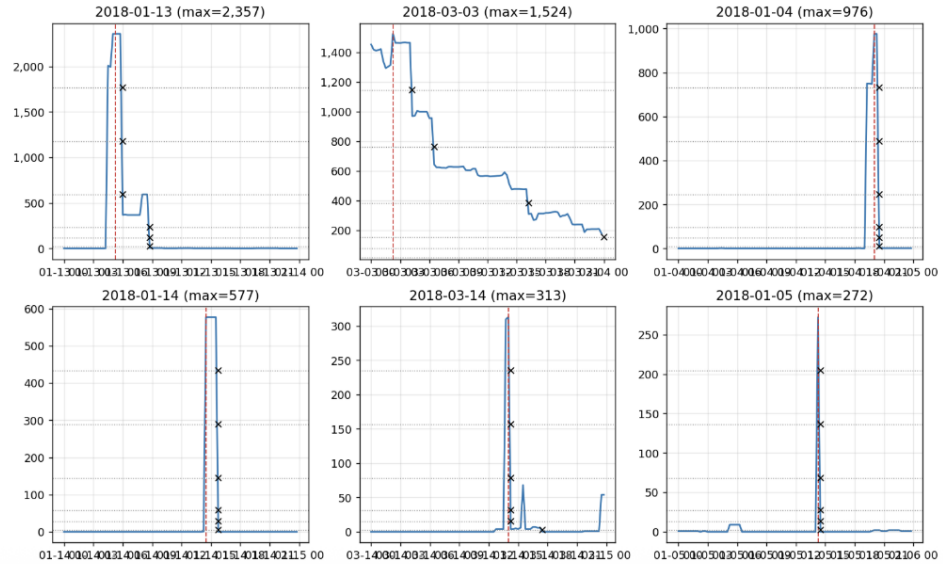
Advanced Anticipatory Resilience Analysis

Index Utility Service Territory with H3 → Retrieve Weather Forecast (next k days) and detect risk signals → Weather Risk Index Calculated (Per Day, Per Weather) → Find Days with Similar Weather Risk Index → Generate Power Outage Statistics from those Analogs









Generate Notifications from Statistics and Weather Risk Index

County Notifications (Level)

- ⚠️ Daily risk on 11-11-2018 is High.
- ⚠️ Daily risk on 11-15-2018 is Very High.
- ⚠️ A Snowfall HIGH event is expected from 2018-11-15 07:00 to 2018-11-15 17:00 lasting 10.0 hours - longer than typical events (extended duration)
- ⚠️ A Temperature 2m LOW event is expected from 2018-11-11 00:00 to 2018-11-11 21:00 lasting 21.0 hours - longer than typical events (extended duration)

⚡ **Outage analog estimation (by daily county risk)**

⚡ **Analog outage risk — FIPS 51171**

Date: **2018-11-15** · Risk grade: **Very High** · Analogs: **30** · Season window: **±30d**

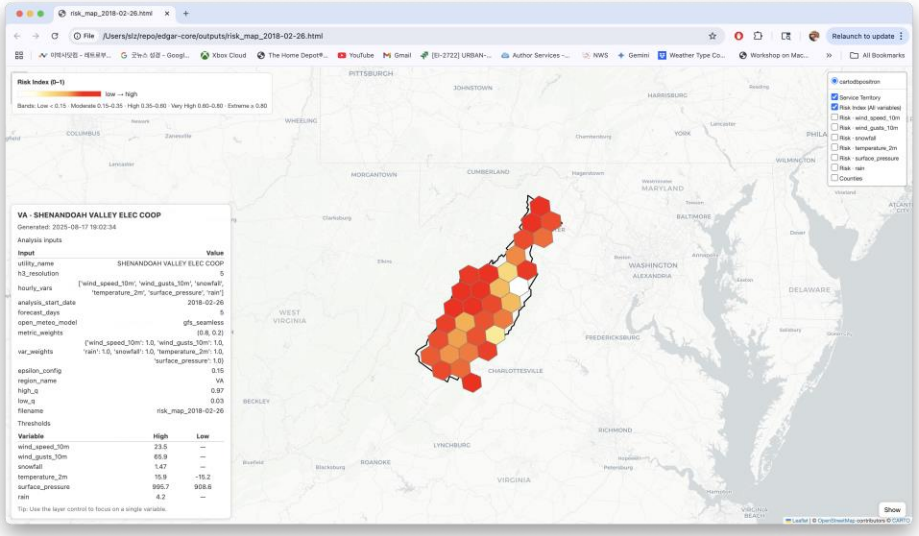
Expected outage severity

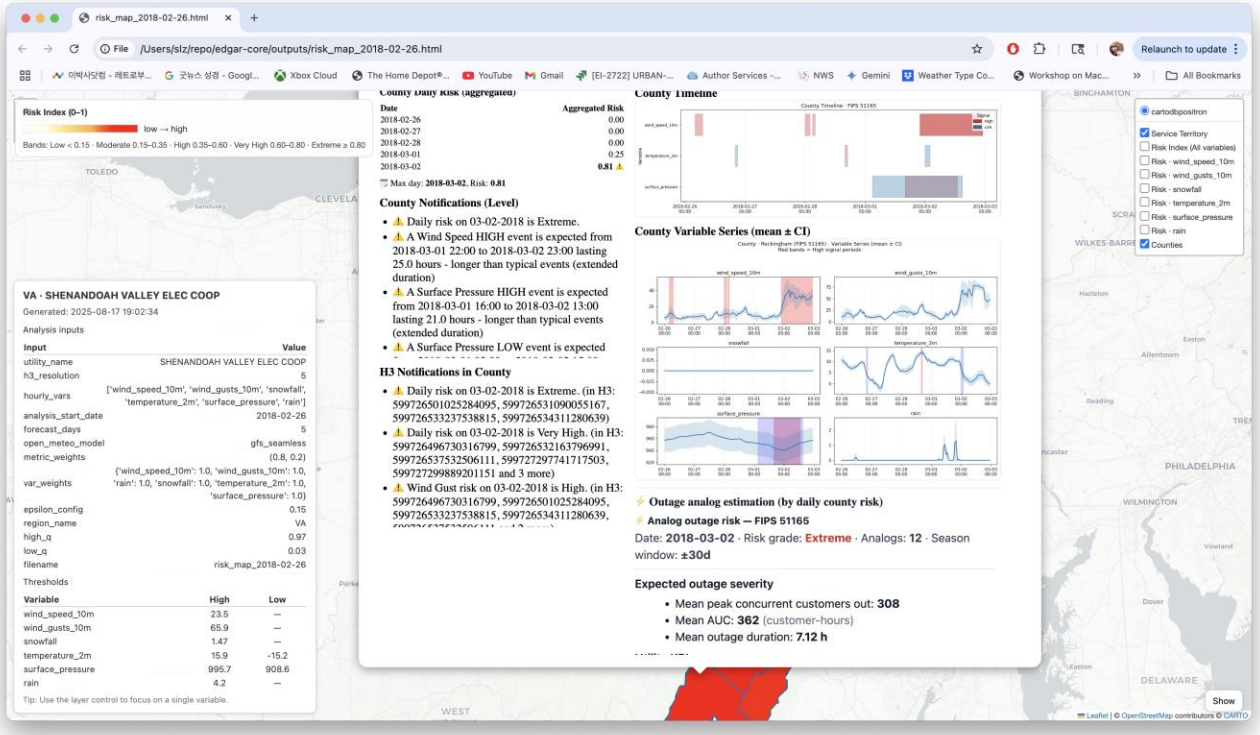
- Mean peak concurrent customers out: **234**
- Mean AUC: **838** (customer-hours)
- Mean outage duration: **6.21 h**

DEMO: EDGAR MVP

Purpose & Scope: The EDGAR MVP tool can **be configured for a specific utility retail service territory** (via shapefile input) and runs analyses **for either a past date or the present** using **real-time weather forecasts**.

What it does: The tool **indexes the utility service territory with H3**, **retrieves weather forecasts** for the coming days, and **detects potential risk signals**, and **generates power outage statistics based on historical analogs**. From these results, it produces notifications derived from both the risk indices and outage statistics, ultimately supporting utilities with timely risk awareness.





GTMI

Grid Technology Modernization Index

utility asset and management baselining for scalable grid resilience across the nation.

GTMI will enable site-specific actionable insights to improve electric utility resilience, because no two service areas are the same.

accelerating resilience as a service

Scalable Solutions for Grid Technologies

Based on variations across utilities related to:

- Metering infrastructure and automation.
- System monitoring.
- Outage management & load stability.
- Modernization practices.

Innovative Management Practices

Implementing dynamic approaches to:

- Asset inventory management and proactive maintenance.
- Risk assessment and mitigation.
- Vegetation identification and management applications.

Strategic Development

- Short-and-long-range planning across sectors.
- Strategic partnerships and collaboration.
- Outreach and engagement.
- Service area improvements.

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ORNL is developing a comprehensive **Grid Technology Modernization Index (GTMI)** as part of the EDGAR (Enhancing Distribution Grid Anticipatory Resiliences) project.

Distinguishable from the existing indices, our comprehensive baseline incorporates specific technologies and expanded resilience practices to tackle pressing challenges in outage response and grid reliability.

GTMI incorporates attribute-based metrics, moving beyond theoretical concepts to deliver practical, real-world insights – enabling utilities to anticipate, mitigate, and prevent major outage events in their service area.

Informed by today's resilience efforts across investor-owned, municipal, and cooperative utilities, as well as public utility districts, **GTMI** provides the foundational model for EDGAR's notification engine.

The EDGAR project's participants will be the first in the nation to receive resilience recommendations tailored to their service area's **GTMI** range and utility capacity.

Grid Technology Modernization Indices - Baseline Survey for Utilities

Join the effort towards nation-wide reliability and outage prevention.

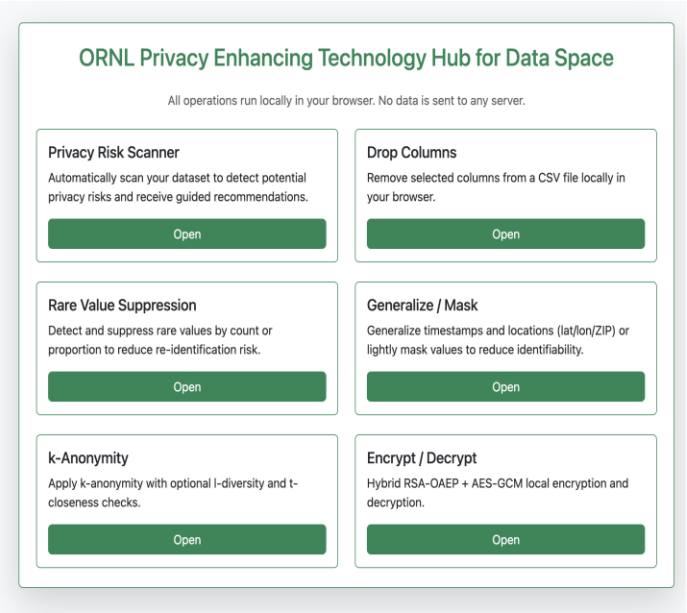
US Energy Dataspace

Key Visions:

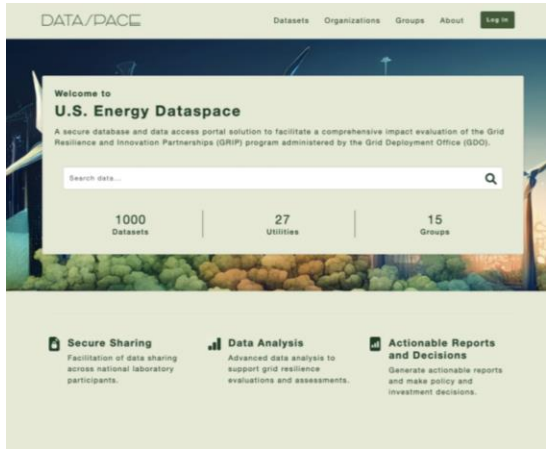
- **Data Federation**
- **Privacy-Preservation**
- **Data Sovereignty**
- **Interoperability**

- **Federated data-sharing platform & ecosystem** for utilities, researchers, and government partners
- Enables **secure and privacy-preserving collaboration** without centralized data pooling
- **Data remain under the ownership and control of original providers**
- **Shared interoperability layer** supports discovery, querying, and analytics across distributed sources

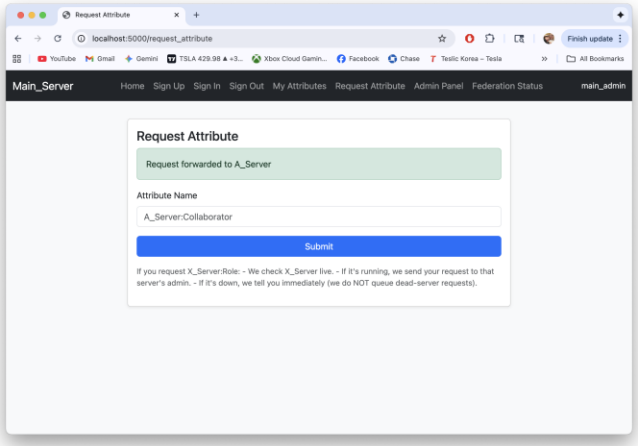
Privacy Enhancing Technology Hub for Data Space

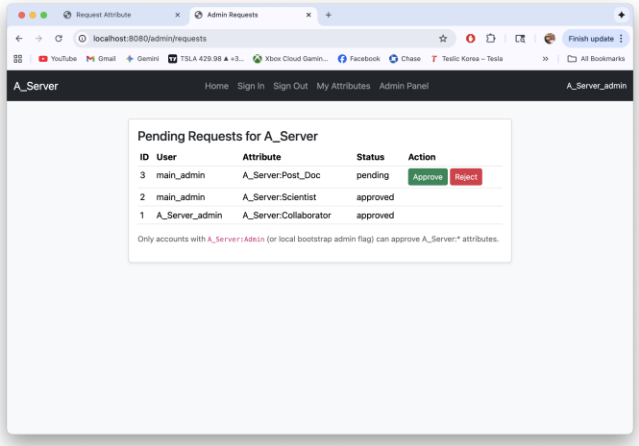


US Energy Data Space Portal



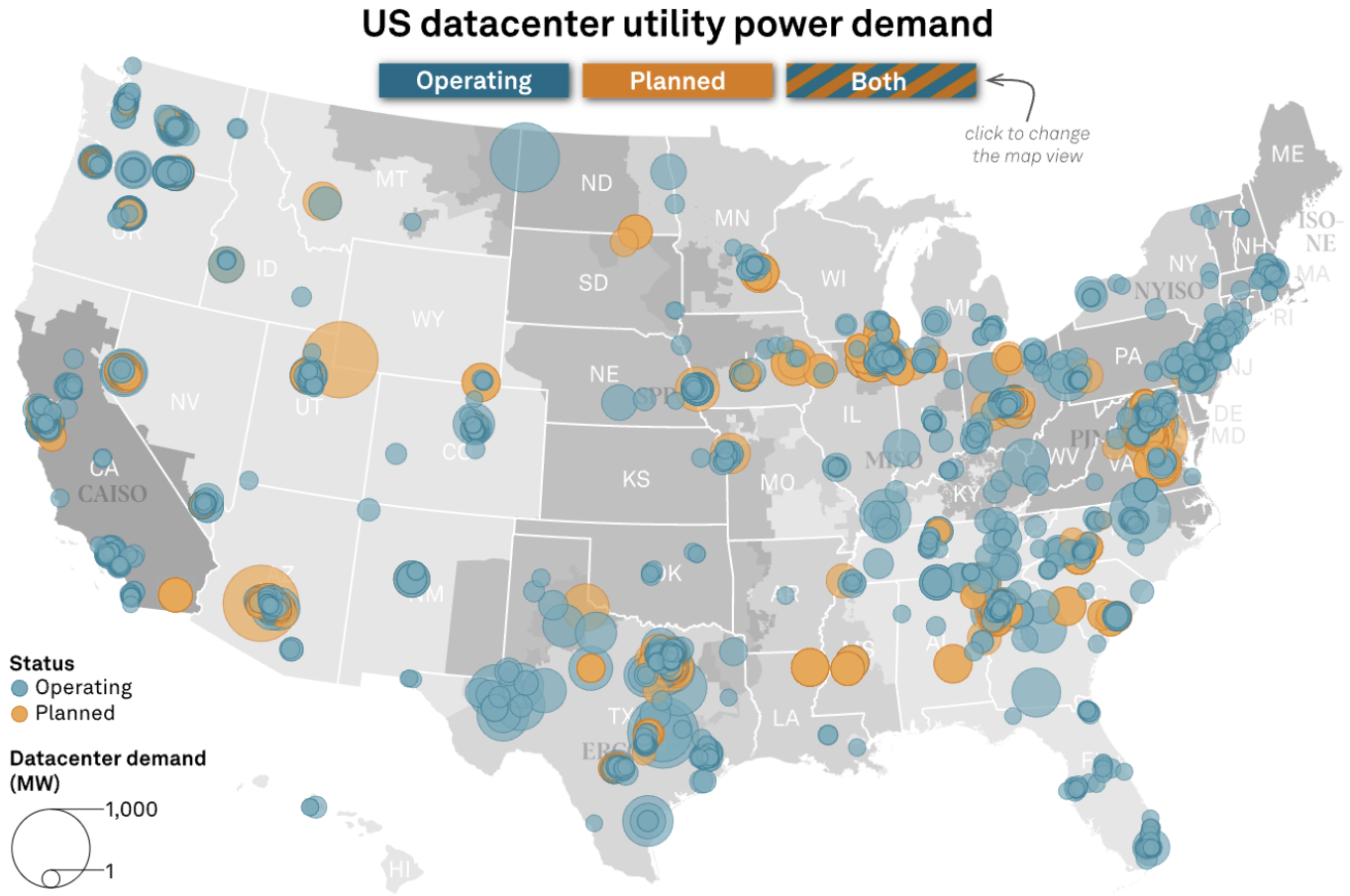
Federated Login & Attribute-Based Access Control (ABAC)





Data Center Policy and Market Environment

DC Developers moving to Secondary & Tertiary Markets



Data compiled June 23, 2025.
Includes operating and estimated datacenter campus demand with at least 1 MW of utility power demand; excludes datacenters with no available utility power demand figures. Includes city-centric geographic locations.
Excludes enterprise-owned datacenters with the exception of Meta, Google, Microsoft, Amazon and Apple.
Source: S&P Global Market Intelligence 451 Research; Q1 2025 Datacenter Knowledge Base.
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https://www.spglobal.com/market-intelligence/en/news-insights/articles/2025/7/us-datacenter-power-draw-to-double-by-2028-states-tackle-cost-supply-concerns-91382267?mkt_tok=NTY1LUJETy0xMDAAAGcGcTJjRQwRf_zf648zMnlQw-3iglAmbXOFhQhbdGvYUArkaKeAWr2np9sTjB1IDx2kHInX_nxcielMe7mang5vjcvxlhSdRhzYIUy4tTkPuis5BijDA

Market Context for Large Load Data centers

- Unprecedented large load interconnect from data centers
- Current reality for most data centers is they are likely to be **load-shed during peak load hours**
- Balancing authorities are exploring creating **incentive measures** that explore data center flexibility
- **DOE's ANOPR 403 released Oct 24th is a paradigm shift**
  - Clearly reaffirms FERC jurisdiction over interconnects of large loads to interstate transmission system and energy sales
  - Clearly affirms state jurisdiction over retail energy sales
  - >20MW transmission side connections including co-located generation assets with injection/withdrawal rights to be tested collectively
  - Invites accelerated interconnect timelines for data center operators/builders willing to be flexible (curtailable, shiftable and/or dispatchable)

MEGA-DC

Empowering decision-makers to anticipate and guide decision making through actionable insights.

Executive Summary- MEGA-DC

Our team's core capabilities include:

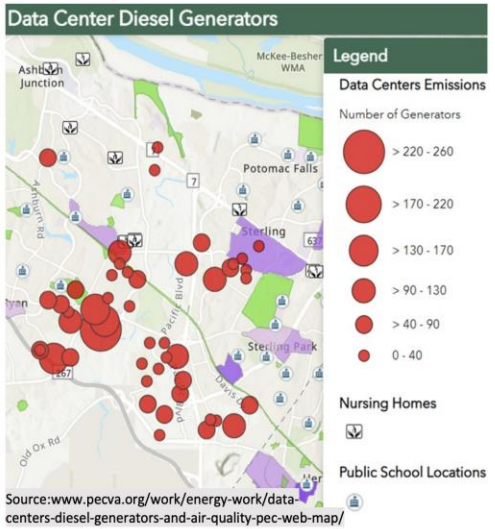
- **Geospatial conflation & modeling**
- **Land-use policy, rural & tribal governance**
- **Urban planning**
- **Data Center feasibility and siting**
- **Energy affordability analysis & modeling**
- **Data Center Digital Twin- Grid cognizance and grid orchestration enablement of data centers**
- **Load forecasting for states- energy surplus/reserve modeling**
- **Transmission capacity modeling with large loads**

Added benefit of extensive knowledge of state's policy landscape, and complex social, tech, environmental, economic, and political drivers of change.

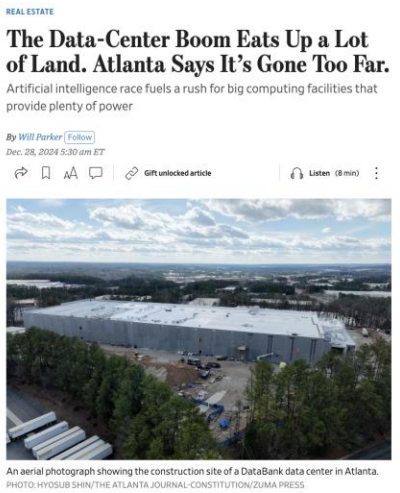
This comprehensive insight will enhance our efforts in State and create meaningful collaboration.

What's the threat?

- 24% of Dominion Energy's electric sales
- delayed retirement of three coal facilities
- new gas facilities proposed by utilities and behind-the-meter at data center sites
- over 4,000 diesel generators permitted as backup power in northern Virginia
- Loudoun Water disclosed that potable water consumption by data centers has now surpassed reclaimed water usage
- Loudoun Water disclosed a 250% increase in potable water consumption from data centers in the last 4 years



Source:www.pecva.org/work/energy-work/data-centers-diesel-generators-and-air-quality-pec-web-map/


REAL ESTATE

The Data-Center Boom Eats Up a Lot of Land. Atlanta Says It's Gone Too Far.

Artificial intelligence race fuels a rush for big computing facilities that provide plenty of power

By Will Parker Follow
Dec. 28, 2024 5:30 am ET

Gift unlocked article | Listen (8 min)

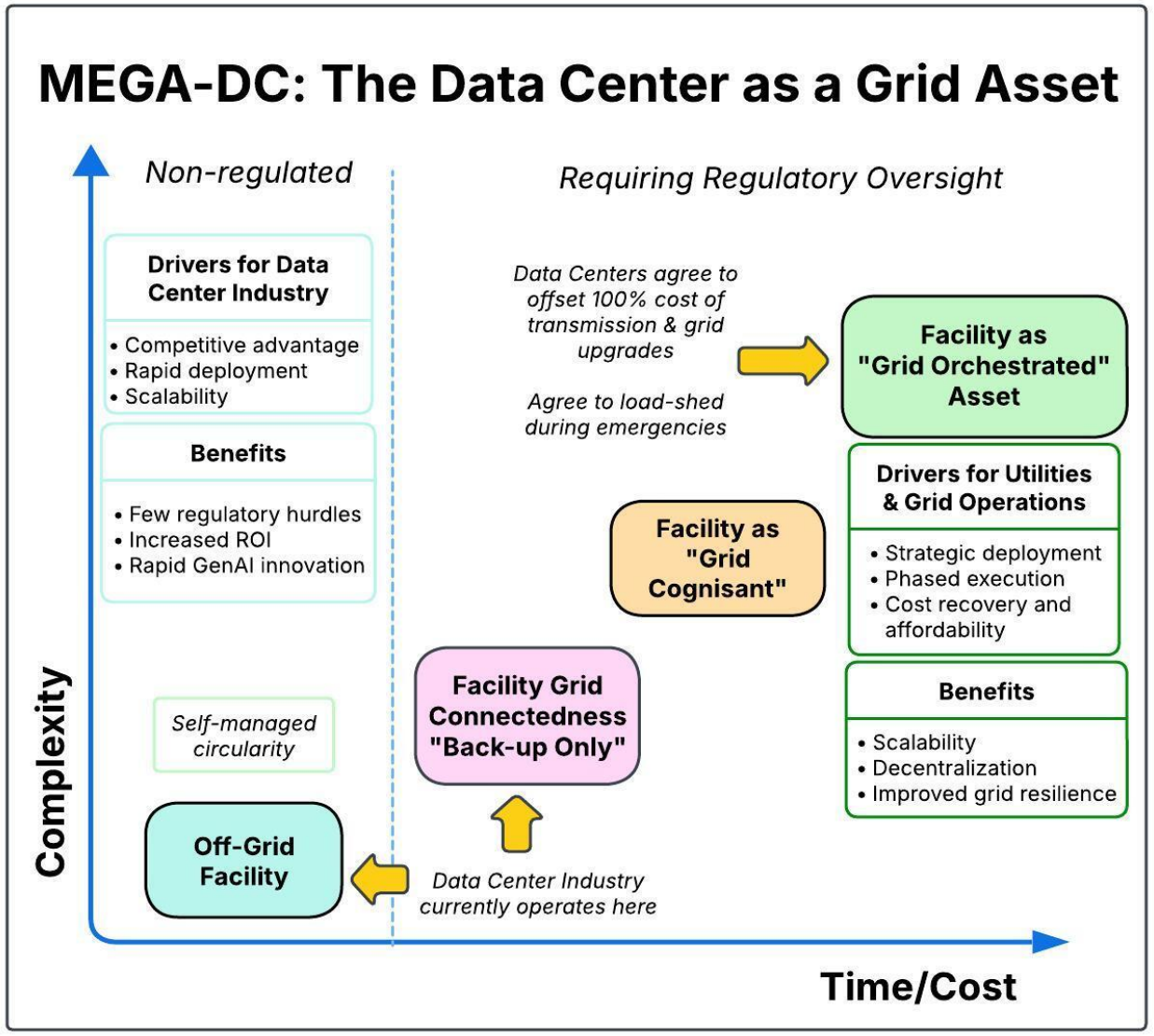
An aerial photograph showing the construction site of a DataBank data center in Atlanta.
PHOTO: HYOSUB SHIN/THE ATLANTA JOURNAL-CONSTITUTION/ZUMA PRESS

https://www.wsj.com/real-estate/data-center-land-use-atlanta-georgia-bd6a2f93

Are we ready for >1GW behind the meter commercial Data Centers?

Data Centers as a Grid-connected Asset

- **Most data centers today** operate as passive grid loads: MEGA-DC models the shift toward coordinated, grid-supportive infrastructure.
- **Backup-only and off-grid models** limit transparency and shift upgrade costs to ratepayers.
- **Grid-cognizant sites** coordinate with utilities but lack full flexibility or cost-sharing.
- **Grid-orchestrated data centers** support demand response, offset grid upgrade costs, and improve system resilience.
- **MEGA-DC helps states identify and prioritize sites** that move toward this high-value



Modeling the Energy Growth Associated with Data Centers (MEGA-DC)

Affordability & Regulatory Impact → Feasibility → Siting & Load Impact

Data Development & Core Capabilities	• **Modeling attributes**: electricity, gas, water, real estate, prices, data center existing site load and new site feasibility, grid reliability & resilience, etc. • **Affordability modeling** - state level analysis across the utilities, narrow to county level across all counties. Modeling an Affordability Index for new data center feasibility
Digital Twin & Platform Development	• Individual Data Center load intensity and aggregation • Aggregate Data Center(s) Feasibility study by state/county • Enable intelligent feasibility and siting decision based on affordability and other tradeoffs at a parcel level • Leveraging the AI task disaggregation work at ORNL to **create grid cognizant and orchestrated data centers** • Understand upstream generation/transmission cost impacts and need for new builds • Advise states on regulatory insights
Trans/Distro Energy Load Growth Modeling	• Distribution side load aggregation and hosted load capacities • Transmission side **energy reserves modeling**

Enable strategic tradeoff analysis between energy affordability and incentives that trigger proliferation of data centers

Data Development & Core Capabilities

Dimensions	Criteria
Land Availability & Workforce	Buildable Land
	Environmental Hazards
	Workforce & Labor-shed
Infrastructure Robustness	Power Availability, Resilience, & Reliability
	Connectivity & Network Infrastructure
	Fuel Supply for Back-up Generation
	Water Accessibility
	Gas interdependencies
Regulatory Burden	Regulatory Environment
	Affordability, Econometrics & Pricing

Affordability Model

Affordability is the **starting point** for a Model of Data Center Feasibility and Siting

Goal: Minimize cost impacts while Maximizing affordability and customer sentiment through targeted policy incentives

Evolving the Affordability Model for Trade Off Analysis

Affordability Snapshots Trending Over Time and into Future

Models: Nation-wide County-level Electricity Affordability; State Electricity, Gas, Water and Rent Models

Data: Utility Price, Rent, Median Household Income, and Rate Case Data

Affordability and Data Center and Utility Investment Impacts

Models: Local Economic Models, Income Groups

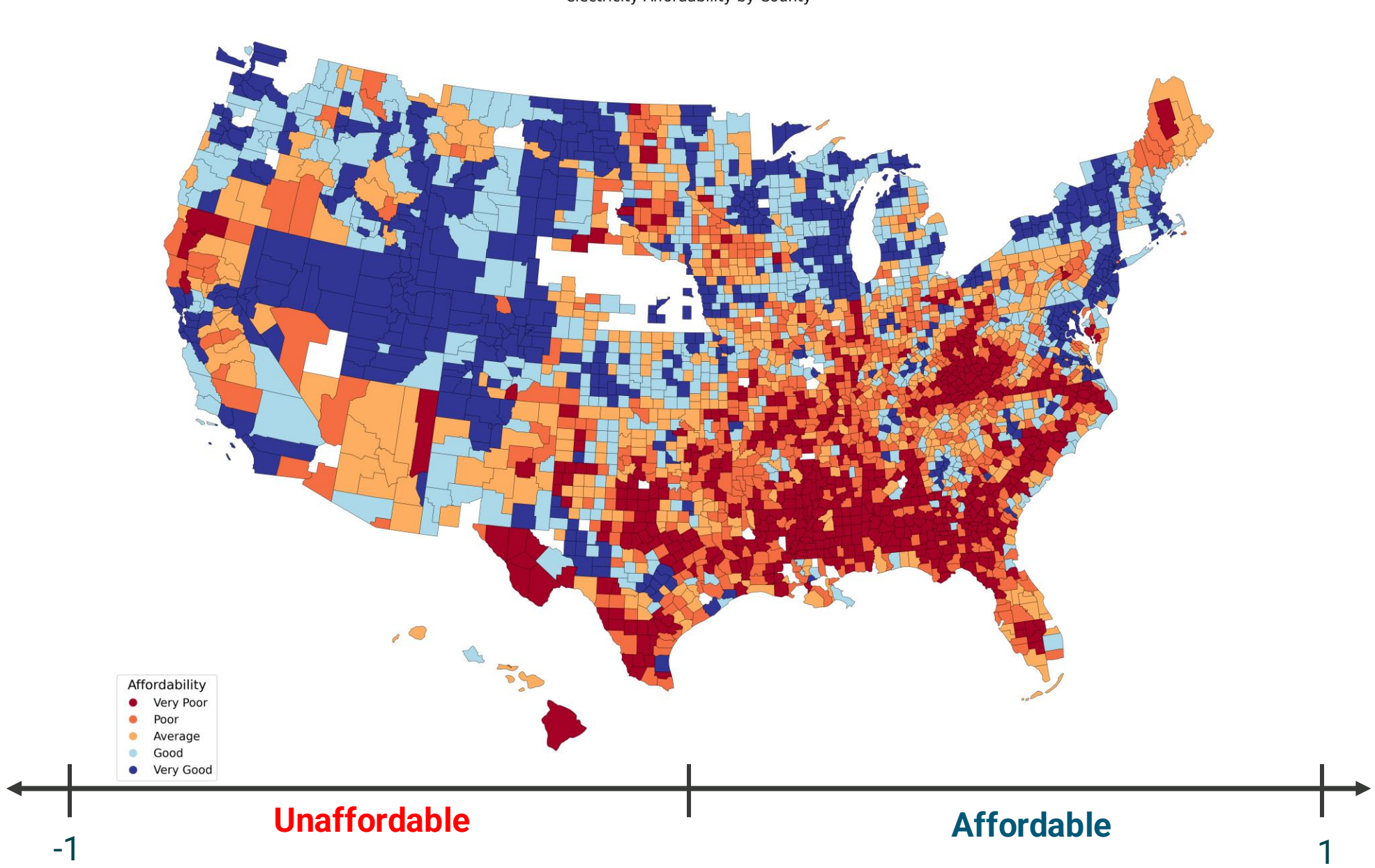
Data: Data Center, CapEx and OpEx Projects, and Broadband/Fiber Utility Data

Affordability by Design

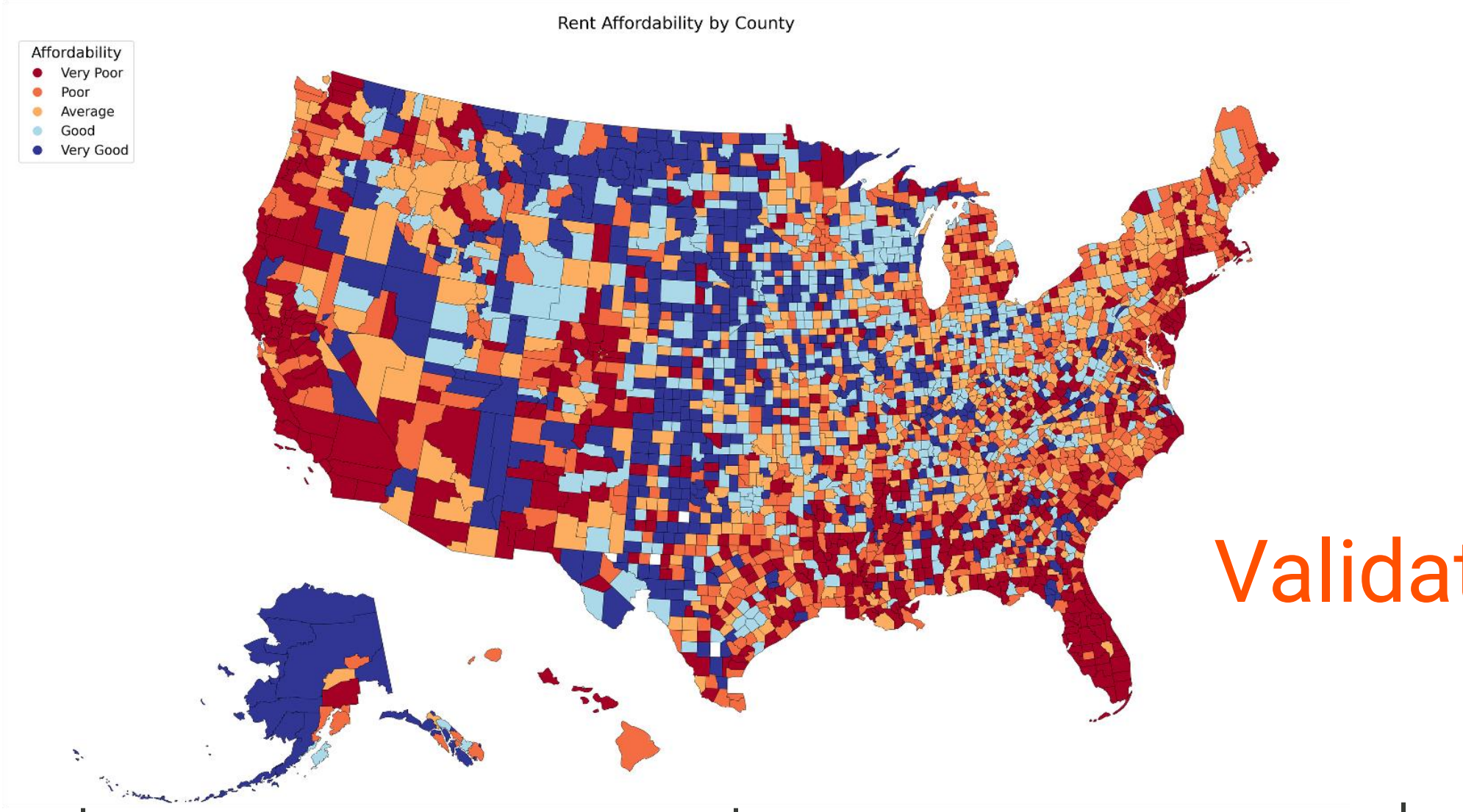
Models: Affordability and State Incentives

Data: Incentive Programs and Results

National County-Level Electricity Affordability 2023



National County-Level Rent Affordability 2023



Validated

-1 **Unaffordable** **Affordable** 1

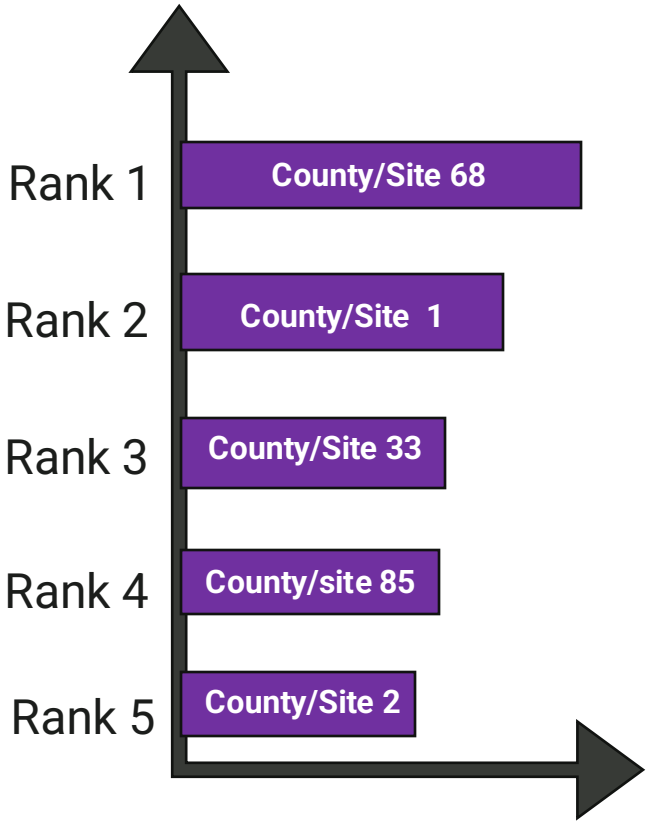
Affordability Driven Data Center Feasibility Framework

- Affordability Model
- Economic Modeling
- TASTI-Grid
- Trans/Distro Energy Load Growth Modeling
- Siting Model

Cutting Edge Modeling

- **Economic and Regulatory Burden**
  - Electricity Affordability
  - Gas Affordability
  - Water Affordability
  - Broadband Affordability
  - Rent Affordability
  - Permitting Burden
- **Infrastructure Robustness and Resilience**
  - Reserve Capacity
  - Grid Modernization
  - Impact Duration
  - Recovery Duration
- **Land Availability and Workforce**
  - Buildable Land
  - Environmental Hazards
  - Number IT Labor

Key Criteria

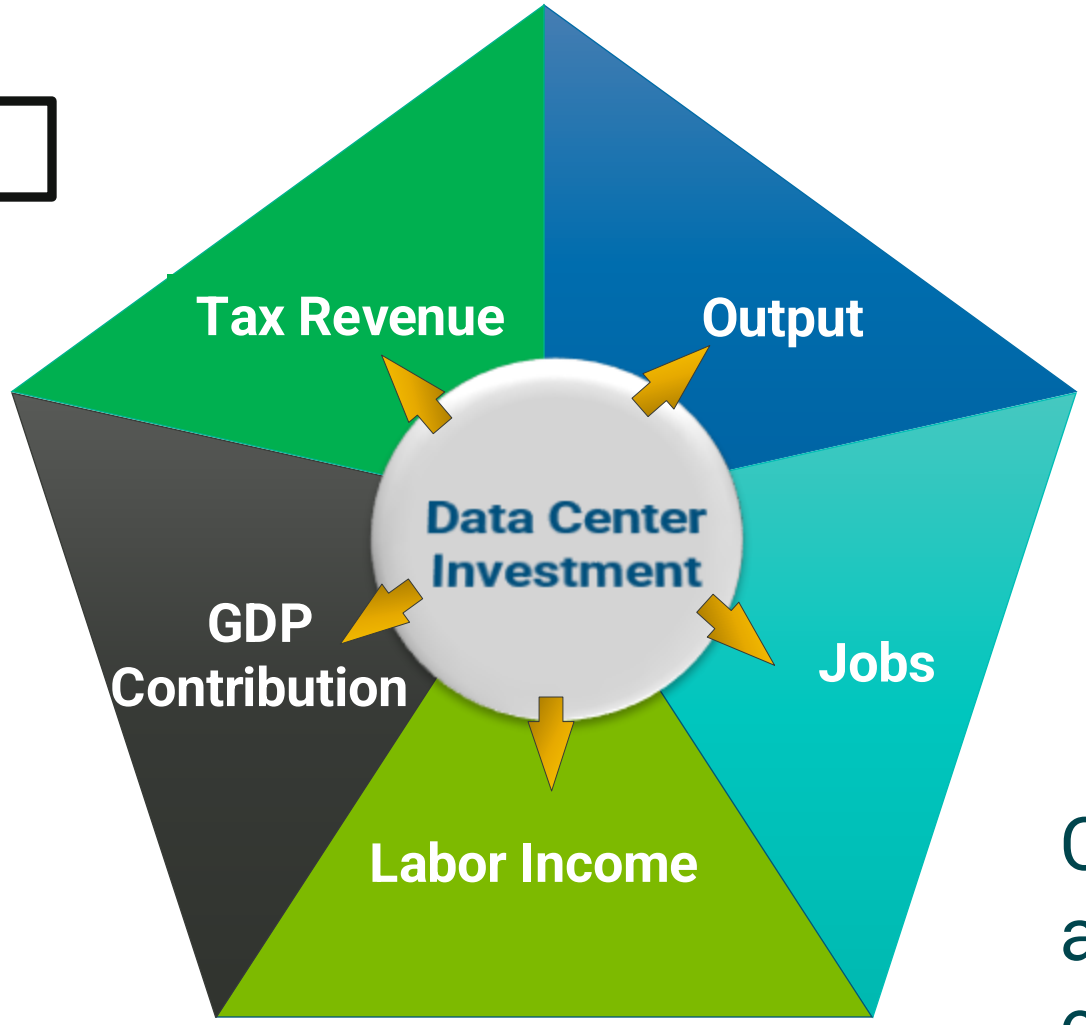


Optimization and Binding Constraints

Economic Modeling

Preliminary Modeling of Data Center Investment Benefits

Input-Output Model



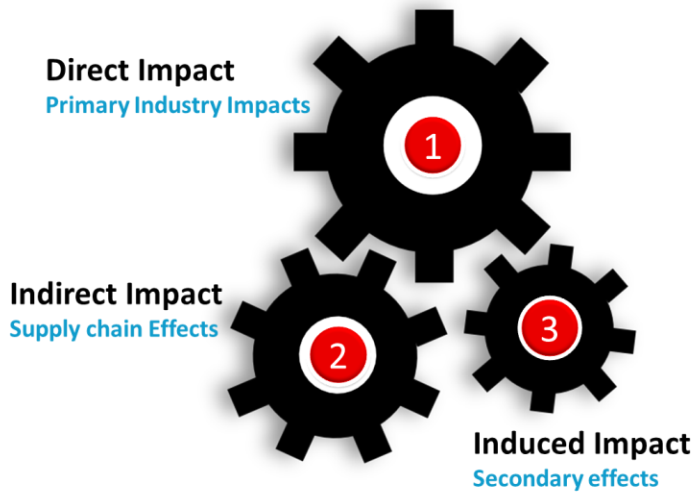
Captures flow of money and ripple effects in economic activity

Preliminary Modeling of Data Center Economic Impact Analysis

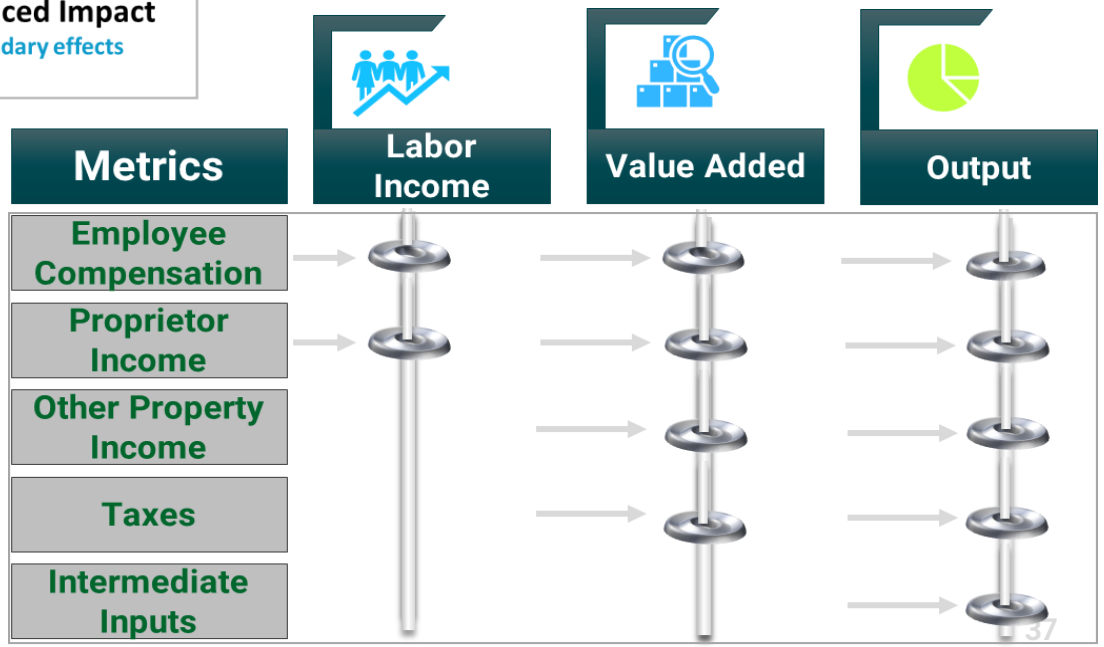
Quantitative Method

- **Input-Output Analysis (IO model)**
  - Output ($)
  - Employment (Number of jobs, labor income ($))
  - Tax revenue ($)
- **Multipliers**

Core Components



Economic Impact Metrics



Evaluations:

Comparing counties' economic outcomes
Comparing level of investments
Industry/sectors impacts

Summary of Impacts- Result table template

Total number of full-time and part-time jobs supported.
= Wage & Salary Employment + Proprietor Employment

Combined earnings of workers, including wages, salaries, and self-employment income.

Contribution to Gross Domestic Product (GDP) from all impact types.
= Employee Compensation + Proprietor Income + Taxes on Production & Imports + Other Property Income

Impact	Employment	Labor Income	Value Added	Output
Direct				
Indirect				
Induced				

Total value of goods and services produced (i.e., economic activity).

Direct:
Economic activity directly tied to the investment - such as construction or operation of the data center.

Indirect:
Economic activity created through supply chains (e.g., vendors, contractors, equipment suppliers).

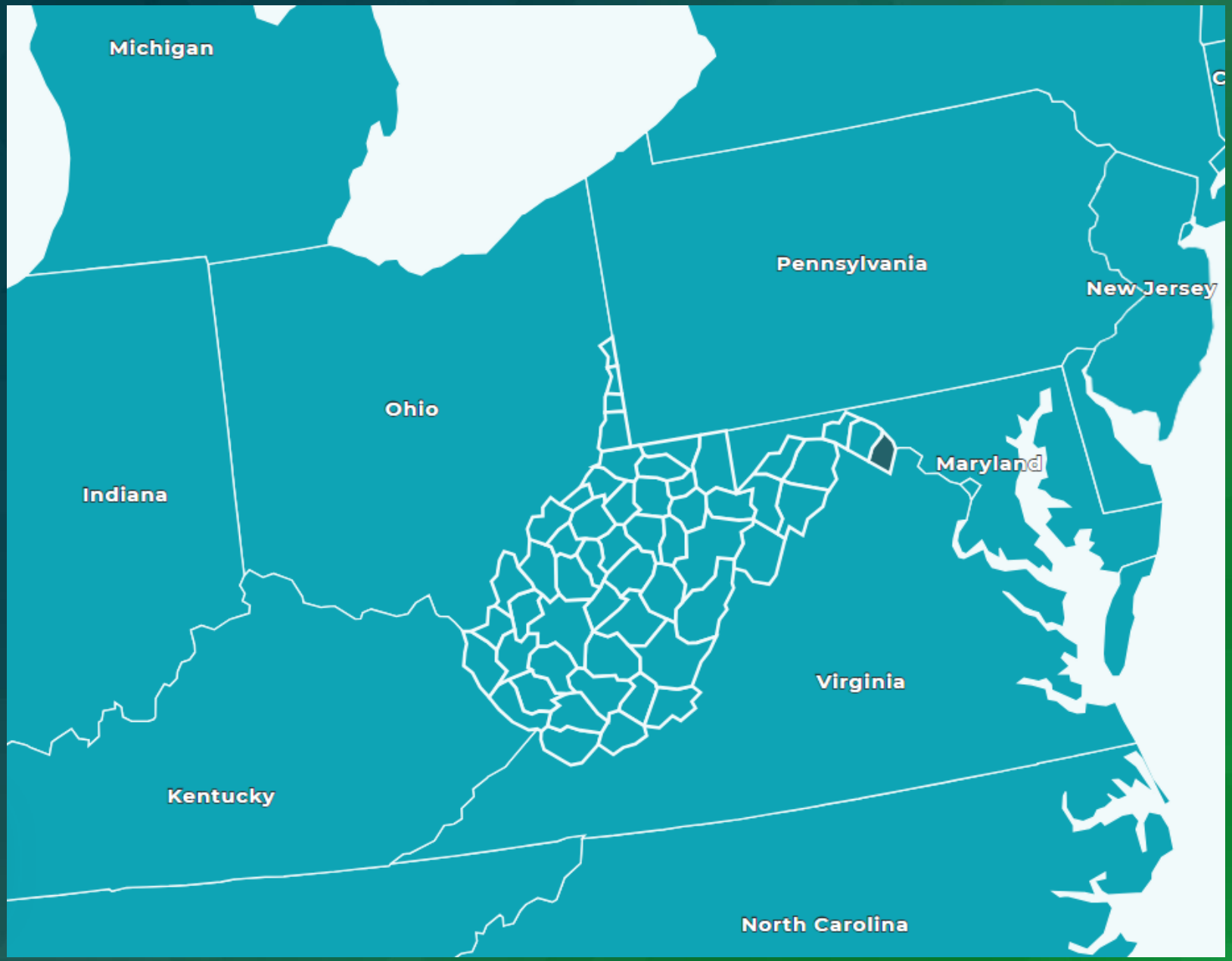
Induced:
Economic activity driven by employee spending- such as housing, groceries, and local services.

Current Limitations of the Economic Impact Analysis

- Sensitive to Inputs
- Forced Linearity
- Static model and no feedbacks
- No resource constraints
- Limited temporal effects
- Not Vendor-specific

County Level Analyses/Benefits

Jefferson County $1B


Michigan
Pennsylvania
New Jersey
Ohio
Indiana
Maryland
Virginia
Kentucky
North Carolina

Overall Analysis 2025

Jefferson County

$1,131
Output

3,123
Employment

$233
Labor Income

$366
Contribution to GDP

$66
Tax Revenue

Summary

Economic activity in this segment of the analysis supports 3,123.285 jobs earning $233,380,422 in Labor Income and creates a value of $366,238,802. Economic activity in this segment of the analysis generates a combined tax revenue of $65,629,669 at the federal, state, and county level. These figures are reported in 2025 dollar year. To adjust this, visit your preferences.

Economic Indicators by Impact

Effect Type	Employment (Number of Jobs)	Labor Income ($M)	Value Added ($M)	Output ($M)	Tax Revenue ($M)
1 - Direct	2,380	$195	$292	$1,000	$51
2 - Indirect	380	$22	$38	$75	$7
3 - Induced	363	$17	$36	$56	$8
Totals	3,123	$233	$366	$1,131	$66

Overall Tax Breakdown 2025

Jefferson County

$444

Federal Tax Revenue

$15

State Tax Revenue

$3

County Tax Revenue

$3

Sub County Special District Tax Revenue

$0.9

Sub County General Tax Revenue

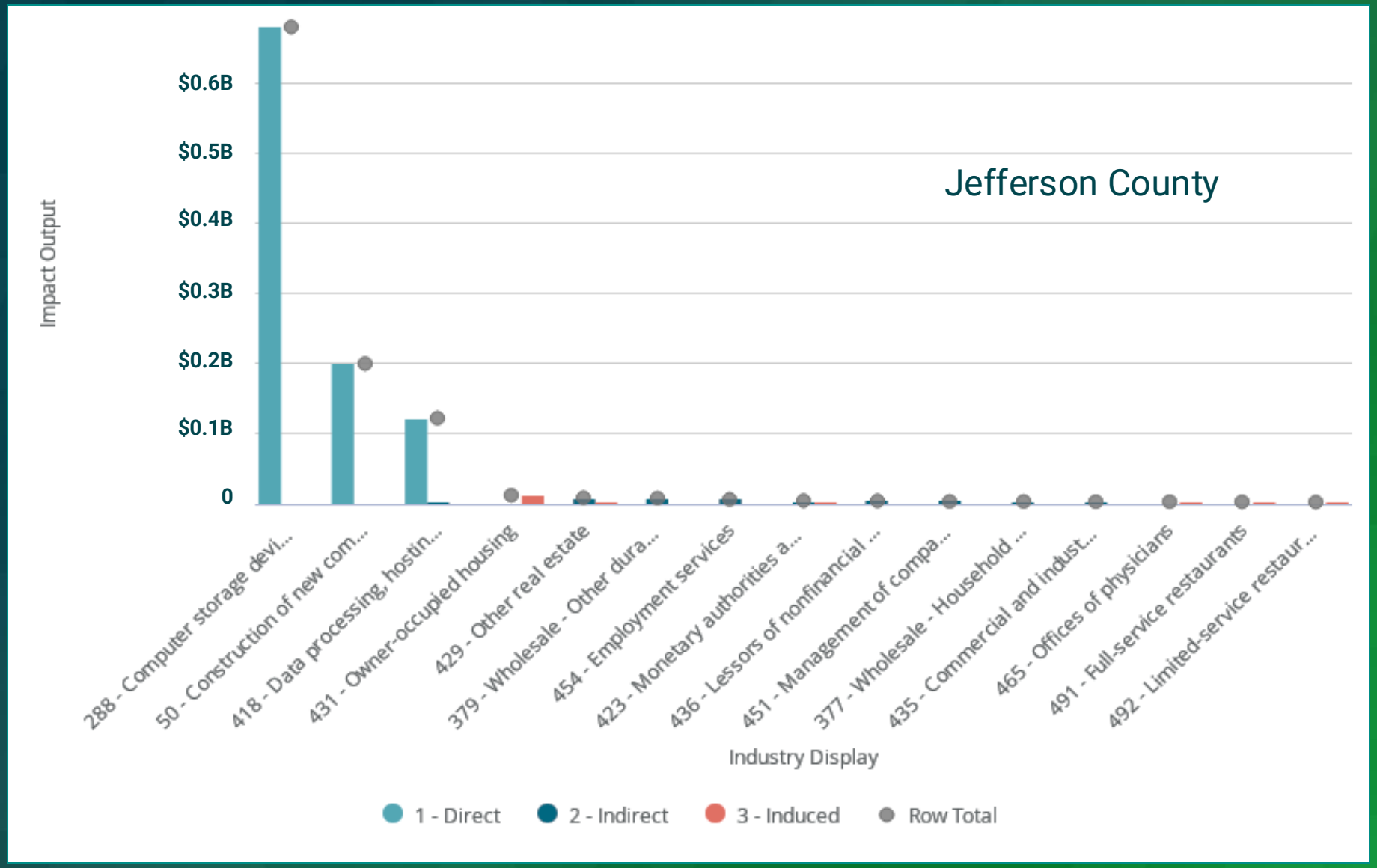
Summary

In total, impacts within this analysis support tax revenues of $43,587,651 at the Federal level, $15,156,375 at the State level, $2,528,144 at the County level, $3,430,467 at the Sub County Special District level and $927,032 at the Sub County General level. These figures are reported in 2025 dollar year. To adjust this, visit your preferences.

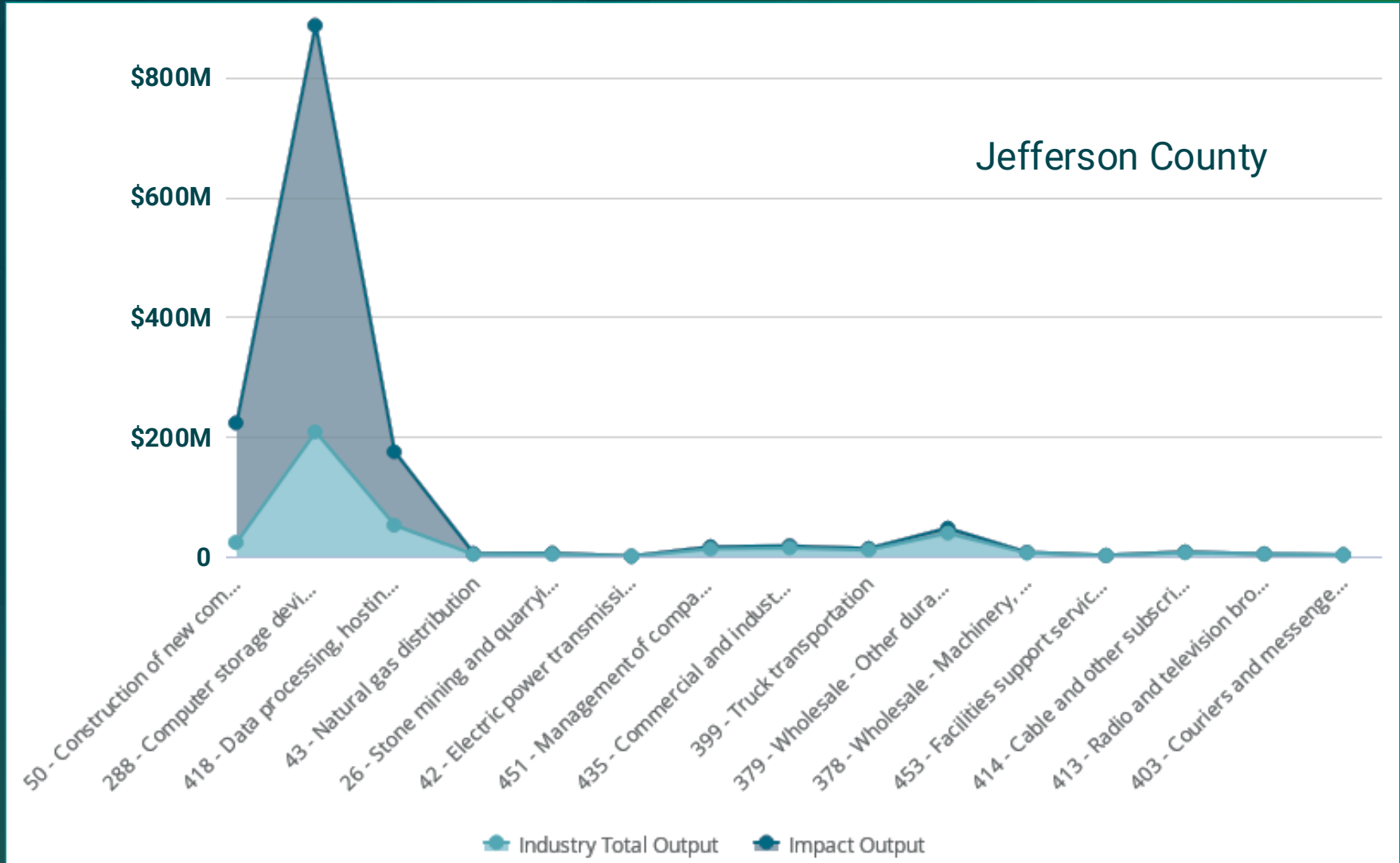
Tax Results

Effect Type	Sub County General	Sub County Special Districts	County	State	Federal	Total
1 - Direct	$548,632	$2,020,739	$1,647,375	$10,463,342	$35,920,460	$50,600,547
2 - Indirect	$158,036	$595,528	$318,815	$2,082,155	$4,189,227	$7,343,761
3 - Induced	$220,364	$814,199	$561,954	$2,610,878	$3,477,965	$7,685,361
Totals	$927,032	$3,430,467	$2,528,144	$15,156,375	$43,587,651	$65,629,669

Top 15 Industries Direct, Indirect, and Induced Output



Top 15 Industries Economic Output



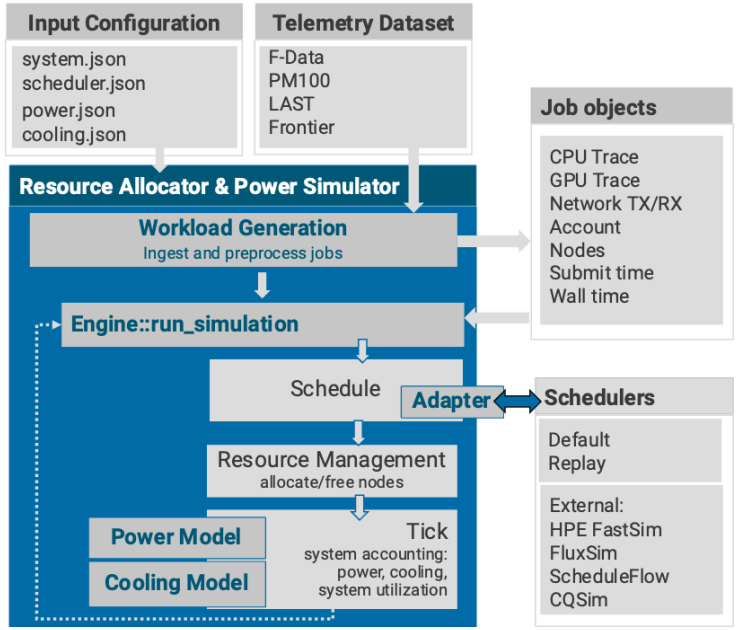
Resiliency – Transmission Model

We simulate loads through Data Center Model

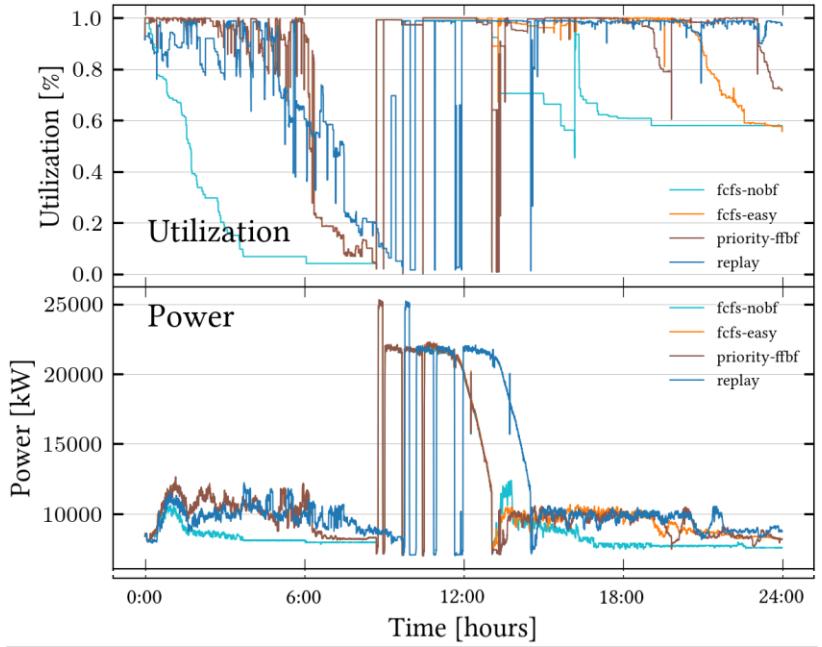
- Input: User-application characteristics executed on the computer system
- Output: total load at the meter
  - Additional simulation outputs :
    MW load(time-series), Node utilization, PUE (ratio of total load to IT load, where 1.08 means overhead is ~8%),
    metrics of the cooling system, e.g. return cooling water temperature, conversion losses, among others.

Simulator Schematic

see: ExaDigiT project, https://exadigit.github.io/



Simulation of scheduling scenarios of Frontier for January 18, 2024 and the observed load.



The dark blue line indicates historic data, each other color indicates a simulated scenario with a different schedule for the same day. (Peak load at noon is a high intensity applications running on the complete system, e.g. a fluid dynamics simulation.)

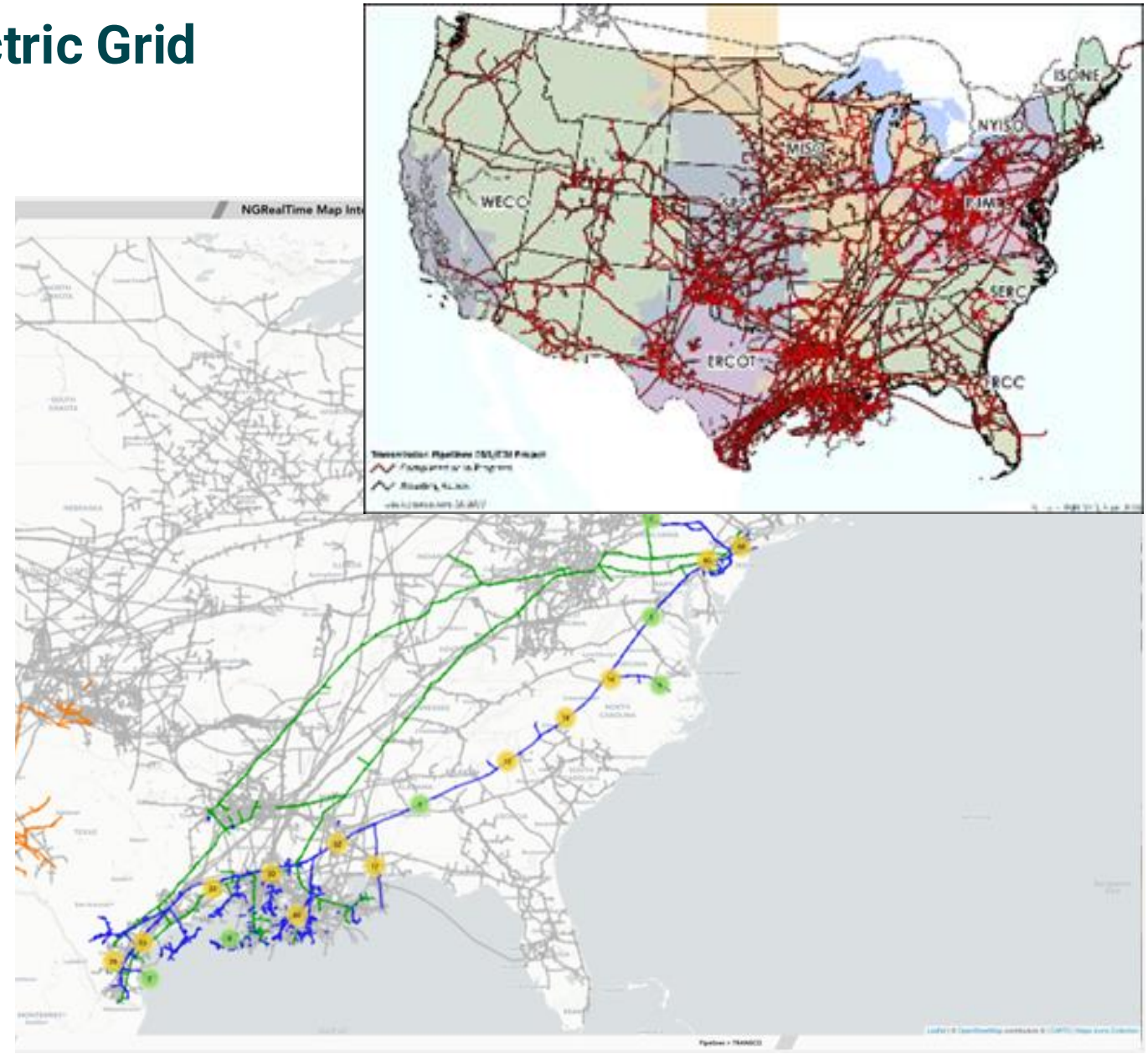
Then we add a data center to PJM system for Pennsylvania, Virginia, and West Virginia, and do DCPF

- DCPF is direct current power flow, commonly used for earlier stages of connection studies
- It ignores reactive power and relaxes some of the grid constraints, its findings are of approximate nature
- DCPF takes in scenarios based on transmission grid configuration, generation Pmax, and load MW
- It shows that in principle in most places there is enough MW capacity to serve new data centers, even large ones
- The next stage is ACPF, that includes both MW and MVar

Gas-Electric Interdependencies

Future Modeling: Natural Gas-Electric Grid Interdependencies

- Pipeline connections to gas-fired power plants
- Critical infrastructure assessment
  - Compressor stations
  - Metering
  - Interconnects
- Pipeline capacities
  - Pressure
  - Flow volumes
- What infrastructure components may need to be built or improved?



User Platform/Decision-Making Analytics

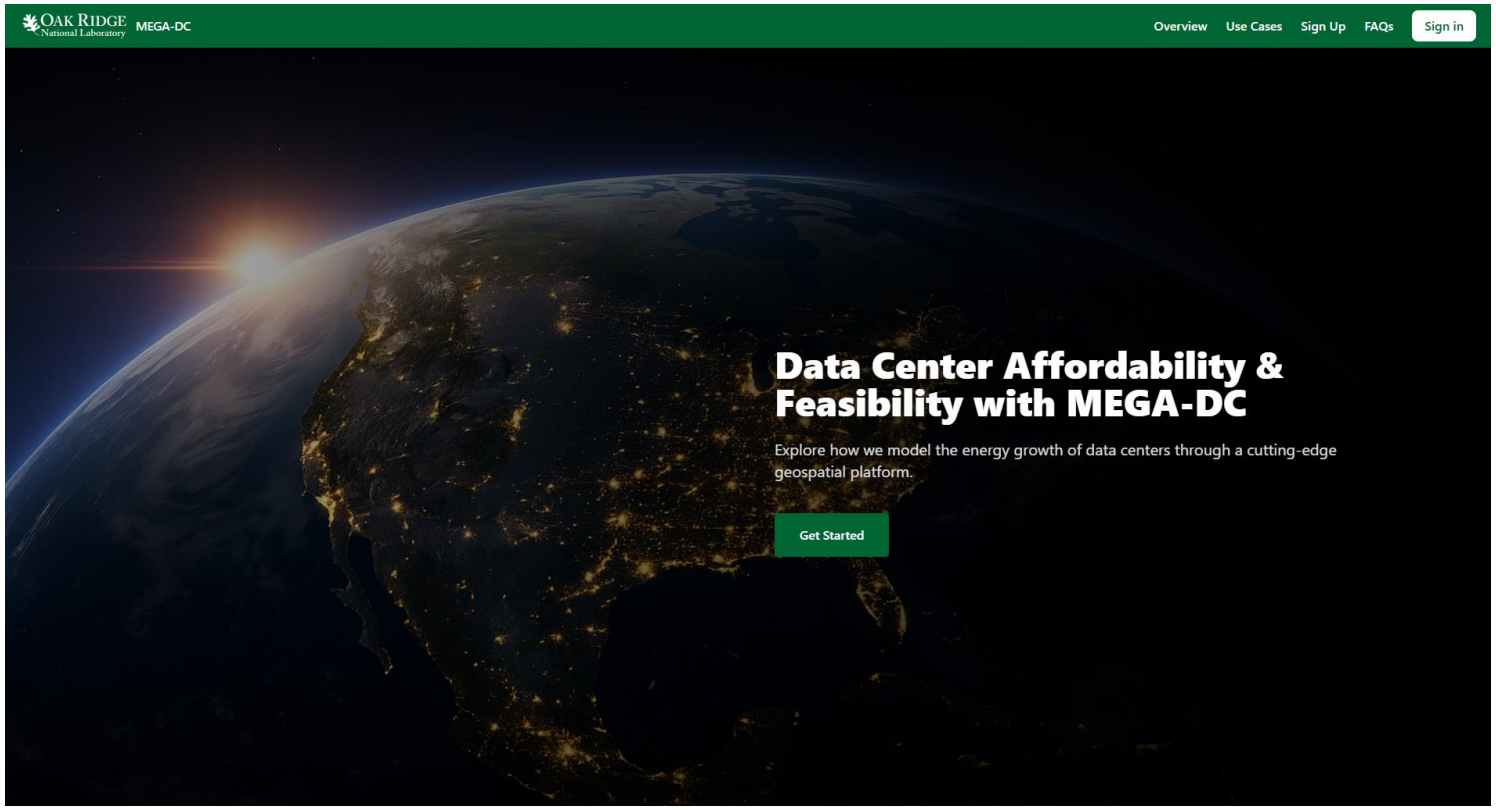
Customer Feedback on MEGA-DC

Our Customers

- Virginia
- Pennsylvania
- West Virginia
- Louisiana
- North Carolina
- Georgia
- Tennessee
- Oregon
- More states pending

- Demonstrated that Data Centers have a positive effect on affordability in at least one case.
- Are all counties becoming affordable over time?
- Creates need for a national dialogue on what is affordability and affordability for whom.
- Beyond jobs, how strong are the indirect and induced effects on the local economy?
- Does affordability, resiliency, and availability driven feasibility modeling change the siting paradigm?

Data Center Decision-making Platform



Thank you!