

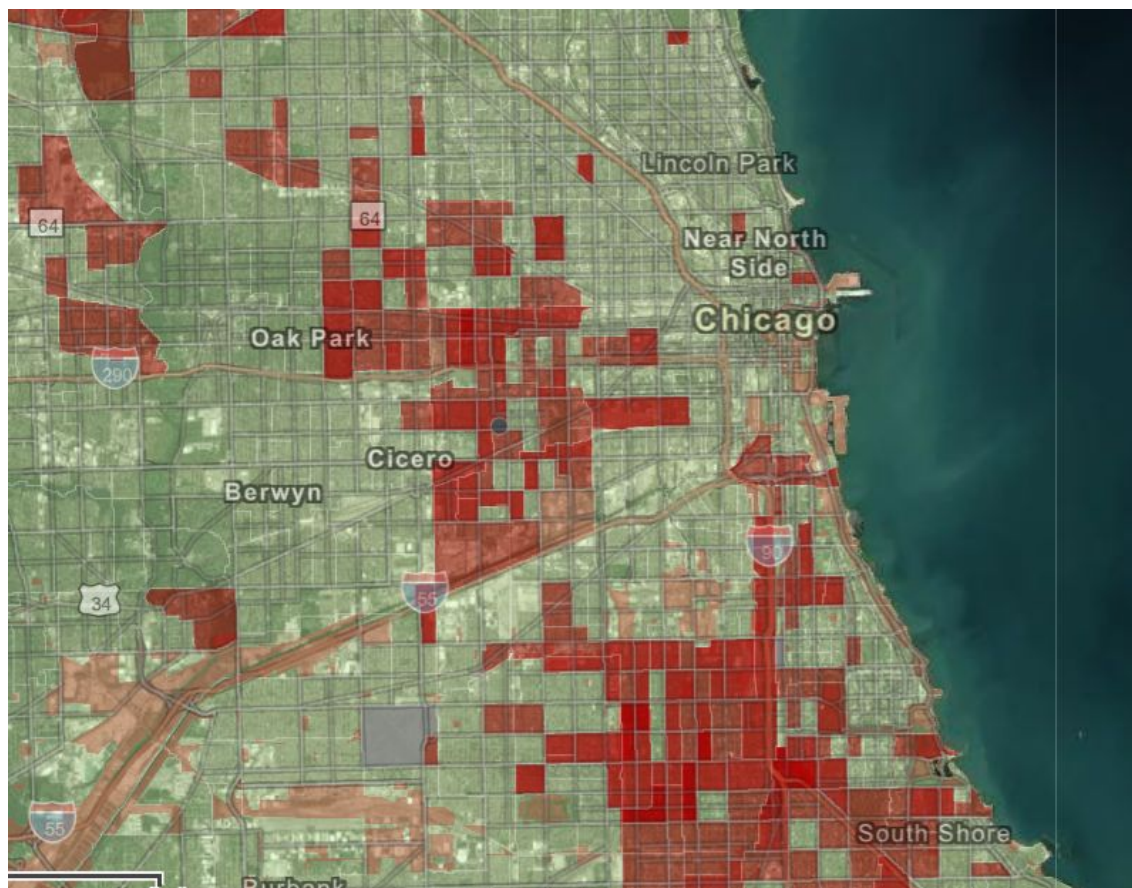
# AEG Chicago Forum

Aug. 2021

Phil-Ebosie Nwabueze  
Director, Engineering

# The Intersection of the Grid of the Future and Continuing the Recovery from COVID-19

*“Start by doing what's necessary; then do what's possible; and suddenly you are doing the impossible” – St. Francis of Assisi*



If you live in one of the areas in red, you are much less likely to have broadband!

***ComEd is investing in technology, systems and Infrastructure in preparation for the Grid of the Future. Can these investments be leveraged to help address one aspect of inequity.***

# Customer's Needs are Changing and Growing, What Investments are Necessary to Meet their Needs?



Smart Sensors

METEOROLOGICAL TERMINOLOGY  
**WHAT IS A DERECHO?**

**DERECHO**  
WIDESPREAD, LONG-LIVED WIND STORM  
CONSISTS OF NUMEROUS MICROBURSTS,  
DOWNBURSTS, & DOWNBURSTS CLUSTERS  
DAMAGE PATH EXTENDS MORE THAN 240 MILES  
WIND GUSTS OF AT LEAST 58 MPH



Extreme Weather



DERs (e.g. BESS, Solar, Wind, EV, Charger)



Evs and Smart Chargers

9:41

**Tweet**

D [redacted] @ [redacted]

Well forced to go stay at a hotel because of another day of my power being out. Was force to take a vacation day because I couldn't work from home. And had 2 throw away all my food. What a costly day this has become & it might last until Sat. Thanks @ComEd #stat

2:13 PM · Aug 12, 2020 · Twitter Web App

M [redacted] @ [redacted]

15 hours without power and remote learning starts in 60 minutes... Come on ComEd! 🙄

6:43 AM · Aug 11, 2020 · Twitter for Android



Cyber and Other Threats



# Advanced Communication Network

ComEd's **Renewable Energy Advanced Control and Telemetry Systems (REACTS)** program is building a significant quantity of fiber across its territory over the next decade to support an advanced digital communications platform. This will allow large-scale integration of low carbon Distributed Energy Resources (DER), higher levels of reliability and resiliency, enhanced operational intelligence and incorporation of new technology.

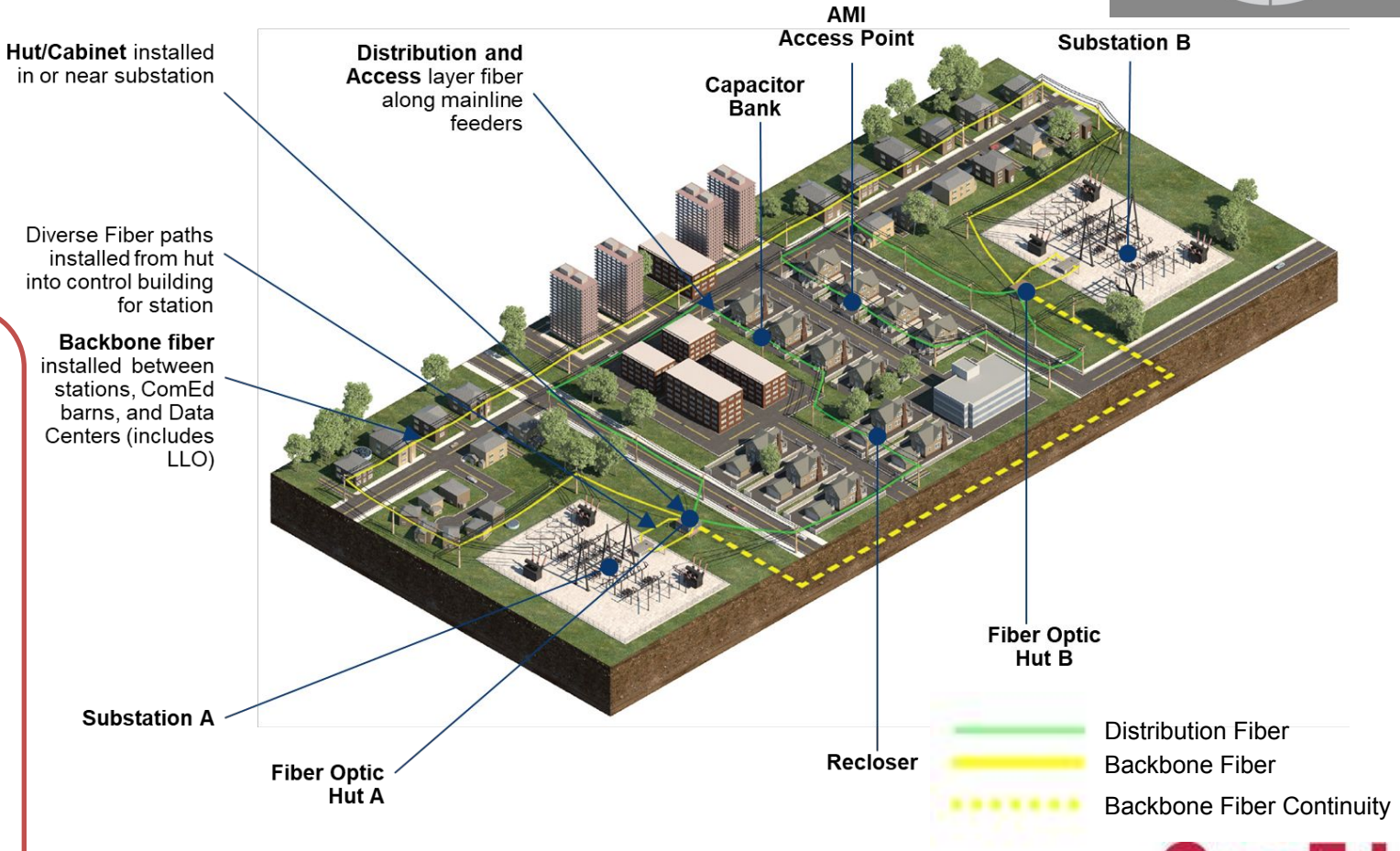


# The REACTS Program Enhances Grid Resiliency, Security, and Reliability, which are Necessary, but consider the possibilities...



## Benefits:

- Safety
- DER Integration
- Resiliency & Cybersecurity
- Advanced Protection
- Energy Eff. And Voltage Opt.
- Extreme Weather Preparedness
- Smart Cities Applications
- Asset Management



**\*\* This is representative depiction and not to scale**



# The Pandemic Revealed Deep Community Needs for Broadband, and the Problem is not Somewhere else, it's here in Illinois...

*“Broadband internet is the new electricity... Yet, 30 million Americans live in areas where there is no broadband infrastructure...”*

THE WHITE HOUSE



Revitalize America's digital infrastructure:

Gov. Pritzker Launches Connect Illinois, a \$420 Million Statewide Broadband Expansion Under Rebuild Illinois

*“High-speed broadband internet is an absolute necessity... but, too many of our towns and counties and communities have been left out of the digital revolution...”*  
Gov. JB Pritzker

*“The pandemic has reinforced the notion once and for all that internet access isn't a luxury but a necessity,”*  
Mayor Lightfoot

June 22, 2021

Mayor Lightfoot Announces Programmatic Expansion Of 'Chicago Connected,' The City's Groundbreaking Initiative to Close the Digital Divide,...

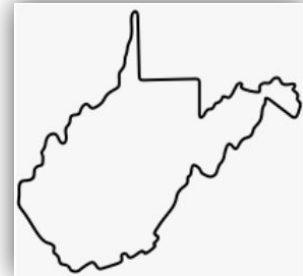
**At all levels, the fundamental need for universal access to broadband is not only recognized, but solutions are actively being sought.**

# Closing the Gap Requires a Range of Solutions



*“The California Public Utilities Commission initiates this Order Instituting Rulemaking (OIR) to... expeditiously deploy reliable, fast, and affordable broadband internet... seek opportunities to... leverage utility infrastructure”*  
 CPUC, Sept. 10, 2020, Rulemaking 20-09-001

*“American Electric Power received approval from the West Virginia Public Service Commission... AEP was the logical choice to provide the “middle mile” [fiber] infrastructure since they already have the network of poles and rights of way through the region...”*  
 Chris Lawrence, MetroNews, July 19, 2021



*“Dominion Energy Virginia, Firefly Fiber Broadband<sup>SM</sup>... entered into a Memorandum of Understanding to advance a regional broadband partnership that aims to deliver fiber-optic broadband service to unserved and underserved households and businesses ...”*  
 Dominion Energy, PRNewswire, Jun 24, 2021

**Other States are investigating and/or leveraging utility infrastructure to close the digital divide.**

Regarding Grid Modernization, to achieve Chicago's Carbon & Equity goals, a critical obstacle to overcome is **the absence of a system-wide high-speed communications network to enable advanced automation and other technologies that enhance the safety, reliability and resiliency of the grid, support the adoption of clean energy resources, help enable electrification and have the capacity to address other societal needs such as the elimination of the digital divide.**

In doing so, this investment can contribute to the comprehensive, **diverse** multi-stakeholder efforts that are underway to help achieve President Biden's and Gov. Pritzker's goal of **closing the digital divide.**