Resource Planning Advisory Council

Providing Safe, Reliable Energy for Southern Arizona

Agenda

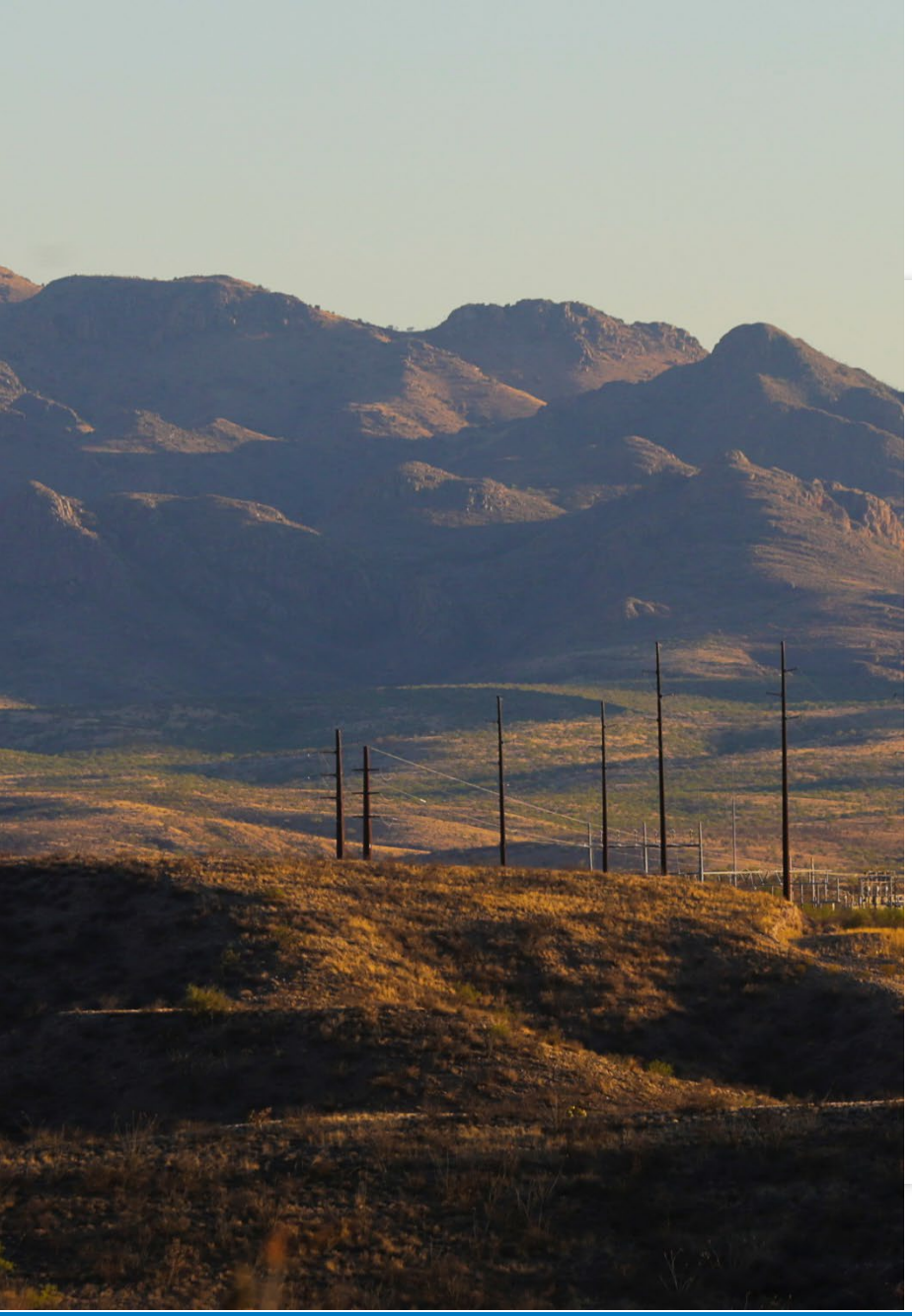
01 Safety Minute

02 Introductions

03 RPAC Purpose & Ground Rules

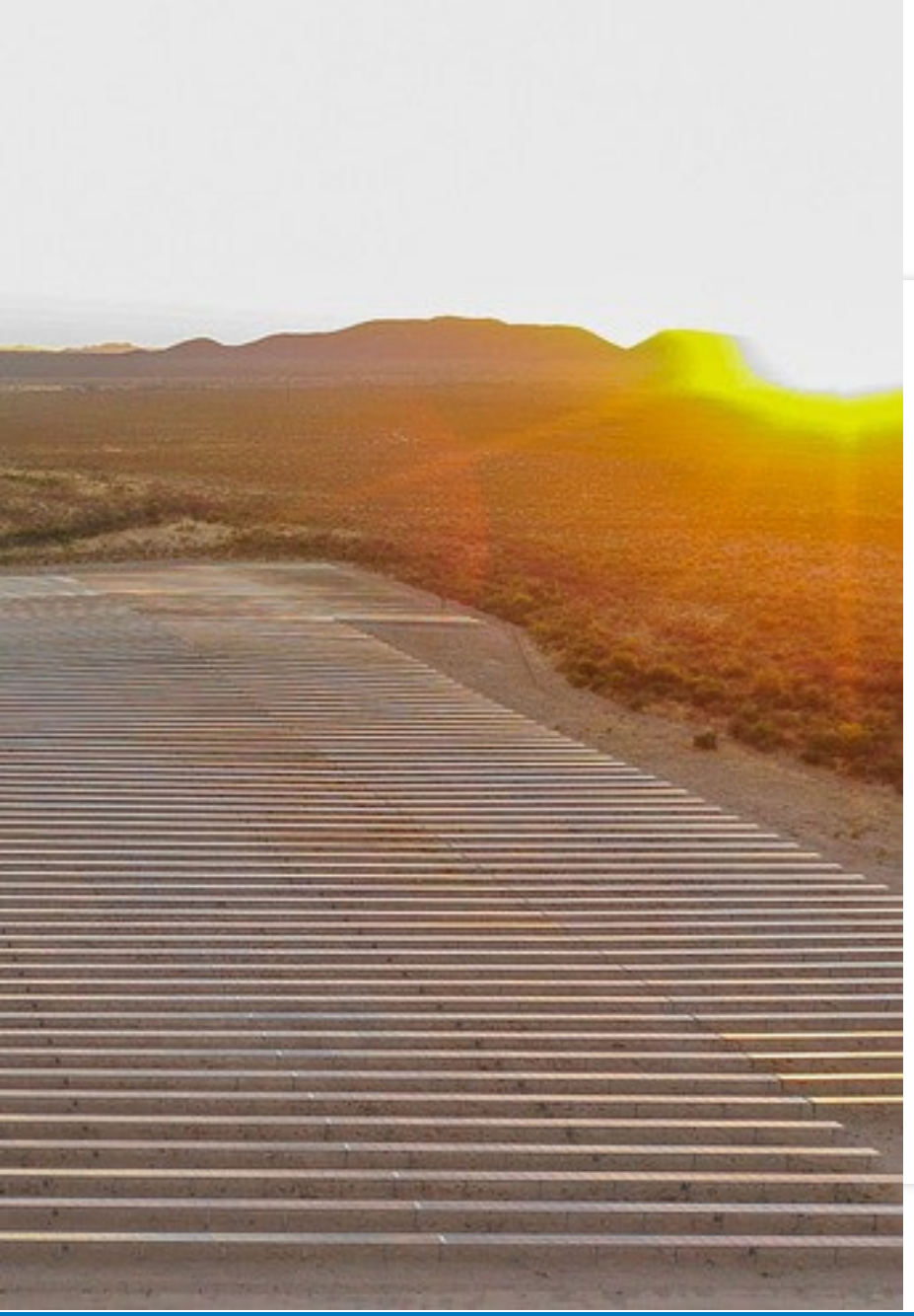
04 TEP Overview

05 Industry Context



Safety Minute & Logistics

- In case of emergency, proceed down the stairs, out the doors, and gather on the lawn of the Children's Museum just to the south
- Restrooms
- Cafe



Introductions

- Your name
- Who you are representing
- Why have you joined the TEP RPAC?

Tucson Electric Power

RPAC Purpose & Ground Rules

RPAC Purpose & Ground Rules

Purpose

Role & Responsibilities

Participation & Collaboration Principles

Communication

Media Interaction

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Break Time

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About Us & Utility Overview

A History of Service

Founded in 1892 – 20 years before Arizona statehood – by local businessmen to provide street lighting

Also provided natural gas service before selling the local gas distribution system to Southwest Gas in 1979

Acquired by in 2014 by Fortis, Inc., a company now led by former TEP CEO and Tucson resident David G. Hutchens.

Operated Tucson's first electric streetcar in the early 1900s before selling local transit operations to the predecessor of Sun Tran

After starting with a single mesquite-fired power plant, TEP turned to coal and natural gas to power postwar growth

A clean energy leader, TEP developed the most productive solar array in the Western Hemisphere in the 2000's.

Investing in Our Community

Partnering to support pressing needs

In 2024:

- **$1.6 million** donated
- **167** nonprofit groups supported in their work on community vitality, education, environmental stewardship, and racial and social equity
- **448** active volunteers
- **13,146** hours donated
- **Dollars for doers** program allows our volunteers who meet certain thresholds to apply for grants in support of nonprofit organizations of their choice.
- Board service is encouraged, with training provided.

Our financial contributions are funded with corporate resources, not customers' rates.

Our Vision and Values

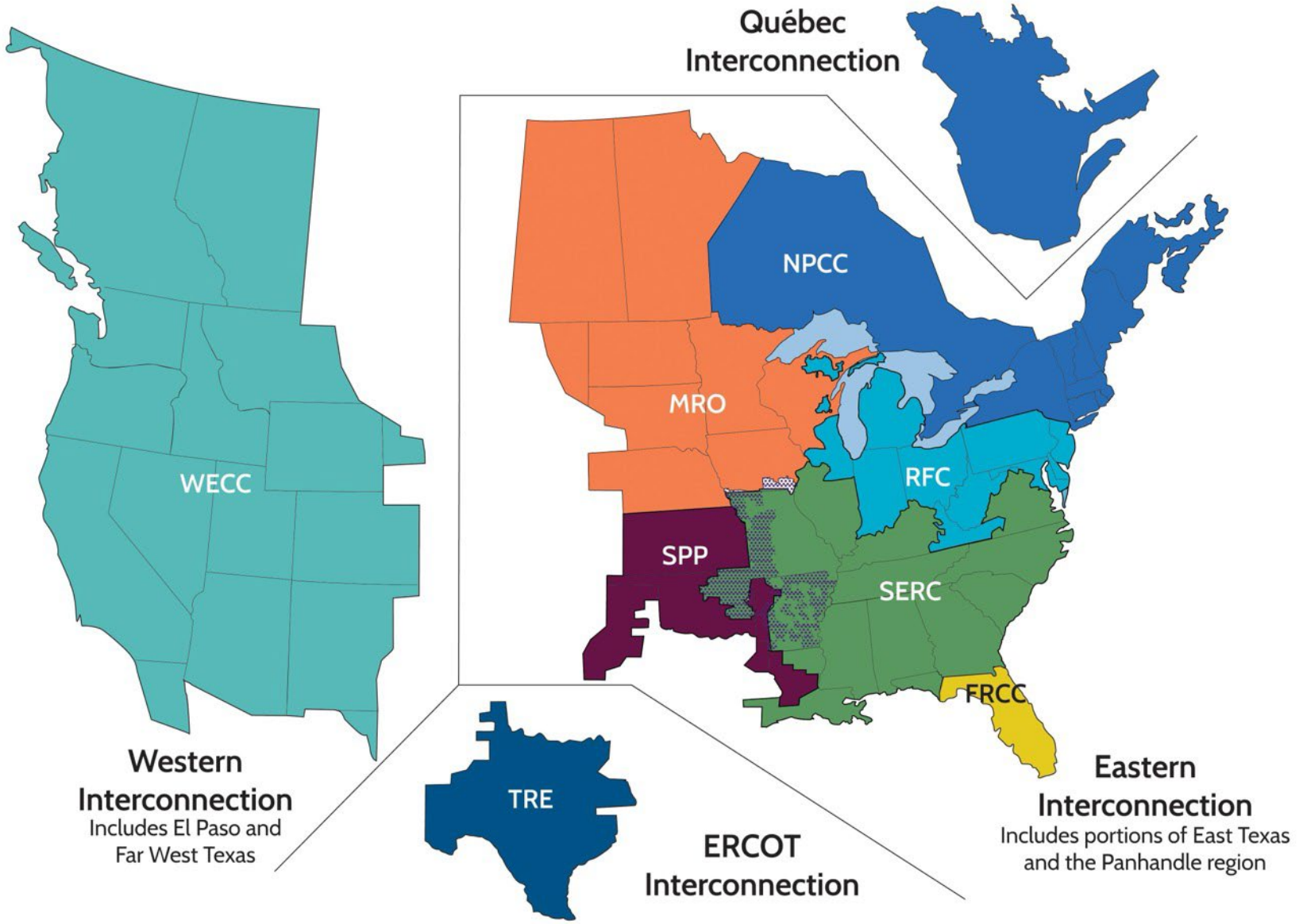
At Tucson Electric Power, our vision is to be an exceptional energy provider that positively impacts the lives of our employees, customers and communities.

Our values define how we work and who we are.

- We work safely
- Our differences make us stronger
- We do the right thing
- We achieve excellence together
- We learn continuously
- We drive sustainability

Interconnections & Regional Entities

- Separate, self-contained electric grids managed by regional entities
- Overseen by the North American Electric Reliability Corporation (NERC), a not-for-profit international regulatory authority subject to oversight by the Federal Energy Regulatory Commission (FERC) and Canadian authorities



TEP Overview

- Service area: 1,115 sq. miles
- Customers: 450,000
  - Residential: 407,000
  - Commercial: 40,000
  - Industrial: 570
  - Mining: 4
  - Other: 1,870

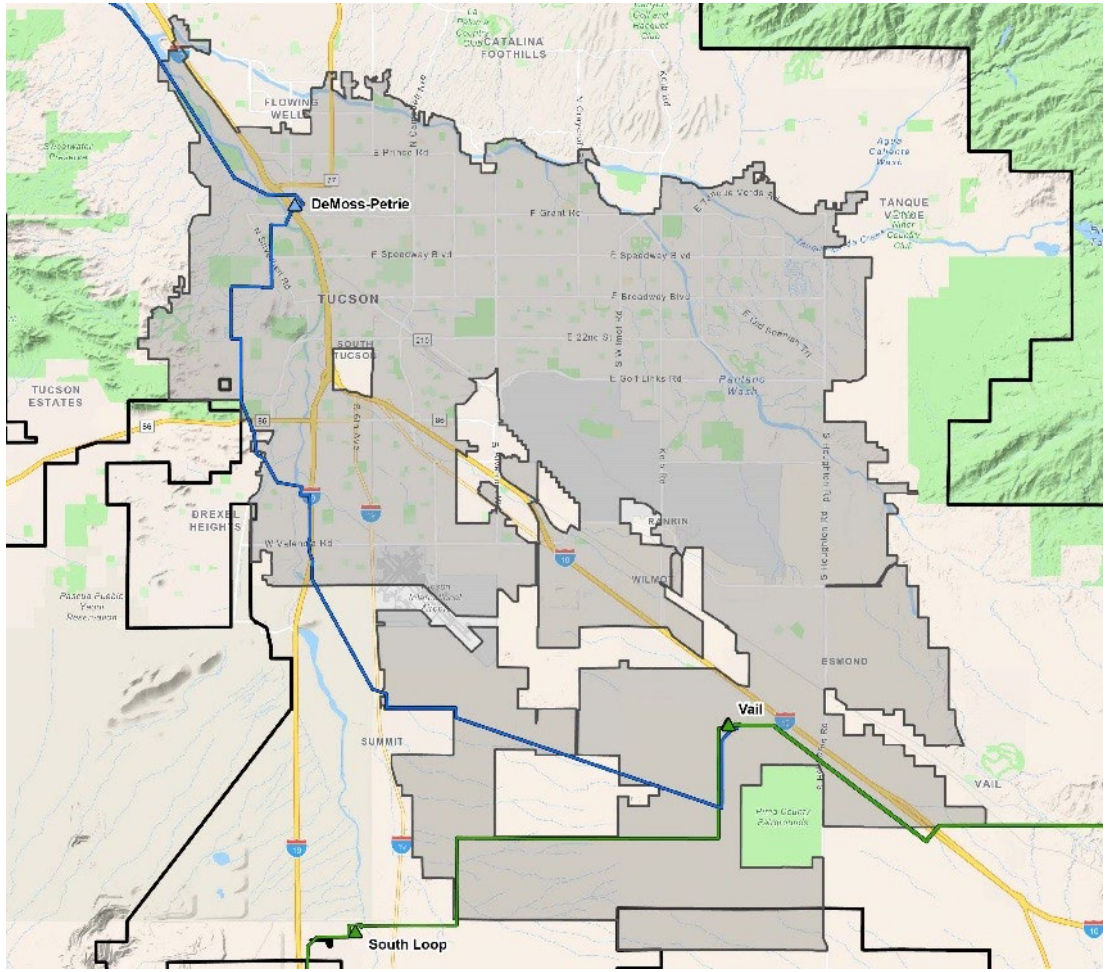
• 5,100 miles of overhead transmission and distribution lines

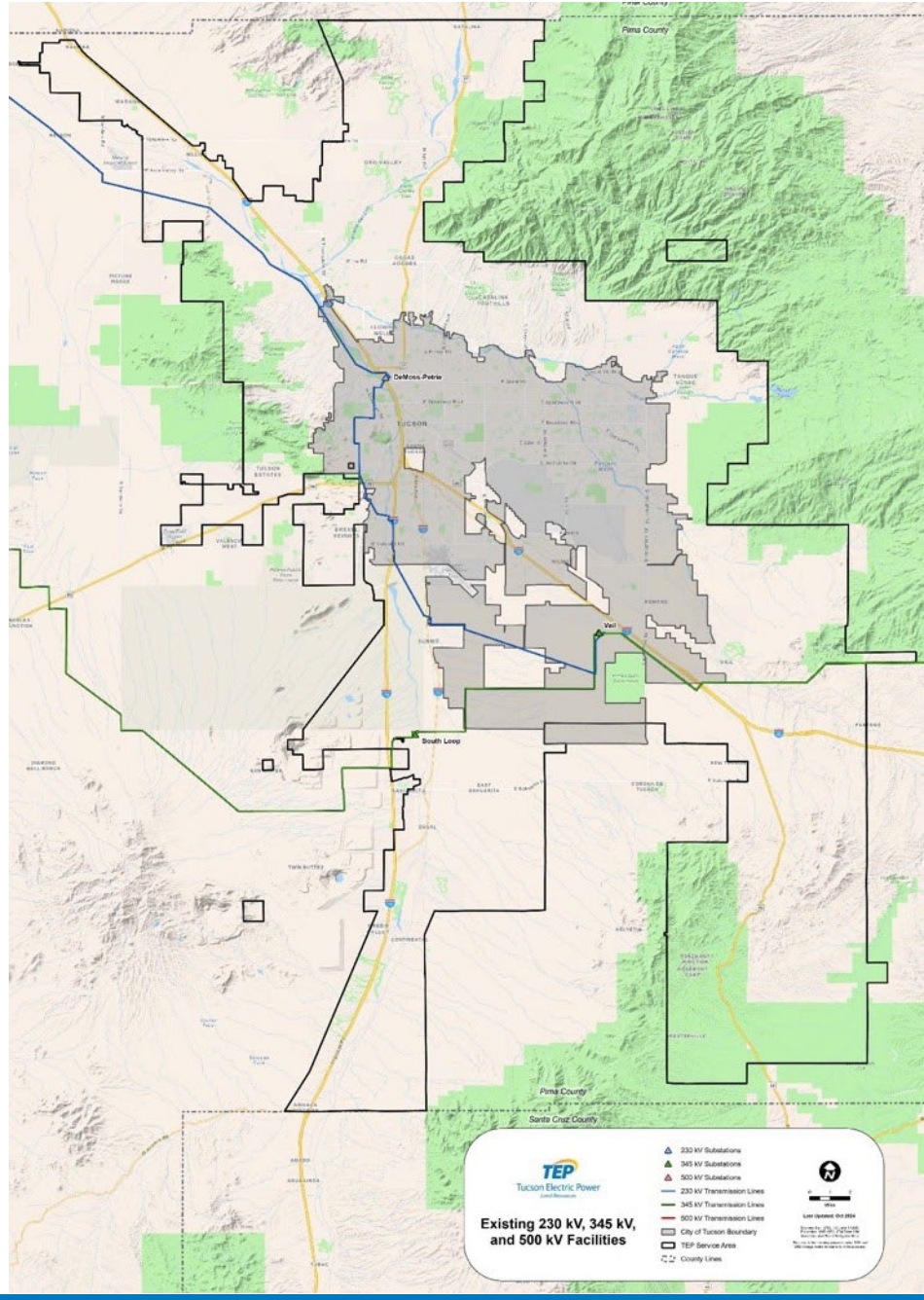
• 4,300 cable-miles of underground distribution lines

• Approximately 100,000 power poles and transmission structures

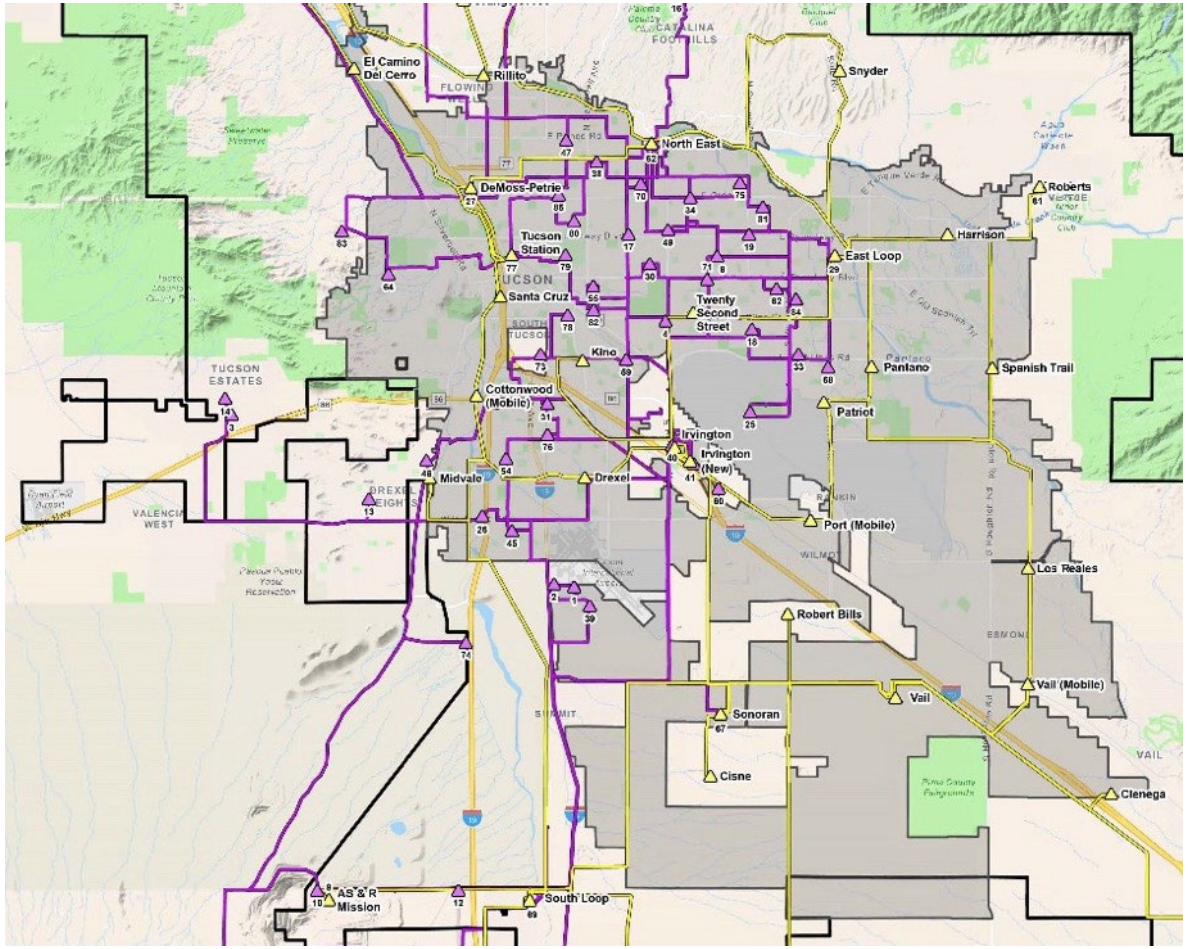
•Regulated by the Arizona Corporation Commission

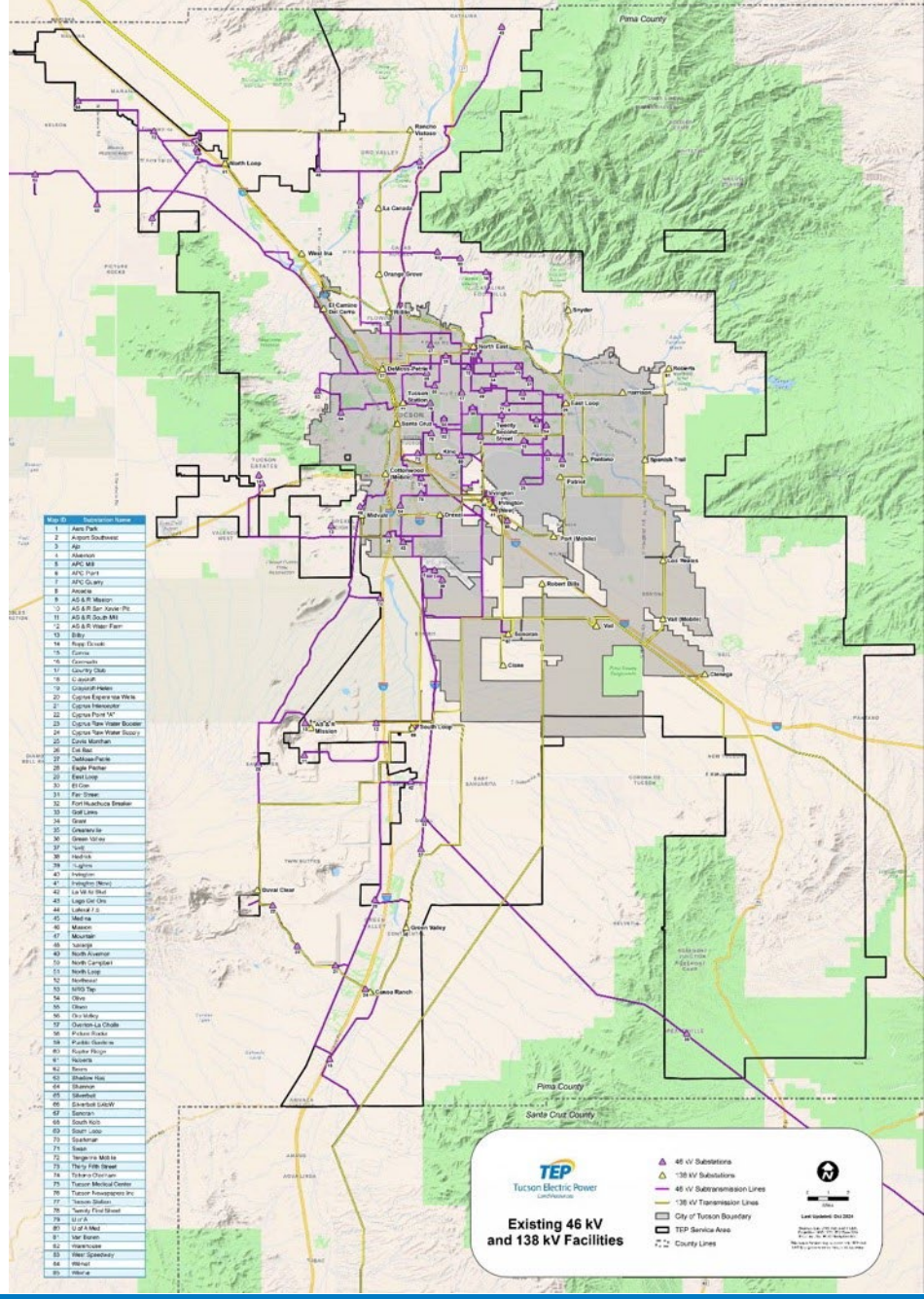
Transmission – 230kV/345kV/500kV



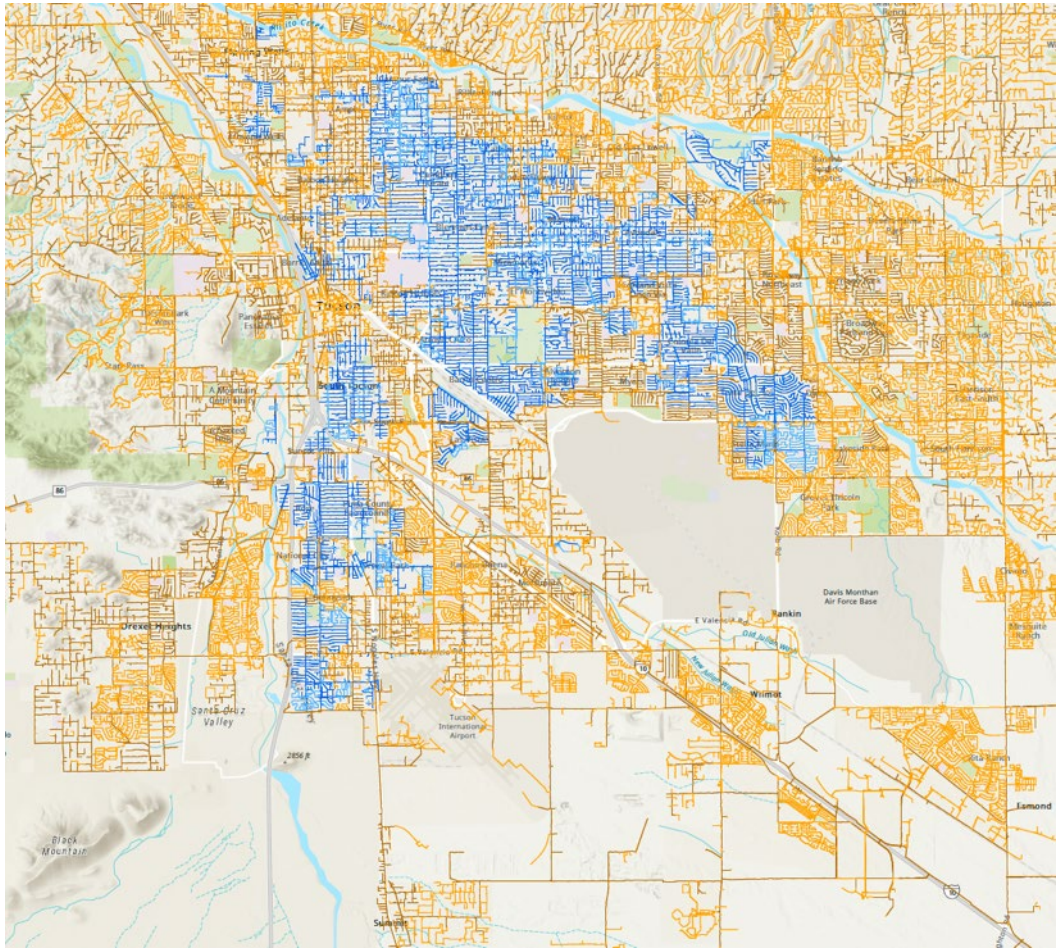


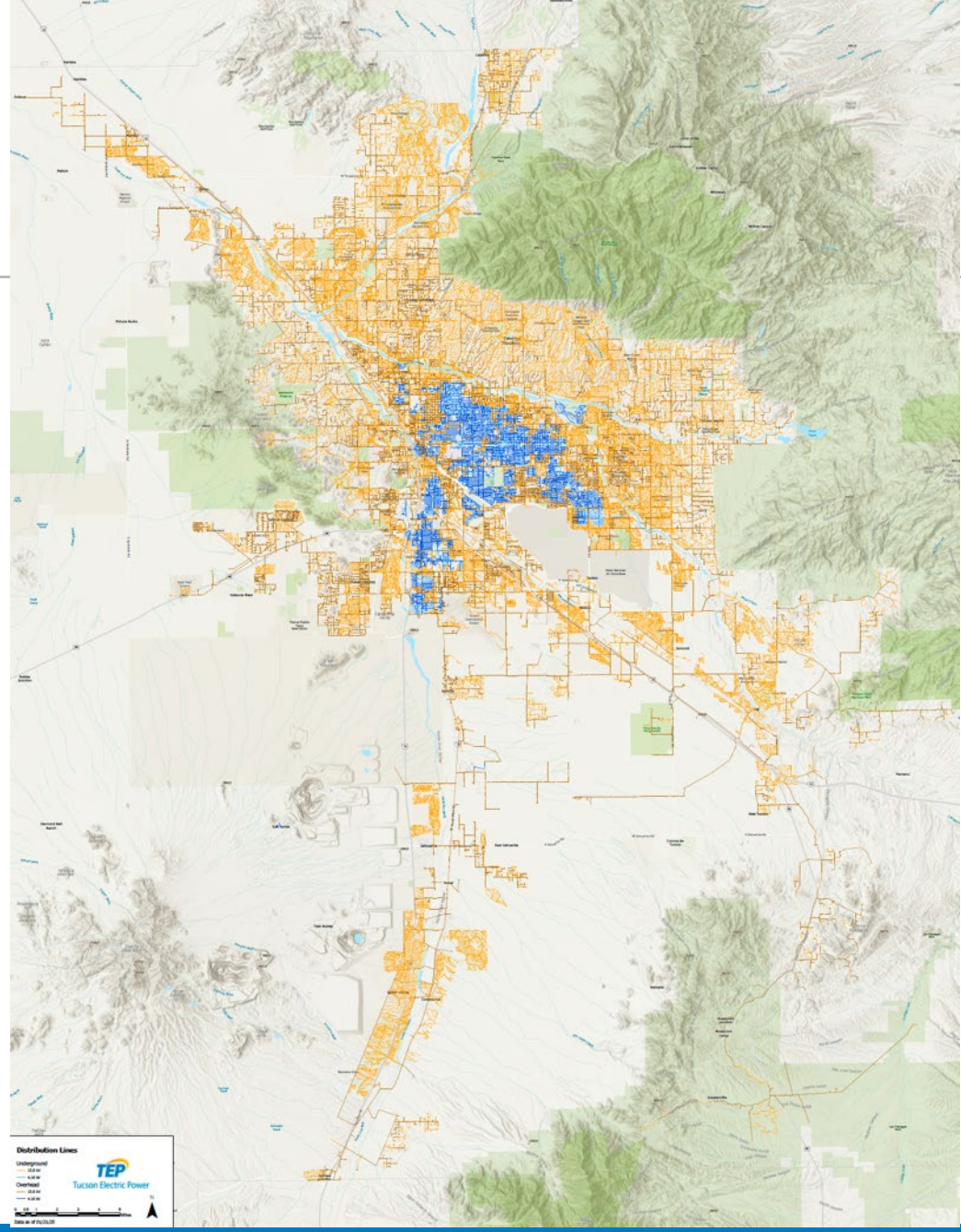
Transmission – 46kV/138kV





Distribution – 4kV/13kV



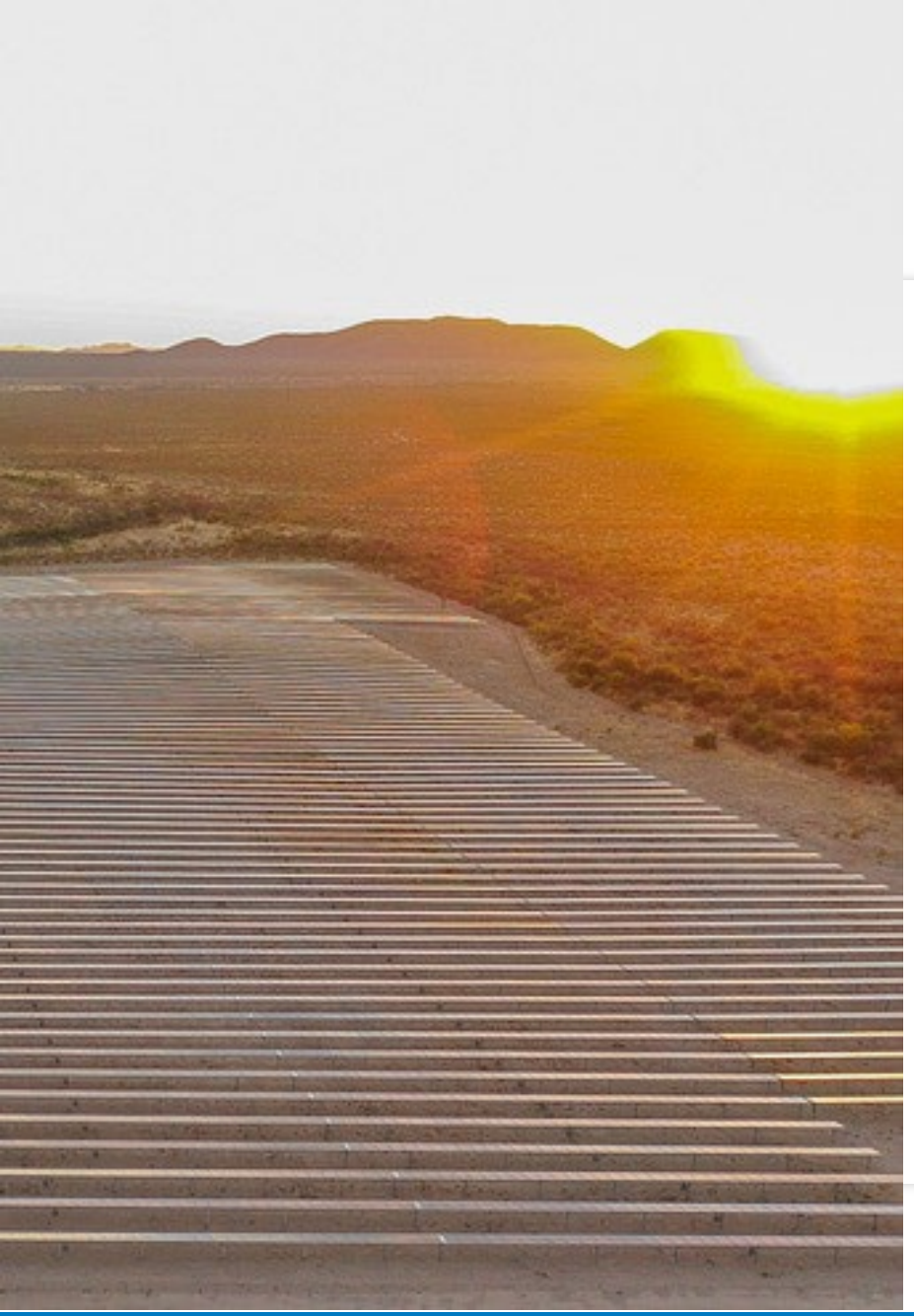


Tucson Electric Power

Our Resource Mix

Conventional Generating Resources

Facility	Fuel	Capacity
Springerville Generating Station Units 1, 2	Coal	793 MW
Four Corners Generating Station Units 4, 5	Coal	110 MW
Gila River Units 2, 3	Natural Gas	1,062 MW
Sundt Generating Station (Steam, turbine, RICE)	Natural Gas	498 MW
Luna Energy Facility	Natural Gas	185 MW
North Loop	Natural Gas	94 MW
DeMoss Petrie	Natural Gas	75 MW
	Total	**2,817 MW**



Renewable Energy Resources

TEP Solar	**312 MW**
Owned	56 MW
Purchased	256 MW
TEP Wind	**429 MW**
Owned	250 MW
Purchased	179 MW
TEP Total	**741 MW**
Distributed generation	512 MW
Community Total	**1,253 MW AC**

Solar Underway:
2026 Babacomari, 160 MW
2027 Wilmot Energy Center II, 100 MW
2027 Winchester, 80 MW

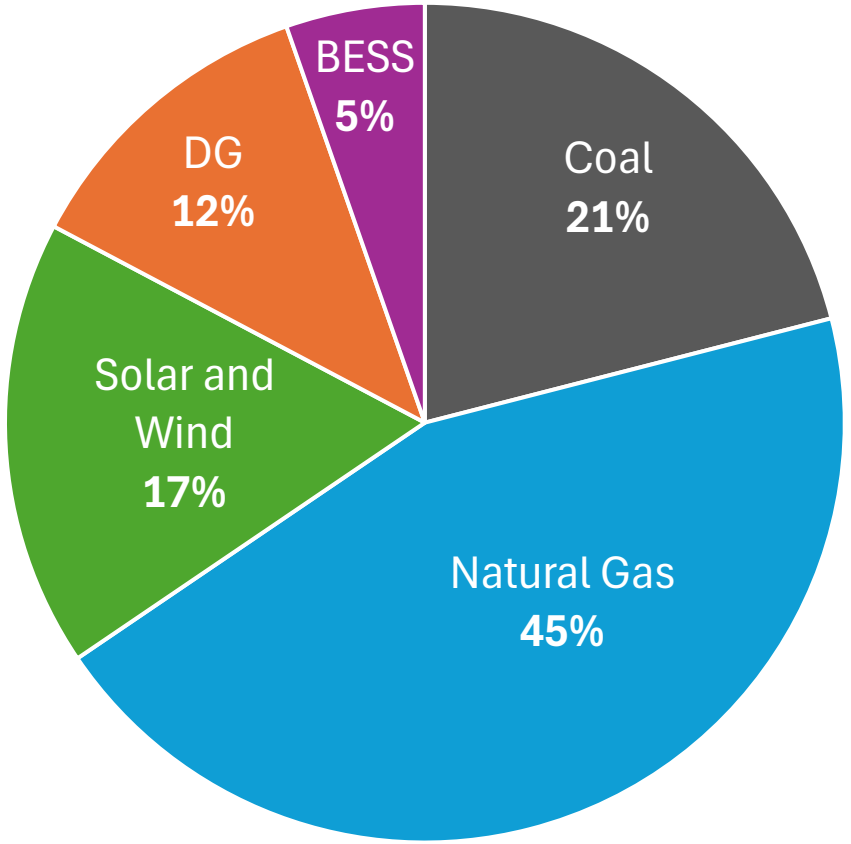
Energy Storage Resources

System	Capacity
Roadrunner Reserve	200 MW
Wilmot Energy Center	30 MW
Pima Energy Storage*	10 MW
Iron Horse*	10 MW
Total	250 MW

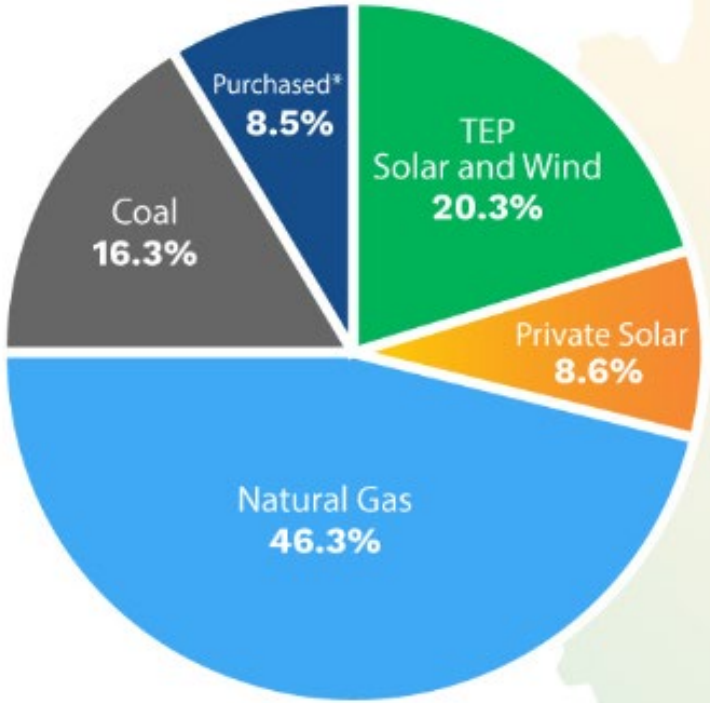
Underway:
2026 Roadrunner Reserve II, 200 MW
2027 Wilmot Energy Center II, 100 MW
2027 Winchester, 80 MW

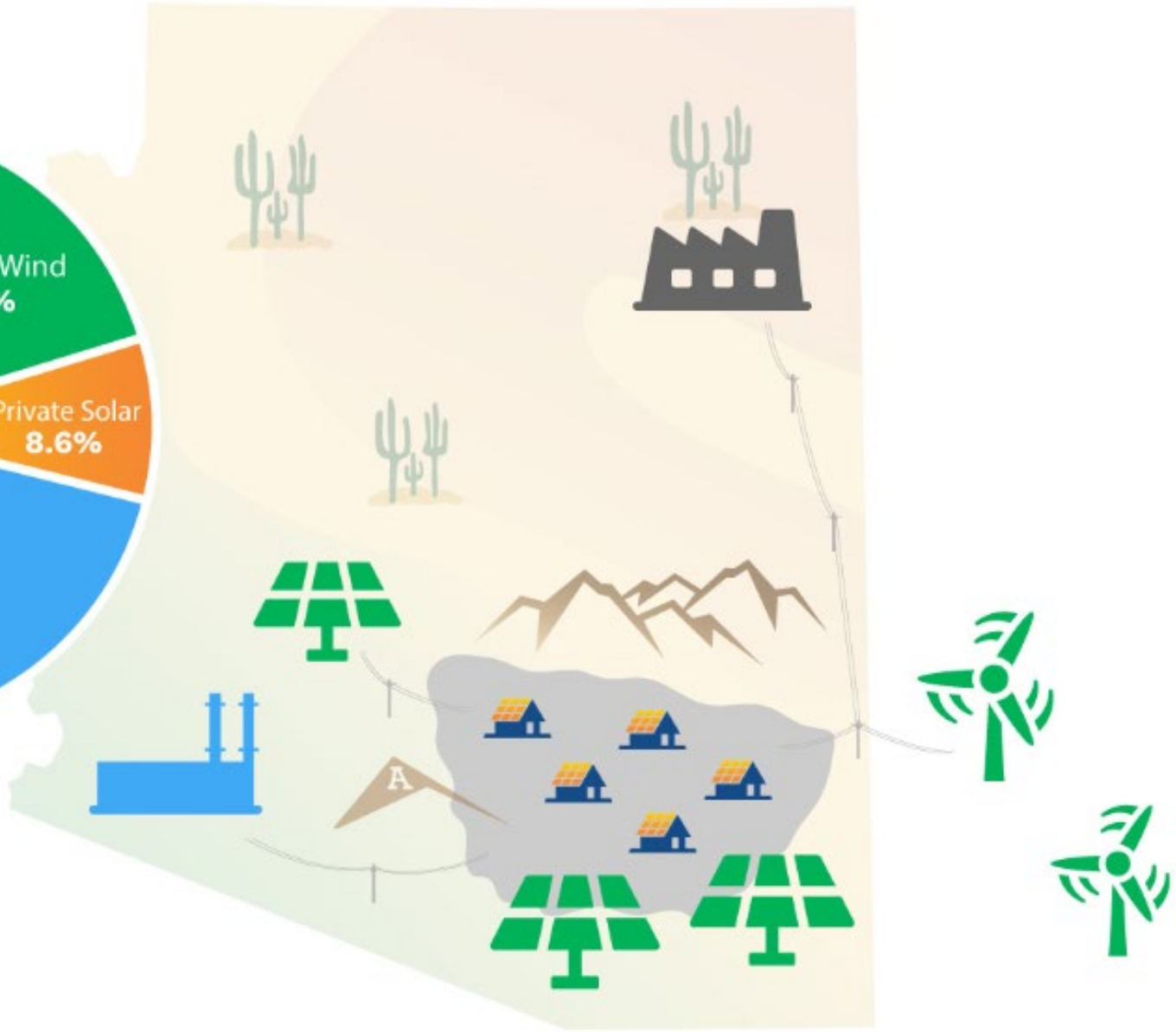
*Used primarily for ancillary services

2025 Capacity Mix



2024 Local Energy Mix





*Energy purchased from wholesale providers of variable resource types.

Supporting Solar Power

Connecting Customer Systems

- Nearly 54,000 systems and counting

Solar Analysis Tool

- tep.com/solar
- Helps customers find the best way to go solar

GoSolar Shares

- Easy, accessible, flexible way for anyone to buy solar energy

Customer Energy Optimization Programs

Energy Efficiency

Programs to reduce energy use

- Rebates for HVAC upgrades or tune-ups for single family, multi-family and business customers.
- Rebates for products that help reduce energy use.
- Incentives for construction of new high energy efficient single family and manufactured homes.
- Discounted, desert-adaptive shade trees for homes and local businesses.
- Custom energy efficiency projects for schools and local businesses.
- Low-income energy efficiency programs.

Demand Response

Programs to reduce or manage peak demand

- Smart Rewards – Thermostat adjustments by 1 to 3 degrees to reduce energy use during peak periods.
- Storage Rewards - Residential battery discharge during identified grid opportunities.
- Commercial Demand Response – medium and large commercial customer load reduction through automated or manual actions. Program in re-design and relaunching end of 2025.

Transportation Electrification

Programs to manage load

- Residential managed charging for daily off-peak charging.
- Residential and commercial incentives for installation of EV charging stations.
- Fleet electrification advisory services
- Electric school bus vehicle-to-grid pilot.

Innovation, Education and Outreach

- Pilot programs to text new technologies or implementation pathways that help customers manage energy use.
- Community workshops to inform customers of energy efficiency actions and available programs.
- School educational workshops to educate students on energy safety and energy efficiency.

Net Zero by 2050

- TEP is working to achieve net zero carbon emissions by 2050 while keeping energy reliable and affordable
- Advancements in non-carbon emitting technologies will support our all-of-the-above approach to achieving our aspirational target, including:
  - Long-duration storage
  - Carbon capture and sequestration
  - Hydrogen generation
  - Small modular nuclear reactors

- Early progress: Carbon dioxide emissions from TEP's power generation fell more than 38 percent between 2019 and 2024.

Learn more: tep.com/net-zero-hero

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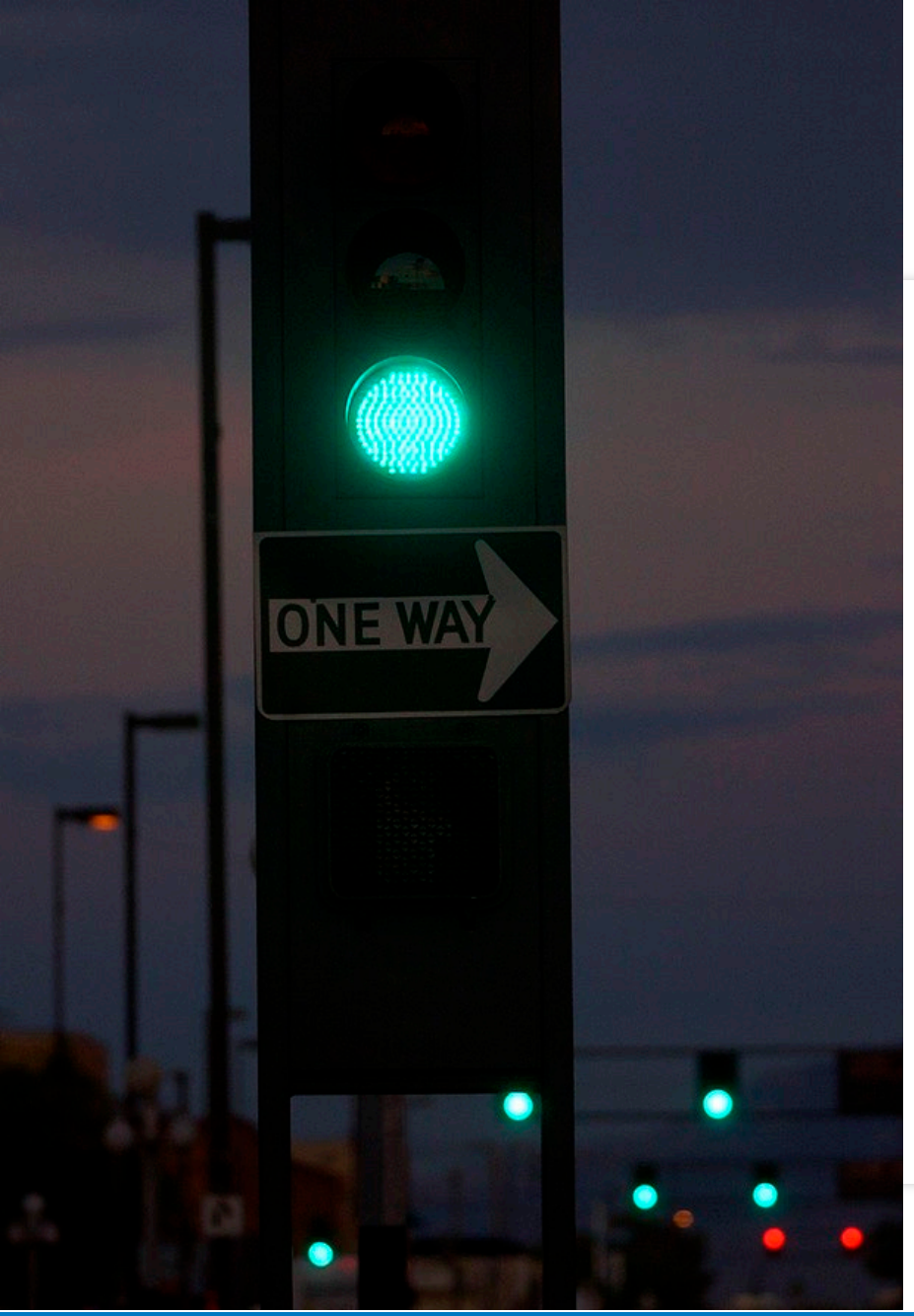
Reliability



Top Tier Reliability

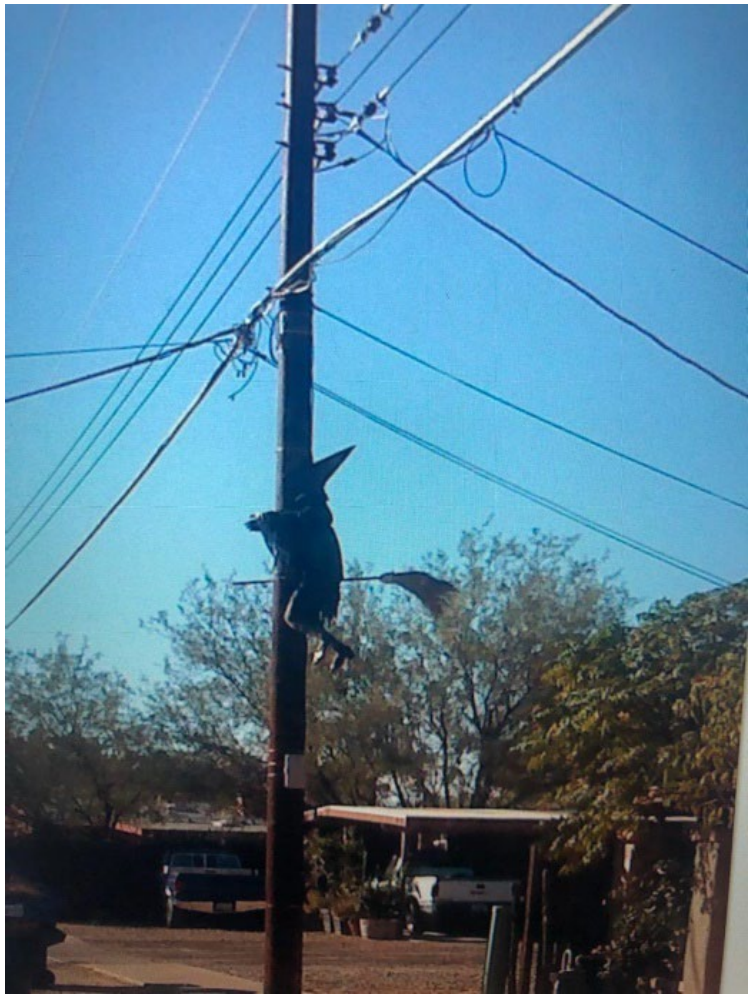
SAIDI - System Average Interruption Duration Index

- Total minutes all customers were out of power/number of customers
- National average (2023): 123.9*
- TEP: 68.4 (2024), up from 59.5 (2023)

- Translation: Typical customer is out of service about 1 hour/year
  - With 8,760 hours/year, this equates to less than 0.01% out of service
  - Not evenly distributed – some customers see higher impacts

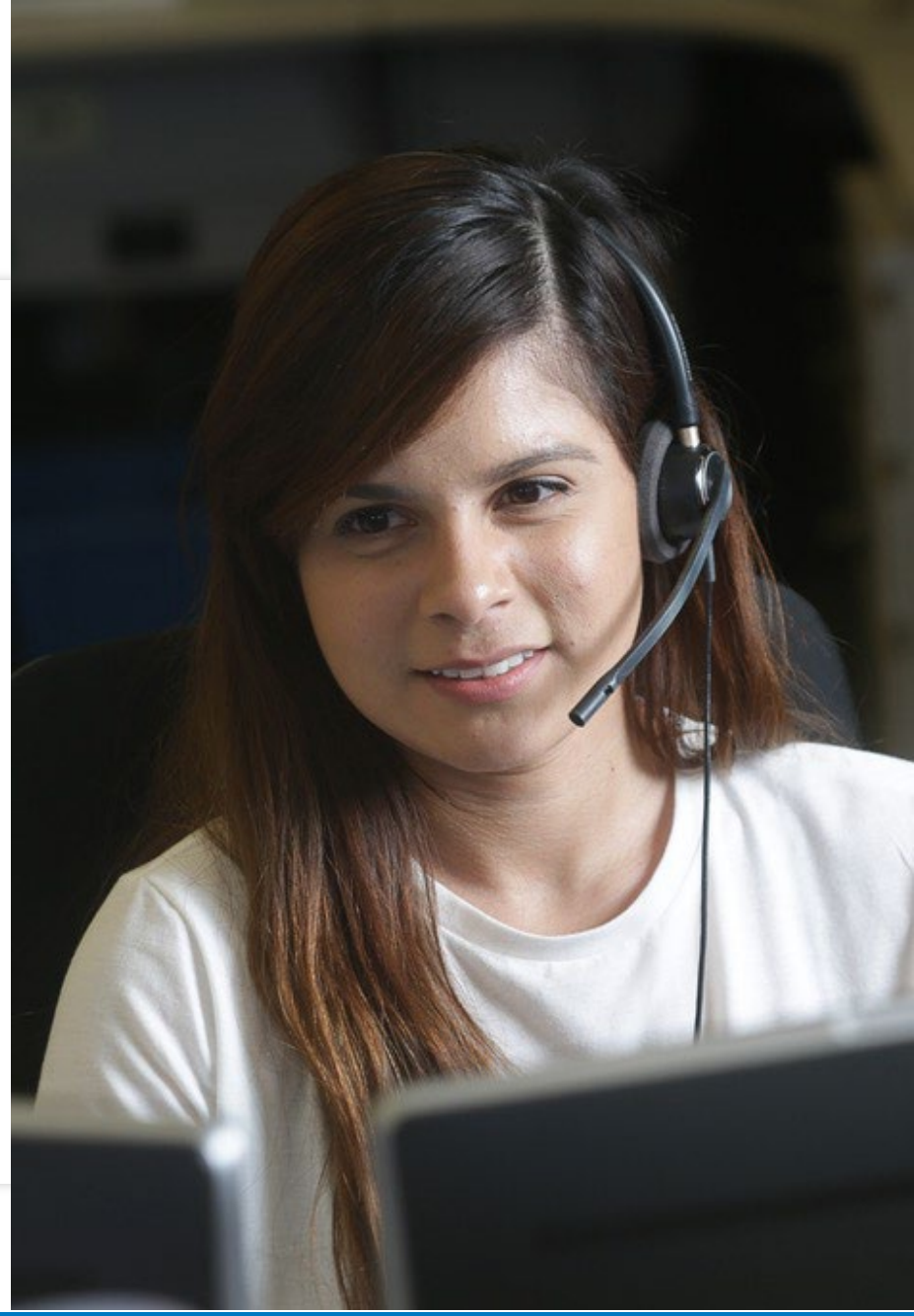
* U.S. Energy Information Administration, Form EIA-861, Annual Electric Power Industry Report

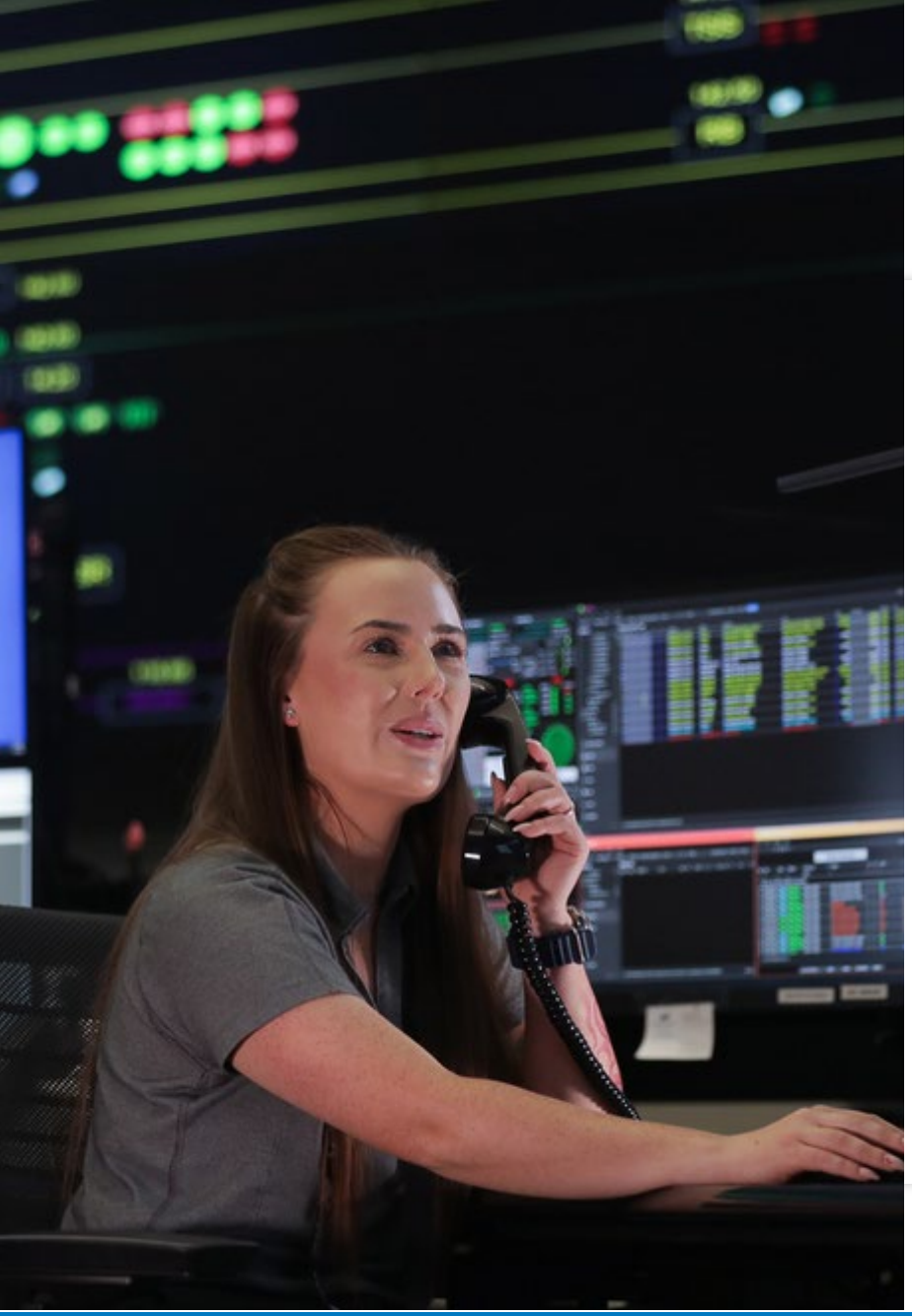
What Causes Outages?



How do we know there's an outage?

- Customer reports
  - Telephone – (520) 623-3451
  - Website – tep.com
  - TEP Mobile App
  - Reports relayed by key account managers, first responders, or others
- System reports
  - Automated distribution system management (ADMS) system
  - Energy Management System (EMS) alerts
  - Customer meters
- Status: Reported/predicted/confirmed





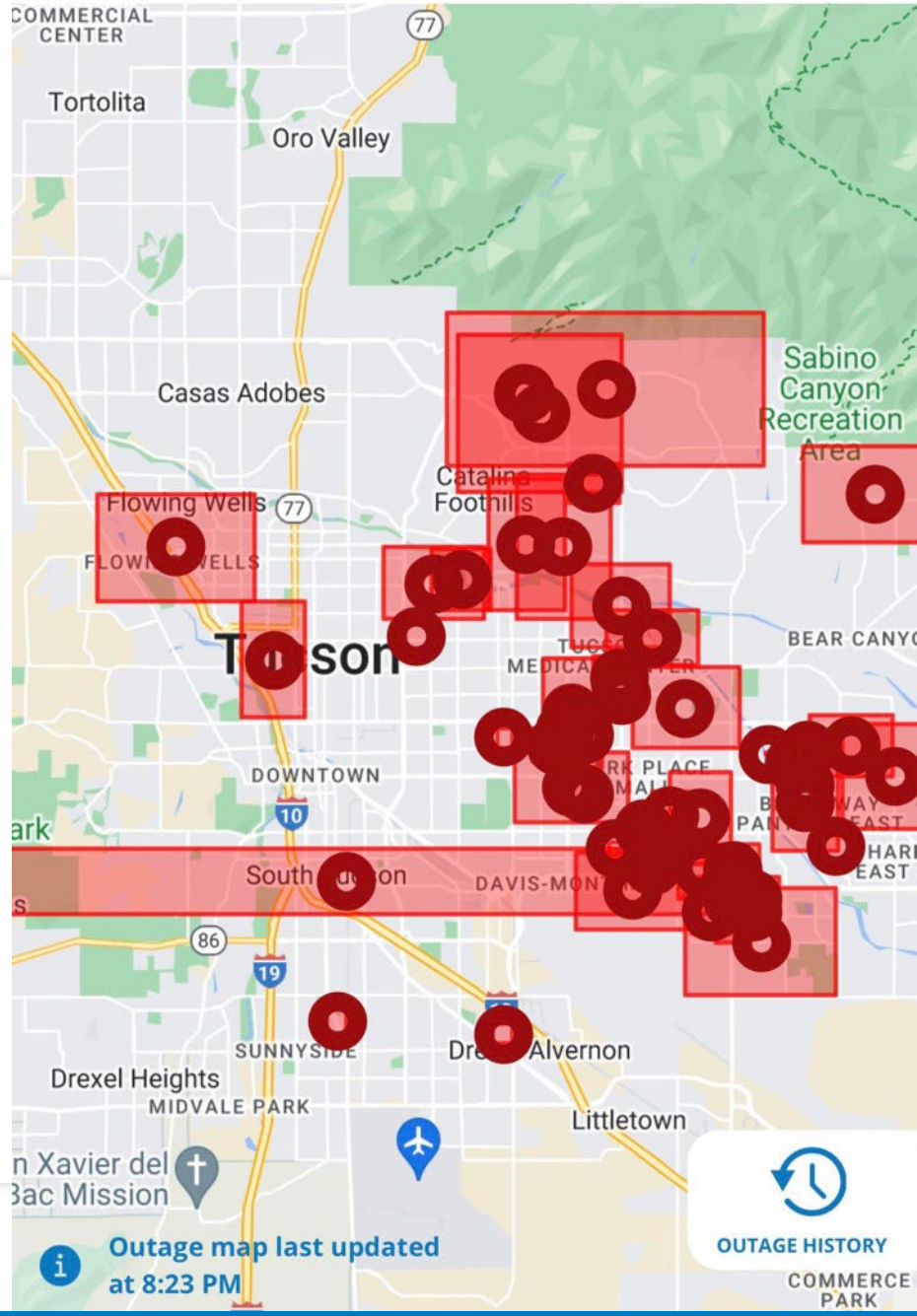
Restoring Service

- Dispatch Troubleman in response to reported/predicted outage
- Identify cause
- Secure scene
- Isolate damage
- Request supplies from warehouse, if needed
- Dispatch or schedule crew
- Identify, execute steps to route power around damage
- Make repairs
- Work with System Control & Reliability to restore power

What if it all happens at the same time?

- Who gets their power back first?
  - Public safety – Downed lines, trapped vehicles, blocked roadways
  - Critical customers – hospitals, public service providers, medical device users
  - Transmission/sub-transmission/substation outages
  - Largest outages affecting most people
  - Quickest fixes – including temporary “field switching”

- Which outages last the longest?
  - Pole replacement required
  - Isolated, remote areas
  - ”End of the line” customers – no other path for power



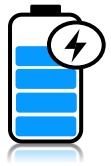
Energy Emergency

- A temporary shortage of energy to supply local customers
- Can result from a combination of generation outages, transmission failures, extreme weather, wildfire impacts, or higher than expected usage, either locally or regionally
- Can emerge suddenly or gradually
- Response steps include:
  - Adding generation – combustion turbines, market resources, delayed maintenance
  - Suspending interruptible load – large customers, demand response (Smart Rewards)
  - Call for conservation – public appeal through media, web, IVR
  - Rotating outages – short-term, manual shutoffs affecting different areas of town

We're Ready. Comprehensive Planning and Coordination

Pre-Summer Preparations

- Capacity in place for TEP for summer of 2025
- Maintenance completed across TEP's generation fleet prior to summer
- 60 days of coal inventory on the ground at TEP's coal-fired generation resources
- Dual fuel backup and procurement procedures are in place
- Black start drills with the Reliability Coordinator
- Communication between physical command center and local/state law enforcement and routine meetings
- Reserve margin target of 16.5% or more to cover loss of largest single unit



Real-Time Coordination and Oversight

- Summer Heat Response Team – Generation, System Control, Executive Team, Initiated by Wholesale Marketing
- Coordination between Balancing Authorities, Transmission Operators, and Reliability Coordinators regarding summer loads and unit outage conditions
- Real-time communication between physical plant and local law enforcement
- Established safety stock levels and coordinated plans with suppliers

Smart Rewards

- Open to customers with a qualifying, connected smart thermostat
- Participants agree to allow TEP to make small, temporary adjustments to reduce energy demand during peak usage periods (4-8 p.m.)
  - Operates from June 1 through September 30
  - TEP may pre-cool your home up to 3 degrees before an event to improve comfort
  - During events, thermostats will be turned up no more than 4 degrees
  - Opt out of any event at any time from a mobile device, our website or your thermostat
- Learn more: tep.com/smart-rewards

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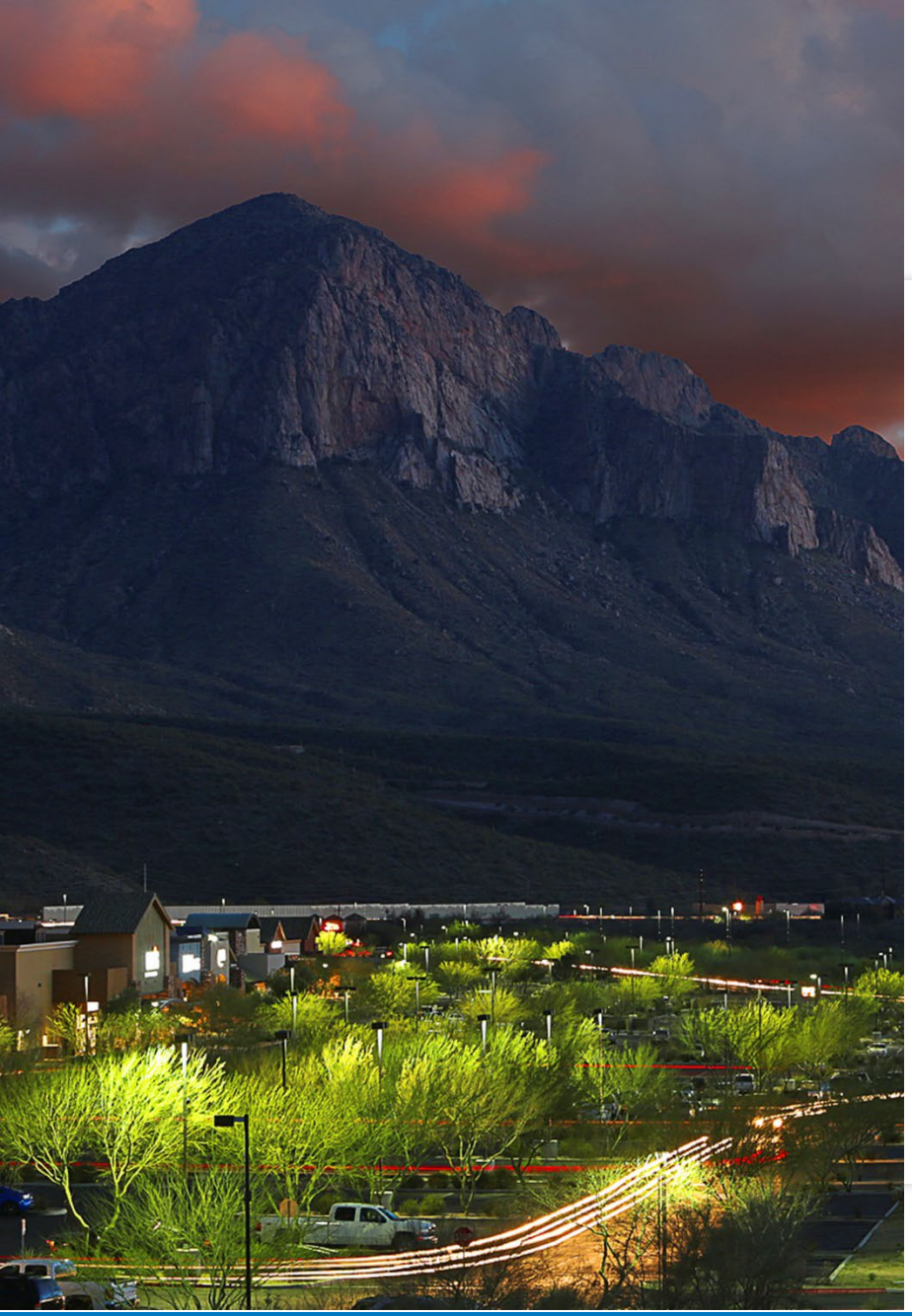
Industry Context



An Era of Dynamic Change

- Growth
- Sustainability
- Regulatory
- Reliability
- Affordability