

March 25, 2022

# Liberty

# Clean Transition Plan

2022 Plant-in-Service (“PISA”) Infrastructure Budget  
The Empire District Electric Company d/b/a Liberty  
 (“Liberty-Empire”)

Sustaining energy and water for life.



# Agenda

- 1. Safety Moment**
- 2. Introduction**
- 3. Company Profile**
- 4. Five-Year Investment Plan**
- 5. The Three Pillars of the CTP**
  - a) Improving Access to Clean Energy
  - b) Modernizing the Customer Experience
  - c) Safety and Reliability
- 6. Notable Accomplishments**
- 7. Changes to the Investment Plan**





# Safety Moment

Organization wide, all Liberty in-person, by-phone, and virtual meetings with a group of five or more start with a **SAFETY MOMENT**. This practice reinforces our safety culture and acts as a regular reminder that we all have a part to play in that culture.



# The Liberty–Empire Clean Transition Plan (“CTP”)

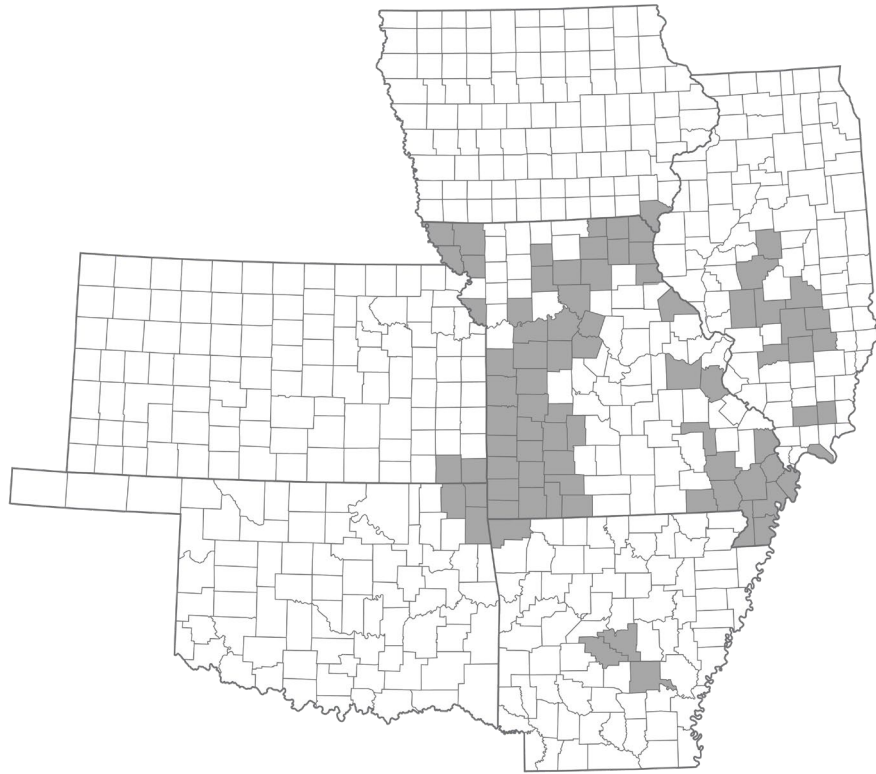
- The Empire District Electric Company filed its Plant-in-Service (“PISA”) election at the MoPSC on August 12, 2020, pursuant to RSMo. 393.1400
- Five-year capital investment plan required by each February 28<sup>th</sup> (general categories of capital expenditures in furtherance of replacing, modernizing, and securing its infrastructure)
  - First PISA report filed February 26, 2021
  - 2022 PISA Annual Update Report filed February 28, 2022
- Within 30 days of the filing of a capital investment plan or annual update to an existing plan, the electrical corporation shall host a public stakeholder meeting to answer questions and receive feedback about the plan
- After feedback is received, the electrical corporation shall file a notice with the MoPSC of any modifications to the capital investment plan it has accepted



# Company Profile



## Liberty Central Region



### Liberty-Empire Retail Electric Customers

Missouri	160,517	89.0%
Kansas	9,767	5.4%
Arkansas	5,241	2.9%
Oklahoma	4,771	2.6%
<b>Total</b>	<b>180,296</b>	<b>100.0%</b>

(as of December 31, 2021)

- All-Time Winter Peak  
1,220 MW (2021)
- All-Time Summer Peak  
1,198 MW (2011)
- 2021 Native Load Sales  
4,746,773 MWh



# Five Year Investment Plan: 2022–2026 PISA Infrastructure Budget Report

- Budget Plans presented in the PISA Annual Update Report are a snapshot in time and reflect current intentions for the next five years
- Organizational priorities and plans are prone to shift based on evolving needs and technology resulting in adjustments to the reported budget and spending forecast
- Continuous evaluation and analysis of the needs of customers and the electric grid, the condition of the infrastructure, the costs and accessibility of modern technologies, and the availability of new technologies are considered
- Emerging challenges with supply chains for specialty equipment could hinder the ability to execute on portions of this investment plan
- The new Integrated Resource Plan (IRP), due to be filed in April 2022, can impact future projects. The PISA report does not include any updates that may result from this IRP study or subsequent resolutions





# Liberty-Empire's CTP consists of approximately \$1.1 billion over the next five years across twelve categories of investment

## Modernize Customer Experience

Investments in programs that will increase energy information, choice, and empowerment to Liberty customers to manage their energy supply and control their energy costs.



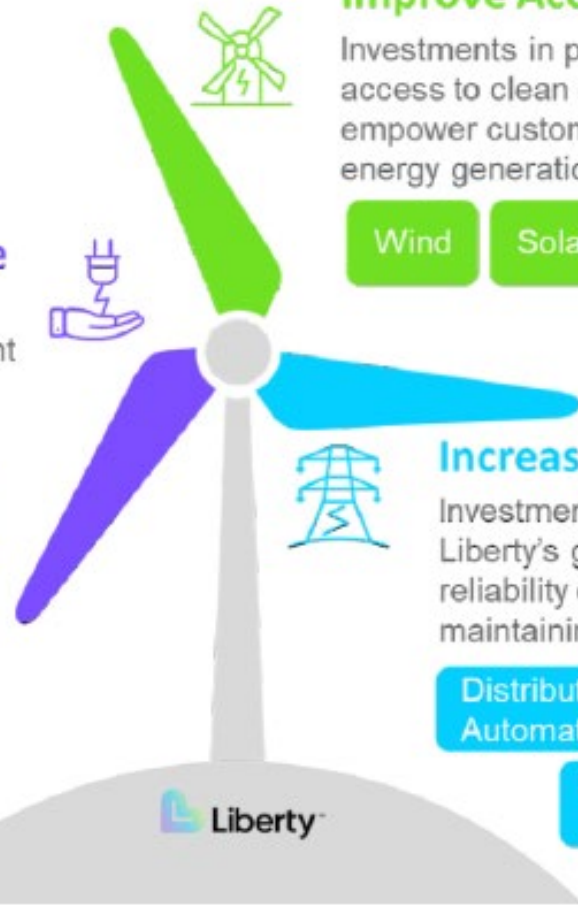
## Improve Access to Clean Energy

Investments in programs to increase customers' access to clean energy, deliver it efficiently, and empower customers to interconnect their own clean energy generation while maintaining reasonable rates.



## Increase Safety & Reliability

Investments in programs that will modernize Liberty's grid to improve safety and increase reliability of electricity delivery while maintaining reasonable rates for customers.



# Liberty's Capital Investment Plan – 2022-2026

\$ Millions

Program Name	2022	2023	2024	2025	2026	Total
Solar	\$0.0	\$1.2	\$3.0	\$4.3	\$131.8	\$140.4
Solar+Storage <sup>1</sup>	\$0.1	\$27.3	\$30.8	\$0.0	\$0.0	\$58.2
Plant Emissions**	\$0.2	\$0.2	\$0.1	\$2.6	\$0.5	\$3.5
Customer First* <sup>1</sup>	\$11.0	\$115.6	\$0.0	\$0.0	\$0.0	\$126.6
Energy Efficiency <sup>1</sup>	\$1.7	\$2.2	\$2.4	\$2.4	\$1.2	\$9.9
Transportation Electrification <sup>1</sup>	\$3.6	\$1.9	\$1.7	\$2.1	\$2.2	\$11.4
Cyber & Technology Upgrades <sup>1</sup>	\$5.9	\$4.3	\$2.9	\$2.0	\$0.7	\$15.8
Distribution Automation <sup>1</sup>	\$4.0	\$19.4	\$22.3	\$19.9	\$18.9	\$84.5
Grid Resiliency - Distribution <sup>1</sup>	\$91.9	\$93.7	\$93.1	\$64.5	\$73.3	\$416.5
Grid Resiliency - Transmission	\$46.6	\$52.1	\$18.3	\$18.6	\$5.5	\$141.0
Substation Security & Reliability	\$13.1	\$15.2	\$4.1	\$0.0	\$0.0	\$32.3
Generation Optimization	\$17.4	\$15.5	\$15.9	\$18.1	\$13.3	\$80.2
<b>Total</b>	<b>\$195.5</b>	<b>\$348.4</b>	<b>\$194.6</b>	<b>\$134.5</b>	<b>\$247.3</b>	<b>\$1,120.3</b>
Grid Modernization Subtotal	\$131.3	\$279.4	\$157.3	\$90.9	\$96.2	\$755.2
<b>Grid Mod Percentage (%)</b>	<b>67%</b>	<b>80%</b>	<b>81%</b>	<b>68%</b>	<b>39%</b>	<b>67%</b>

*This reported investment plan reflects Liberty-Empire's full budget, not just focused on PISA-eligible spend.*

*\* The Customer First program is a Liberty-wide initiative. Liberty-Empire's portion of cost will be allocated in 2022 & 2023.*

*\*\* Planned costs for retirement projects are not included in this report and investment plan summary.*

*<sup>1</sup> Included in the Grid Modernization subtotal.*





# The following slides will discuss the three main pillars of the CTP:

## 1. Improving Access to Clean Energy

- Wind generation, Solar Generation, Solar Plus Storage, and Plant Emissions

## 2. Modernizing the Customer Experience

- Customer First, Energy Efficiency, Transportation Electrification, and Cyber & Technology

## 3. Increasing Safety and Reliability

- Distribution Automation, Grid Resiliency – Distribution, Grid Resiliency – Transmission, Substation Security and Reliability, and Generation Optimization



# Improving Access to Clean Energy

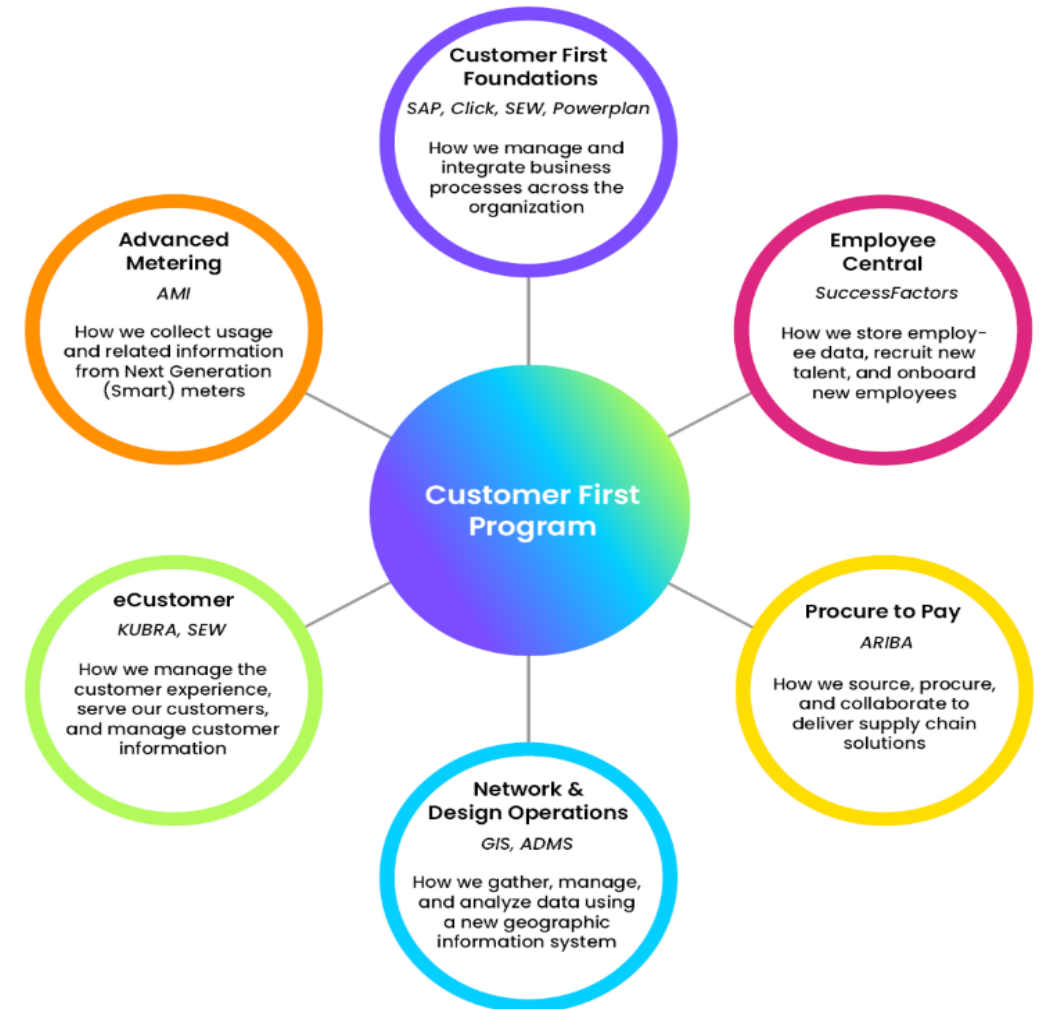
- **Commitment to transition the electricity delivered to customers toward sustainable renewable resources**
- **Approximately 600 megawatts of wind generation capacity was added in 2021 from three new wind farms, two of which are in Missouri (approximately 300 megawatts combined) and one in Kansas (approximately 300 megawatts)**
- **Liberty-Empire will complete the decommissioning of the Asbury coal plant (Asbury was de-designated from the SPP market as of the end of March 1, 2020, after nearly 50 years of service)**
- **As previously noted, the 2022 IRP may provide an updated preferred resource plan**

- Wind Generation
- Solar Generation (Photovoltaic)
- Solar + Storage
- Plant Emissions











# Modernizing the Customer Experience

- As preference trends shift to greater energy efficiency and decarbonization, Liberty is preparing its operations, customer programs, and digital infrastructure to meet these shifts in a secure and safe manner.
  - **Customer First**
  - Cyber and Technology
  - Transportation Electrification
  - Energy Efficiency
- The Customer First Program is a comprehensive digitalization initiative that will provide employees with the tools to deliver the experience our customers demand and deserve.



# Modernizing the Customer Experience (Continued)

- Customer First
- Cyber and Technology
- Transportation Electrification
- Energy Efficiency

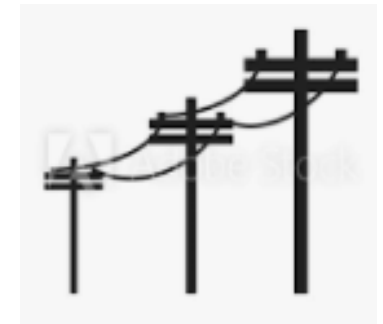
On-Road Programs	
 <b>Residential Smart Charge Program</b> Subscription service with TOU rate and utility-owned smart charger	 <b>Fleet Advisory</b> Assistance and guidance to fleet owners
 <b>Ready Charge Program</b> Deployment of utility-owned L2 and DCFC public chargers	 <b>Administration, Education &amp; Analytics</b>
 <b>Commercial Electrification Program</b> Deployment of smart L2 chargers for fleets and workplaces	<b>Non-Road Programs</b>
 <b>School Bus Electrification Program</b> Deployment of utility-owned L2 and DCFC chargers for local school buses	
	 <b>Non-Road Customer Incentives</b> Rebates and incentives to adopt electric equipment for process and operations
	 <b>Non-Road Program Delivery</b> Deployment of utility-owned L2 and DCFC public chargers



# Safety and Reliability

- Liberty is committed to operating and maintaining its grid infrastructure in a safe and reliable manner on behalf of the communities served. This involves several areas of Advanced Transmission and Distribution Network Technology (“ATDNT”) investment.

- Distribution Automation
- Grid Resiliency – Distribution
- Grid Resiliency – Transmission
- Substation Security and Reliability
- Generation Optimization





# Notable Accomplishments

- **Three new wind resources began commercial operation in 2021**
- **Installation of Advance Metering Infrastructure (AMI) across the Central Region**
- **Started the implementation of Project Guardian under the Substation Security and Reliability program**
- **Installed electric vehicle (EV) direct current fast chargers (DCFC) to support EV drivers traveling in and through the region**
  - partnered with the Missouri Department of Natural Resources Air Pollution Control Program, which provided funds from the Volkswagen Trust Awards
- **Continued investments in the Grid Resiliency for the Distribution and Transmission Systems through system voltage conversions, substation improvements, transmission and distribution line rebuilds, new distribution lines to remove radial feeds and various other types of projects**
- **Launched a new energy efficiency portfolio under the Missouri Energy Efficiency Investment Act (MEEIA) framework**
- **Installed animal guards on approximately 5,500 transformers and began the systematic inspection, treatment, and replacement of underground conductors as appropriate**



# Changes to the Investment Plan

- **Planned investments associated with retirement projects are not included in this investment summary**
- **The planned timing of investment in Solar generation capacity and Solar + Storage has been shifted out to later years in response to the extension of Investment Tax Credit (ITC) policies, supply chain disruptions, and commodity pricing. The Company's triennial IRP will further assess these projects**
- **Network & Design Operations portion of the Customer First initiative has been split out and is expected to be realized in 2022 (GIS + AMDS)**
- **Substation Security & Reliability investment plans decreased due to a shift in strategy to focus on physical security and defer reliability and monitoring technologies**
- **Distribution Automation installations were delayed to 2022. Many investments were expected to begin in 2021, but the needed equipment and products will not be available until the second quarter of 2022 at the earliest. These products continue to be impacted by the supply chain disruptions following the COVID-19 pandemic.**
- **The investment in energy efficient LED Streetlights has been slowed due to material supply chain issues**



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**Thank you**

