

LES Decarbonization Goal

The Journey to Net Zero

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LES Decarbonization Goal

November 2020 LES Board Resolution Excerpts

Achieve net zero carbon dioxide production from the LES generation portfolio by 2040.

The ultimate path and pace to achieving such goal must be balanced by:

- A continued commitment to maintain high electric system reliability.
- Environmental stewardship.
- A fiscally-responsible focus that carefully considers financial impacts to all customers, especially LES customers with low and fixed incomes.
- Consideration of existing contractual obligations.
- Advancements in generation, energy storage, carbon capture technologies and other emerging solutions.

LES Decarbonization Goal

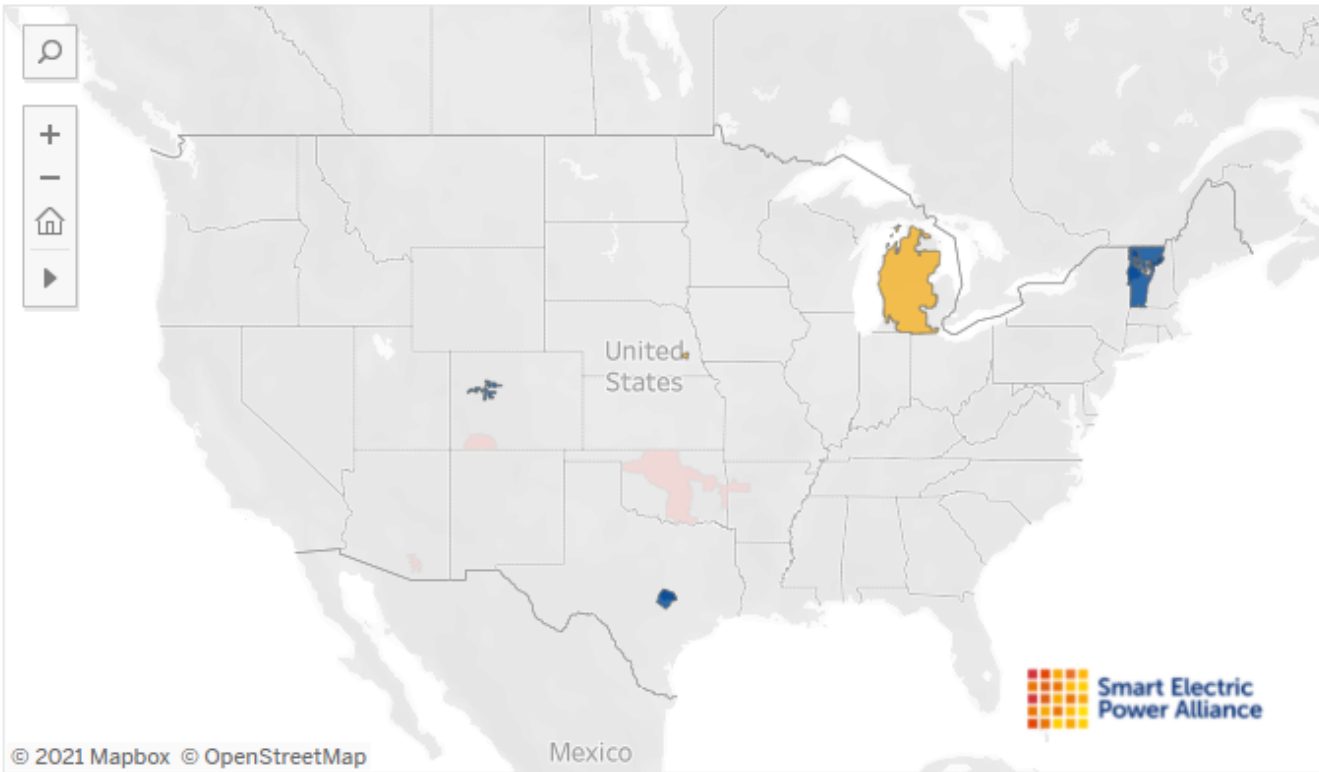
How it Stacks Up Nationally

Utilities and Utility Parents

Distribution Utilities

100% State Requirements

This map displays carbon-reduction targets adopted voluntarily by individual electric utilities, as well as individual electric utilities that are subject to a state-level 100% requirement. It does not display individual electric utilities owned by a utility parent that has adopted a voluntary carbon-reduction target (unless the individual utility is subject to a state-level 100% requirement). All utilities displayed provide retail electric distribution service.



Search

(All)

Utility Type

- (All)
- Investor-Owned
- Public Power
- Distribution Cooperative

Target Type

- 100% renewable/clean ...
- Net-zero or carbon-neu...
- Partial reduction

Voluntary/Mandatory

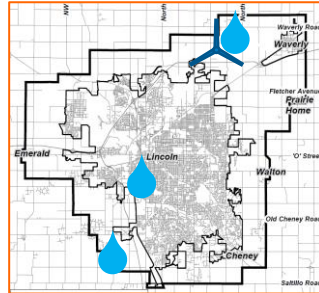
- (All)
- Voluntary
- Mandatory
- Both





Attainment Year

2023 2040

Source: [Utility Carbon-Reduction Tracker](#), Smart Electric Power Alliance, October 6, 2021

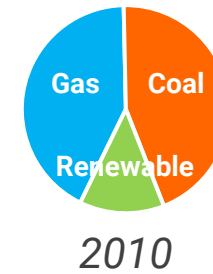
LES Resource Portfolio 2010



-  Coal
-  Hydro
-  Natural Gas
-  Wind



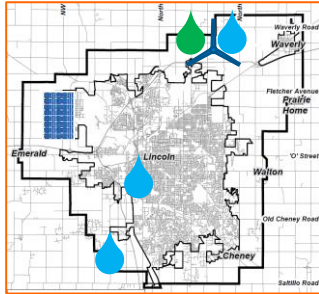
"Nameplate" Resource Mix by Fuel Type








Energy Production from Renewable Resources as a Percentage of Retail Sales



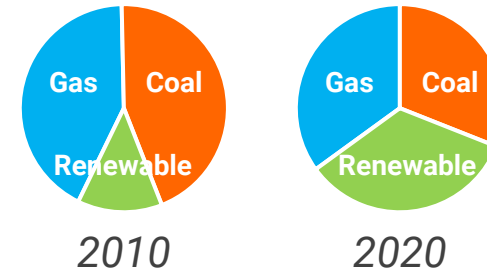
LES Resource Portfolio



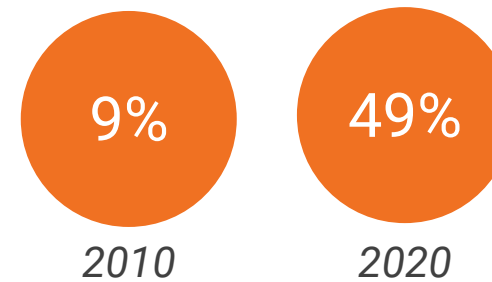
-  Coal
-  Hydro
-  Natural Gas
-  Wind
-  Landfill Gas
-  Solar



“Nameplate” Resource Mix by Fuel Type

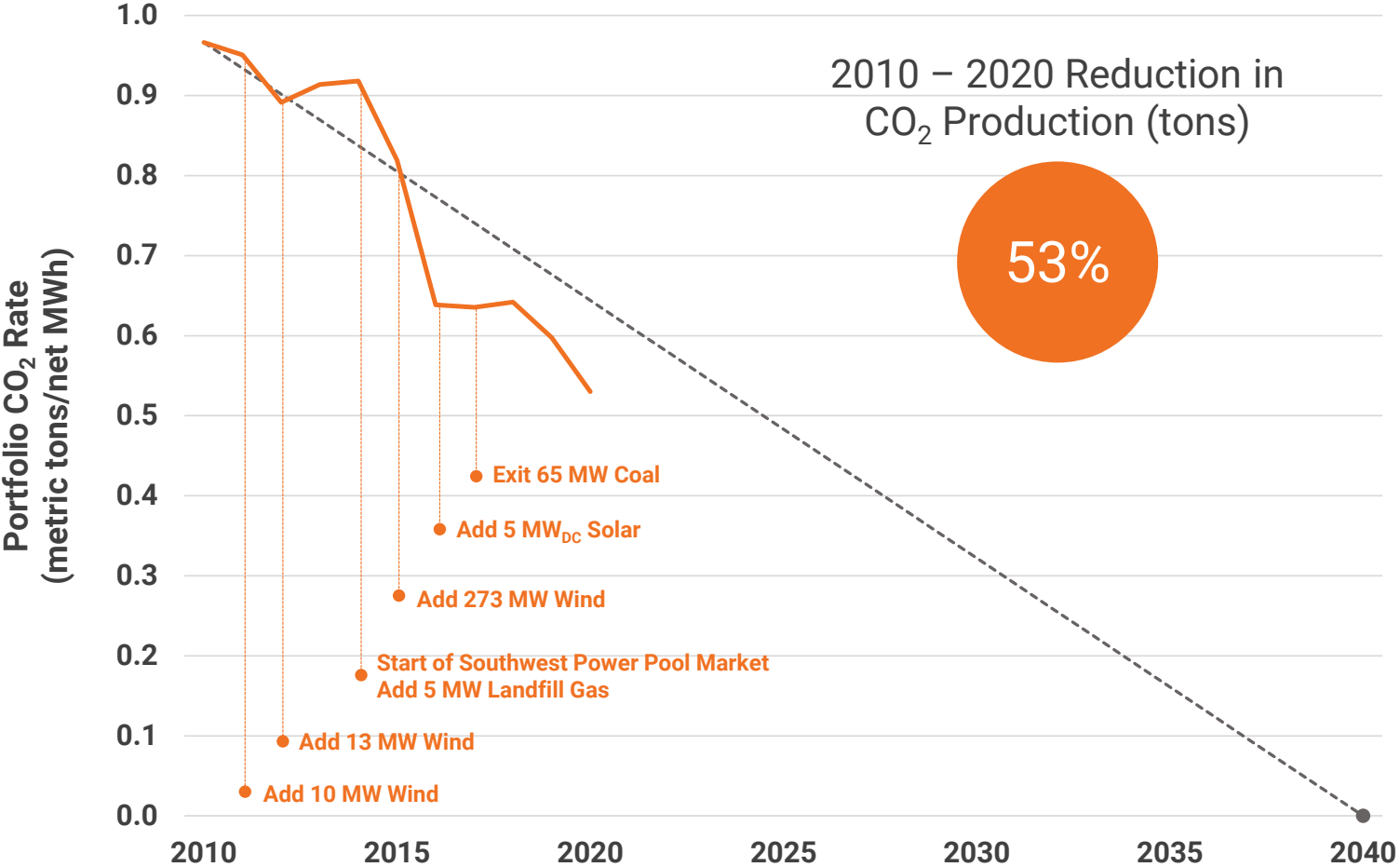


Energy Production from Renewable Resources as a Percentage of Retail Sales



LES Resource Portfolio

Carbon Intensity



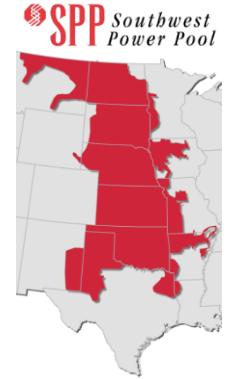
* LES is selling the Renewable Energy Certificates (RECs) associated with its applicable resources and the renewable attributes are transferred to the REC recipient.

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Future Considerations

Southwest Power Pool Requirements

LES must maintain enough accredited capacity – what a resource can be counted on to provide at times of peak load – to meet its peak load plus an extra 12%.



Generating Resource Changes

Vast majority of LES' generation portfolio will be at or near the end of its originally projected lifetime by 2040; most of what's not will need to be addressed to meet decarbonization goal.

Race with Technology

Tools to practically meet the goal simply don't exist today, so it becomes a race to see when expected technological advances will truly be available.

Low-Carbon Resources Initiative

Developing and Demonstrating Technologies to Enable a Low-Carbon Future

The Electric Power Research Institute (EPRI) and the Gas Technology Institute (GTI) are leading this effort to accelerate the development and demonstration of low- and zero-carbon energy technologies.

LES signed on as an anchor sponsor of the initiative in August 2020.



Source: [EPRI.com/LCRI](https://www.epri.com/LCRI)

Thank you!

