



TC Energy - Regional Hubs

SEPTEMBER 2021

A leading North American energy infrastructure company

One of North America's largest natural gas pipeline networks

- 57,900 mi (93,300 km) of pipeline
- 653 Bcf of storage capacity
- Transports ~25% of daily demand across the U.S.

Premier liquids pipeline system

- 3,000 mi (4,900 km) of pipeline
- 590,000 Bbl/d
- Transports ~20% of WCSB exports to Midwest and Gulf Coast

One of North America's largest private sector power generators

- 7 power plants
- 4,200 MW
- Primarily long-term contracted assets



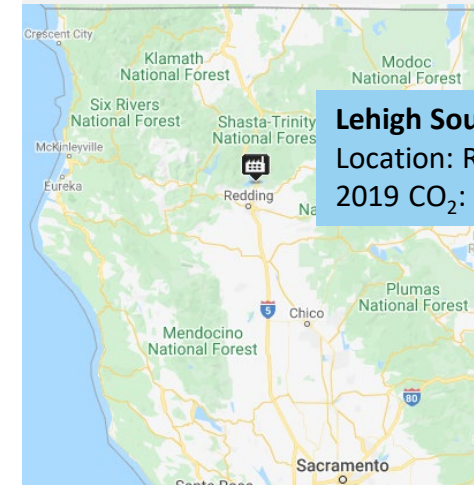
How can CCUS help lower CO₂ emissions in the United States?

- CCUS will play a pivotal part of the energy transition
- CCUS is complementary to existing infrastructure
- CCUS will allow increased electric grid reliability by maintaining base load fuel power plants while at the same time reducing emissions

CCUS can...

- ✓ Reduce emissions from coal power plants
- ✓ Reduce emissions from natural gas power plants
- ✓ Reduce emissions from large industrial users
- ✓ Capture CO₂ for building materials, input into plastics, or creation of alternative fuels

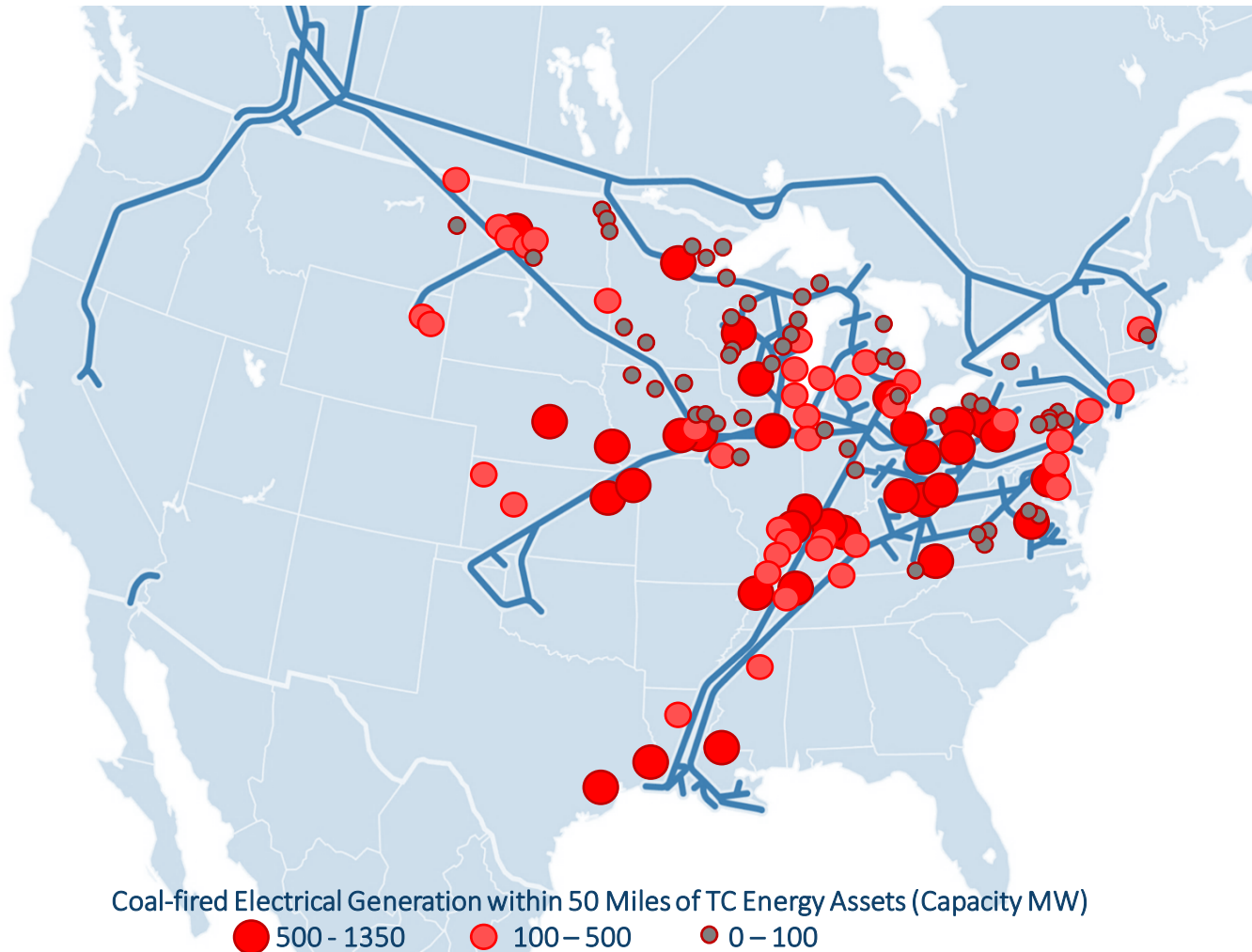
New Technology Driving New Demand



Lehigh Southwest Cement Co
Location: Redding, CA
2019 CO₂: 293,213 metric tons

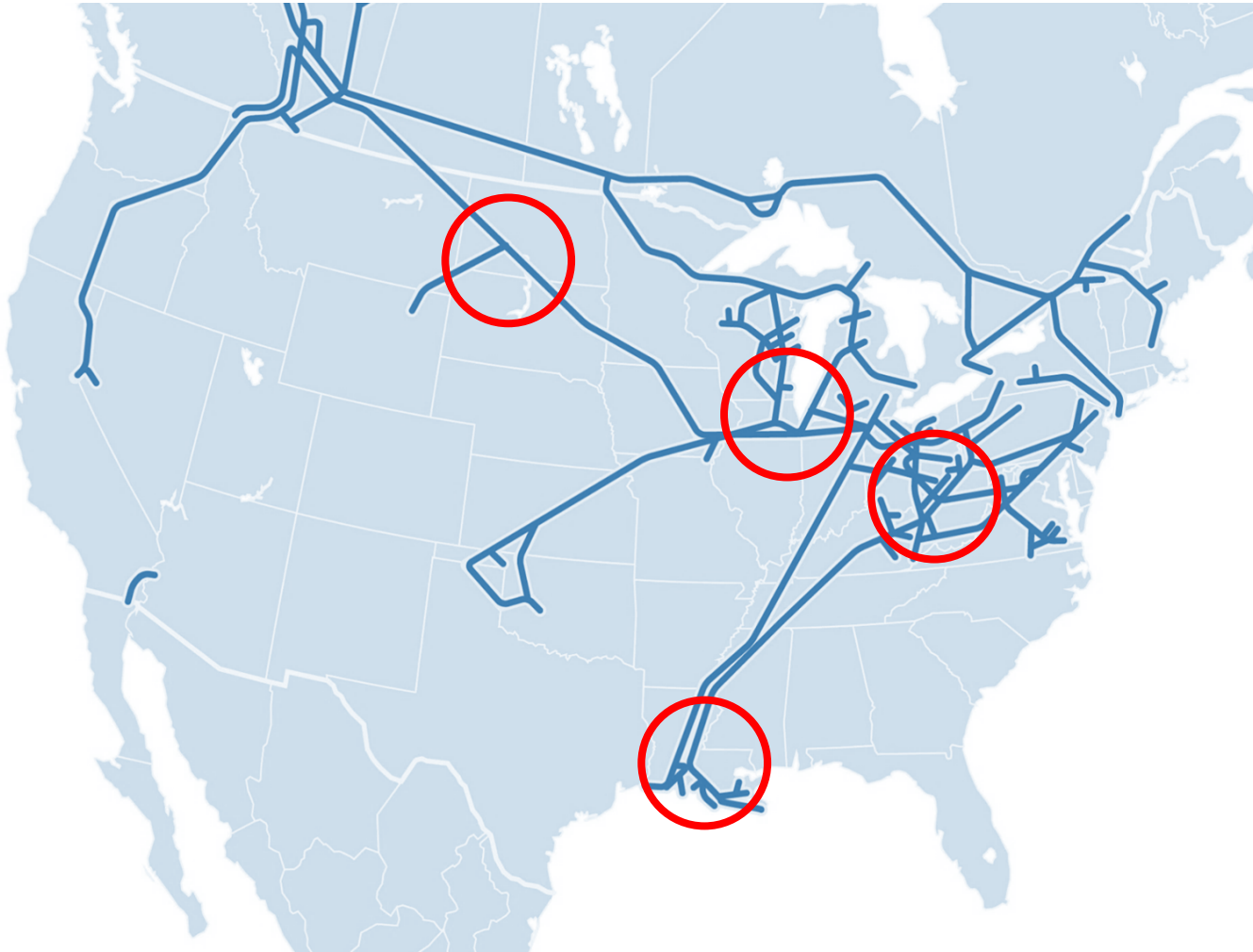
- Agreement between Lehigh Hanson and Fortera Inc. to create a small-scale plant on the existing cement facility
- Process will capture CO₂ directly from cement kiln and convert into material that can be blended in other cement
- ‘Costs 10% less than traditional cement’
- **60% decrease in CO₂ emissions per ton of product**

Strategically positioned to further the energy transition



- Close to 100 coal-fired generating facilities with capacities greater than 500 MW are located no more than 50 miles from USNG’s pipeline assets
- Converting this generation load to natural gas or renewables backed by natural gas would result in a significant GHG reductions
- To meet President Biden’s climate objectives, TC is strategically positioned to install innovative Carbon Capture and Storage technologies
- TC’s extensive expertise constructing and operating pipelines and storage facilities is a major asset to enable the energy transition

Regional hub concepts



- Plan to pilot small scale carbon capture on existing footprint in locations where:
 - TC Energy has high emitting sources
 - There are other high emitting sources
 - Geology is favorable
 - Permitting is favorable
- Potential for CCUS to also be deployed with blue hydrogen production in those same areas to support future hydrogen economy

Regional hub concepts

- Key feature to this development will be partnerships across the value chain (we have a framework we have utilized in Canada on the Alberta Carbon Grid project)
- We have already started doing reservoir modelling and looking at various capture technologies that can be utilized
 - Already have existing expertise of storage operations (operate ~25% of methane storage wells)
- Permitting is one of the key gating items in various jurisdictions
 - Class VI
 - Long term liability
 - Land right acquisition
- Environmental justice
 - One of the largest operators in West Virginia
 - CCUS helps provide low gas energy across the value chain

