

## DOCKETED

<b>Docket Number:</b>	15-RETI-02
<b>Project Title:</b>	Renewable Energy Transmission Initiative 2.0
<b>TN #:</b>	213498
<b>Document Title:</b>	Panel 3 Presentation - Clean Energy. Delivered.
<b>Description:</b>	By Keith Sparks - RETI 2.0 Western Outreach Project: Las Vegas Workshop 9-1-16
<b>Filer:</b>	Misa Milliron
<b>Organization:</b>	Clean Line Energy Partners
<b>Submitter Role:</b>	Public
<b>Submission Date:</b>	9/6/2016 11:31:17 AM
<b>Docketed Date:</b>	9/6/2016

# Clean Line Energy

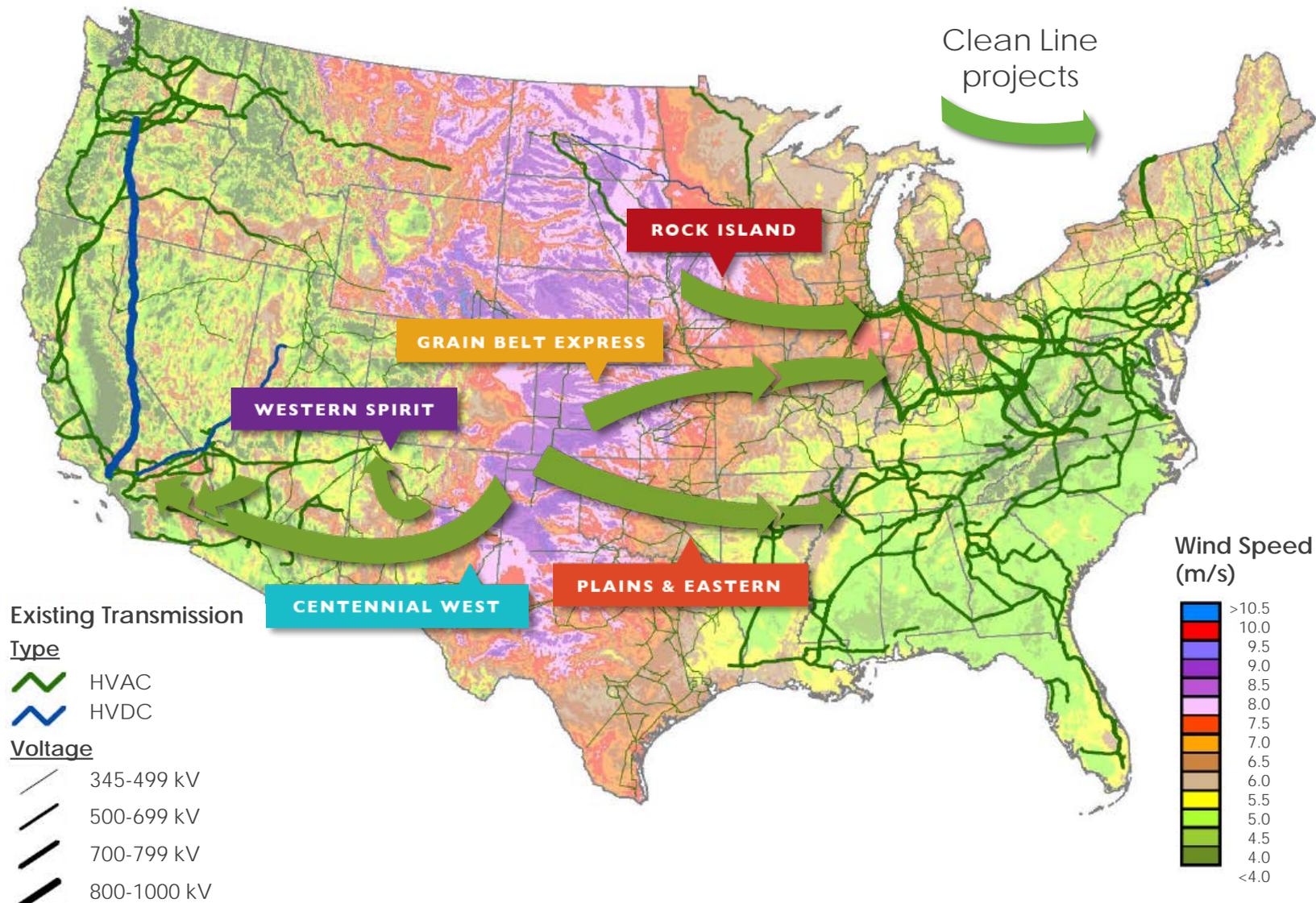
Clean Energy. Delivered.

September 2016

**CLEAN LINE**  
ENERGY PARTNERS

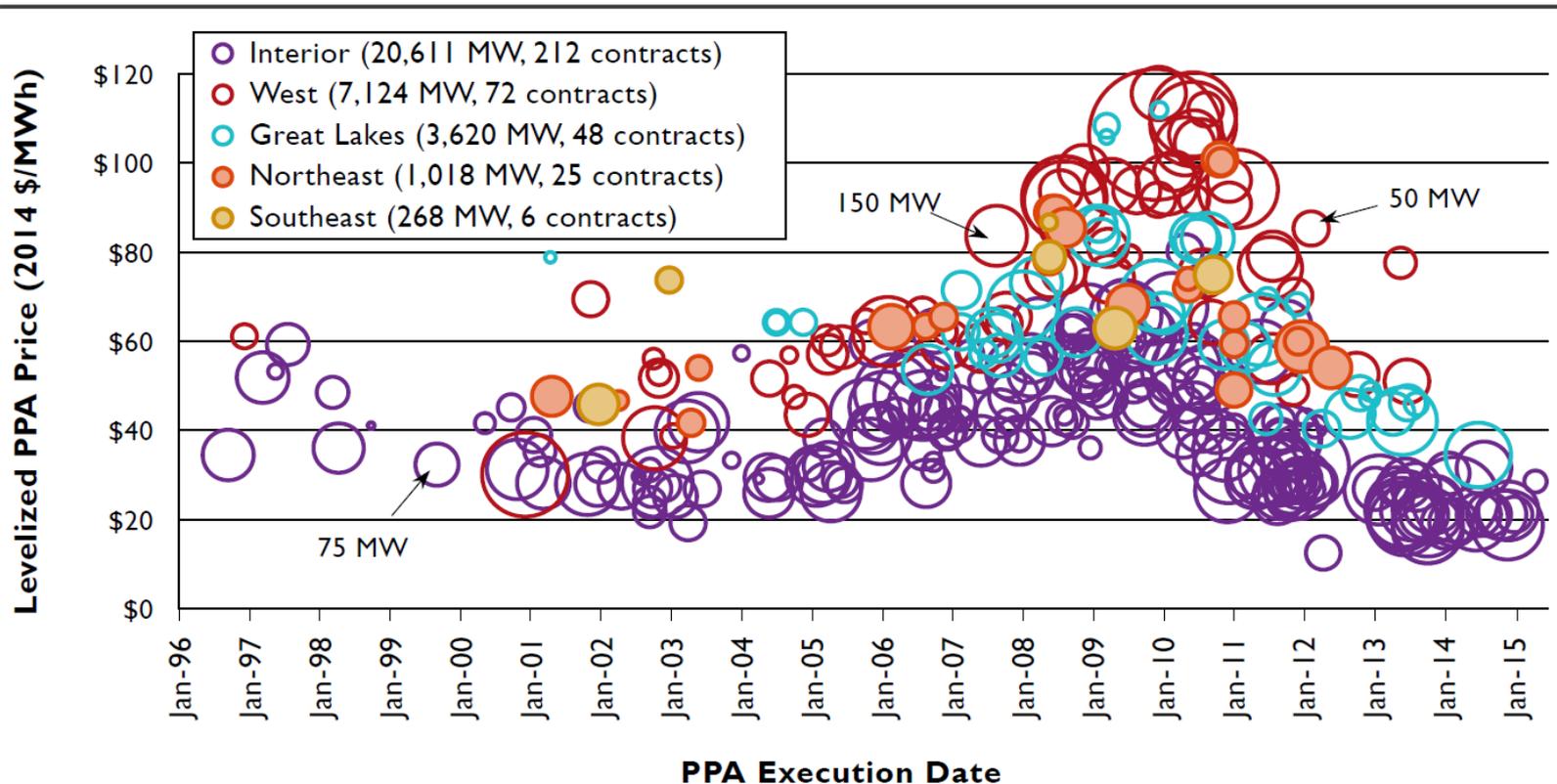


# Clean Line's portfolio of large-scale transmission projects will connect the best wind resources to market



# Wind energy prices continue to decrease, particularly in the windiest part of the country

Levelized PPA prices by PPA execution date  
2014 \$/MWh

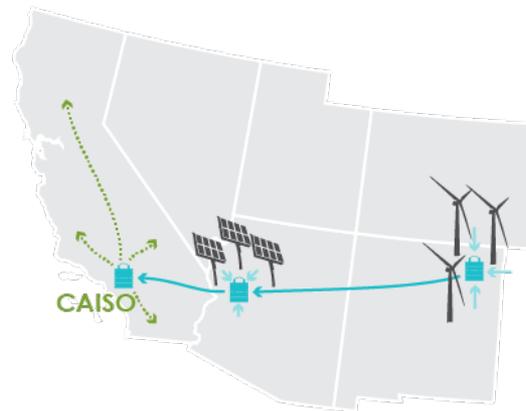


Note: Size of "bubble" is proportional to project nameplate capacity

The "Interior" region consists of the 13 states where the wind resource is the strongest: OK, KS, IA, NM, SD, NE, TX, MN, WY, CO, ND, MT, and MO.

Source: DOE 2014 Wind Technologies Market Report published August 2015

# Centennial West will deliver renewable energy from New Mexico and Arizona to California



## KEY

- Collector system (AC)
- Centennial West Clean Line (HVDC)
- Existing utilities' system (AC)
- AC/DC Converter

*This map is intended for illustration purposes only and does not represent a proposed route.*

## KEY MILESTONES

### INTERCONNECTION

- Completed WECC Project Coordination Review

### ENVIRONMENT & ROUTING

- Filed SF – 299 right-of-way application with BLM in 2010
- BLM National Project Manager coordinating NEPA process with Western Area Power Administration, BLM and U.S. Forest Service

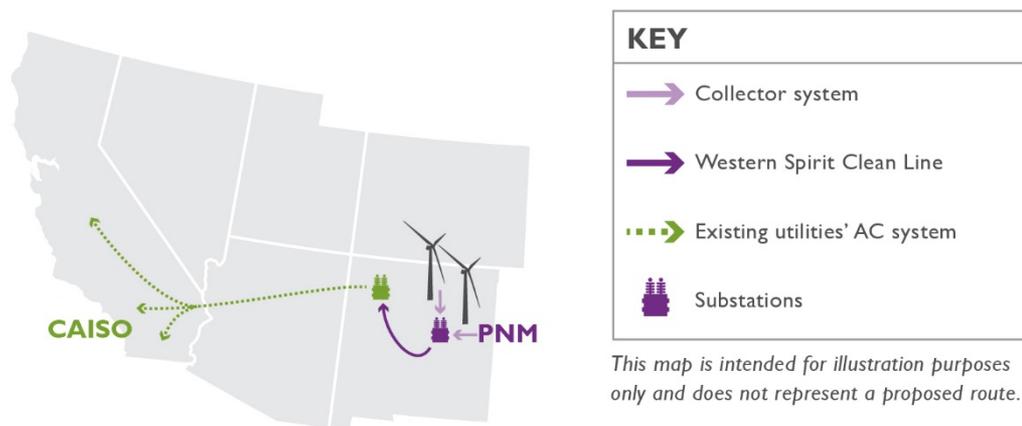
### AGREEMENTS & ALLIANCES

- Executed MOU with New Mexico Renewable Energy Transmission Authority; RETA is authorized by statute to acquire land for the project and own transmission facilities
- Finalized development agreement with Western Area Power Administration

### OUTREACH

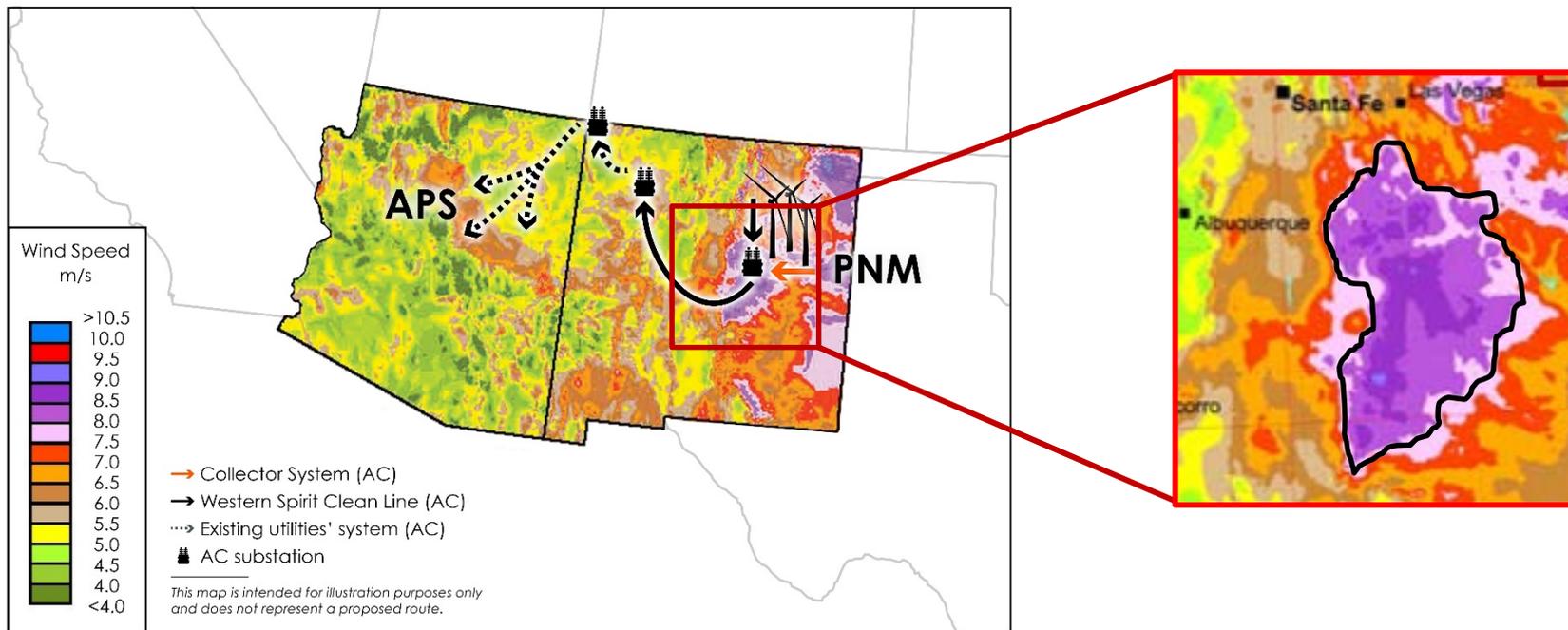
- Held 18 community leader workshops in four states and two tribal nations to gather information about local routing opportunities and constraints

# Western Spirit will increase transfer capacity from New Mexico's best wind resources to Four Corners



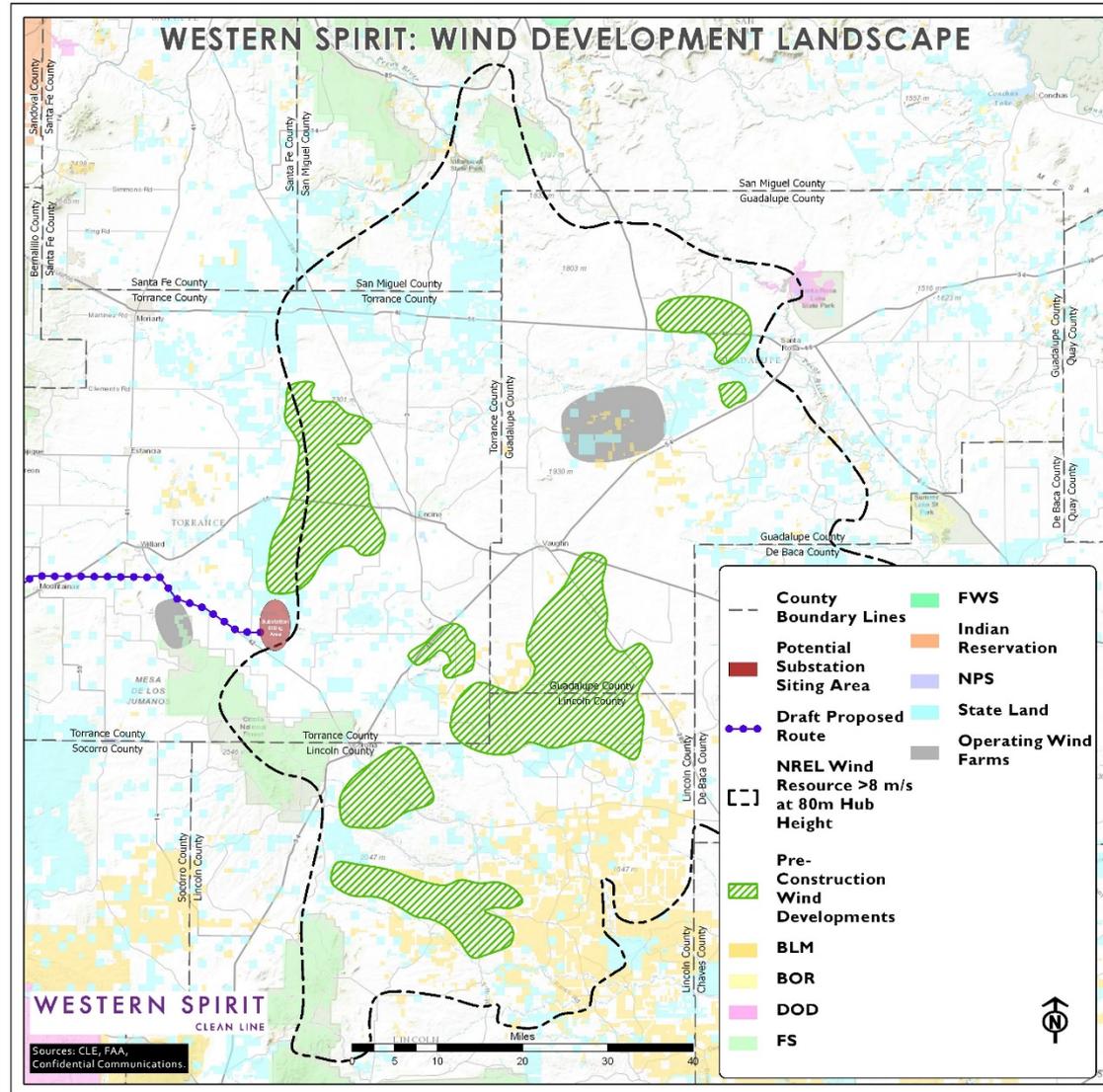
- The Western Spirit Clean Line is a high-voltage alternating current (HVAC) transmission line that will connect high capacity factor New Mexico wind resources with the APS system
- Clean Line is in discussions with Public Service of New Mexico (PNM) for the Wires-to-Wires study process, is currently in the PNM's TSR queue for service to Four Corners, and is currently in Arizona Public Service's TSR queue for service from Four Corners to CAISO
- A preliminary route has been developed and a right-of-way agreement executed with Isleta Pueblo
- Western Spirit Clean Line has a lease agreement with New Mexico Renewable Energy Transmission Authority ("RETA")

# Western Spirit will capture exceptional central New Mexico wind resource

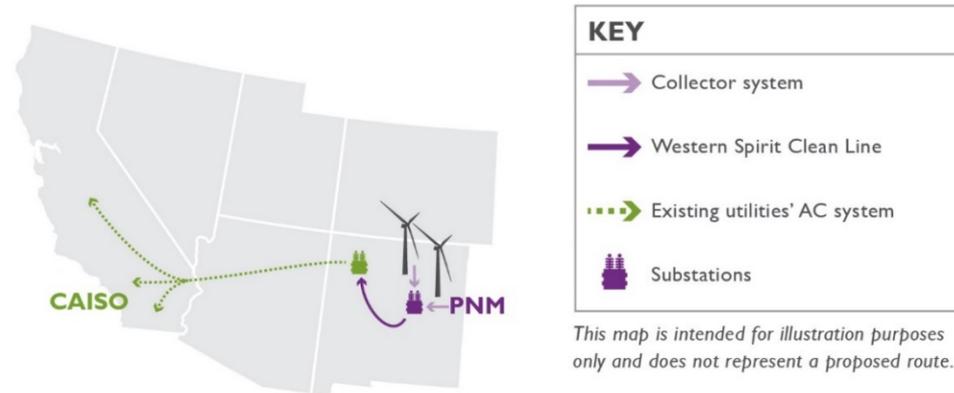


- The Western Spirit wind resource is some of the most robust in the Western Interconnect, with average wind speeds of **8-8.5 meters per second** ("m/s"). Alternately, there are very few sites in Arizona with wind speeds over 7 m/s.
- The potential for power to be produced from wind varies with the cube of the wind velocity. Consequently, an 8.5 m/s wind speed will have **approximately double the power potential** of a 7 m/s wind site
- Vastly more energy can be captured by a turbine in New Mexico relative to the same turbine in Arizona, **reducing the total cost per unit of energy**

# Substantial wind development is underway in the Western Spirit resource area



# Western Spirit will allow western states to access the cheapest renewable energy



## ECONOMIC BENEFITS



Reduced rates for customers



\$150 million project investment



Over \$1 billion new wind farm investments



590,000 homes powered per year

## ENVIRONMENTAL BENEFITS



850 million gallons of water savings per year



1.6 million tons of carbon dioxide pollution reduction

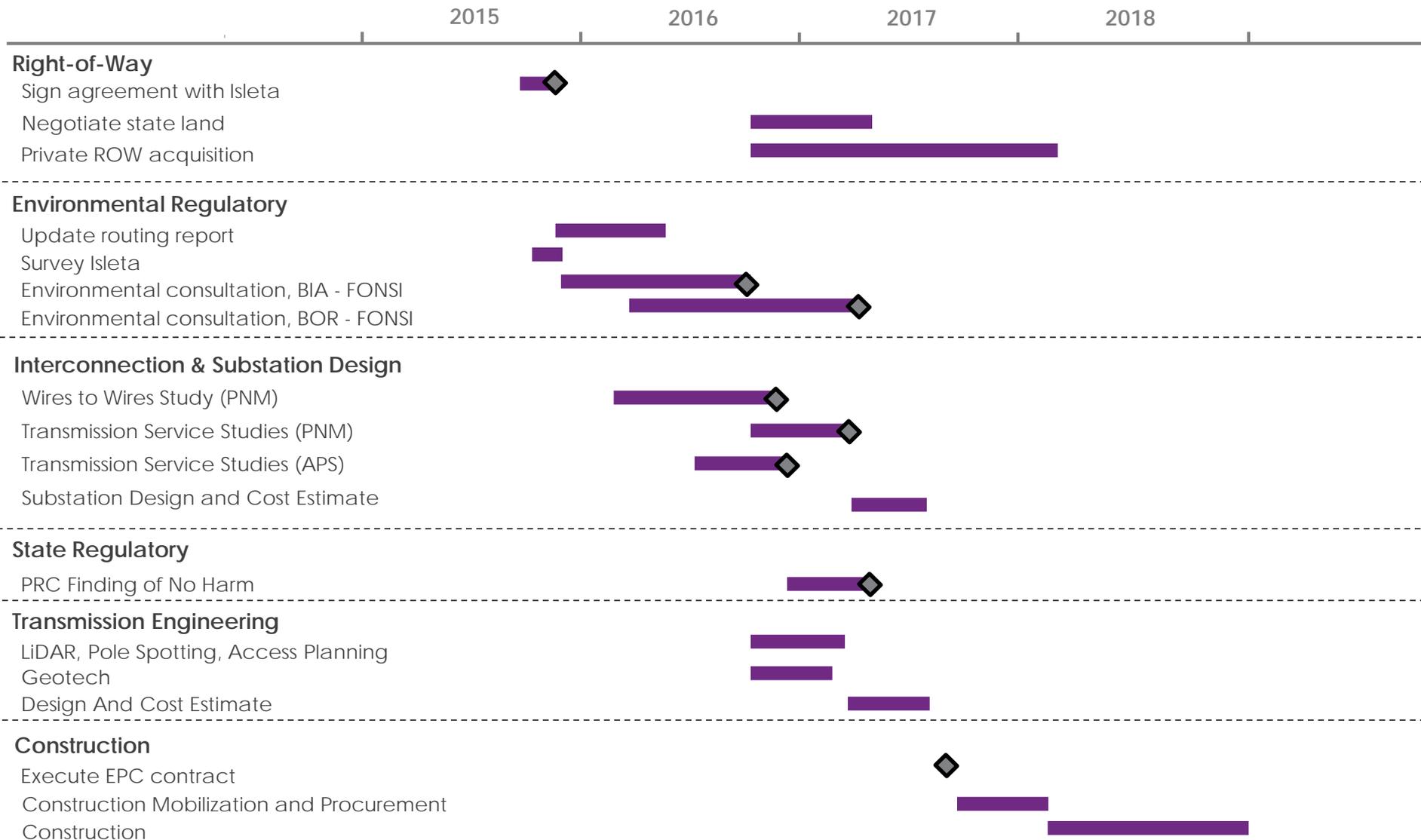


900 tons per year of nitrogen oxide pollution reduction

# Western Spirit has completed significant development milestones and is working towards many others

	STATUS	MILESTONES
LAND		Routing Report complete and approved by RETA
		Executed Right-of-Way Agreement with Pueblo of Isleta
		Executed substation option agreement
REGULATORY		Executed lease agreement with New Mexico Renewable Energy Transmission Authority ("RETA")
		Submitted Right-of-Way application and Environmental Assessment to Bureau of Indian Affairs for their approval
		Working with Bureau of Reclamation on permitting application for Rio Grande crossing; construction plan for river crossing complete
INTERCONNECTION		PNM "Wires-to-Wires" study and Interconnection Agreement negotiation are underway and occurring simultaneously
		Western Spirit has submitted Transmission Service Requests (TSR) and is in the respective TSR queues for PNM, APS and TEC
COMMERCIAL		Received negotiated rate authority from Federal Energy Regulatory Commission (FERC) to negotiate bilaterally for 100% of line's capacity
		Negotiating embedded rate proposal with PNM
		Ramping up discussions with potential offtakers

# Western Spirit's schedule anticipates a construction start in 2018, with energization in 4Q 2018



**WESTERN SPIRIT**  
CLEAN LINE

[www.westernspiritcleanline.com](http://www.westernspiritcleanline.com)