



White Creek Wind Project

**Tom Svendsen
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Klickitat PUD**

**Community –Based Energy Development CERTs
February 10, 2009
Saint Cloud, Minnesota**

Renewable Portfolio Standards



RENEWABLE RESOURCES: Wind, Solar, Wave, Tidal, Ocean Thermal, Geothermal, Biomass, Biodiesel Fuel, Landfill Gas



A map of the state of Washington, filled with a solid blue color. The map shows the state's outline, including the coastline and major water bodies like Puget Sound and the Strait of Juan de Fuca. The text is overlaid on the right side of the map.

WASHINGTON

Energy Independence Act

RCW 19.285

Requires Large Utilities (those serving more than 25,000 customers) to obtain a portion of electricity from renewable resources.

3% by 2012

9% by 2016

12% by 2020



OREGON

Renewable Energy Act

ORS 261

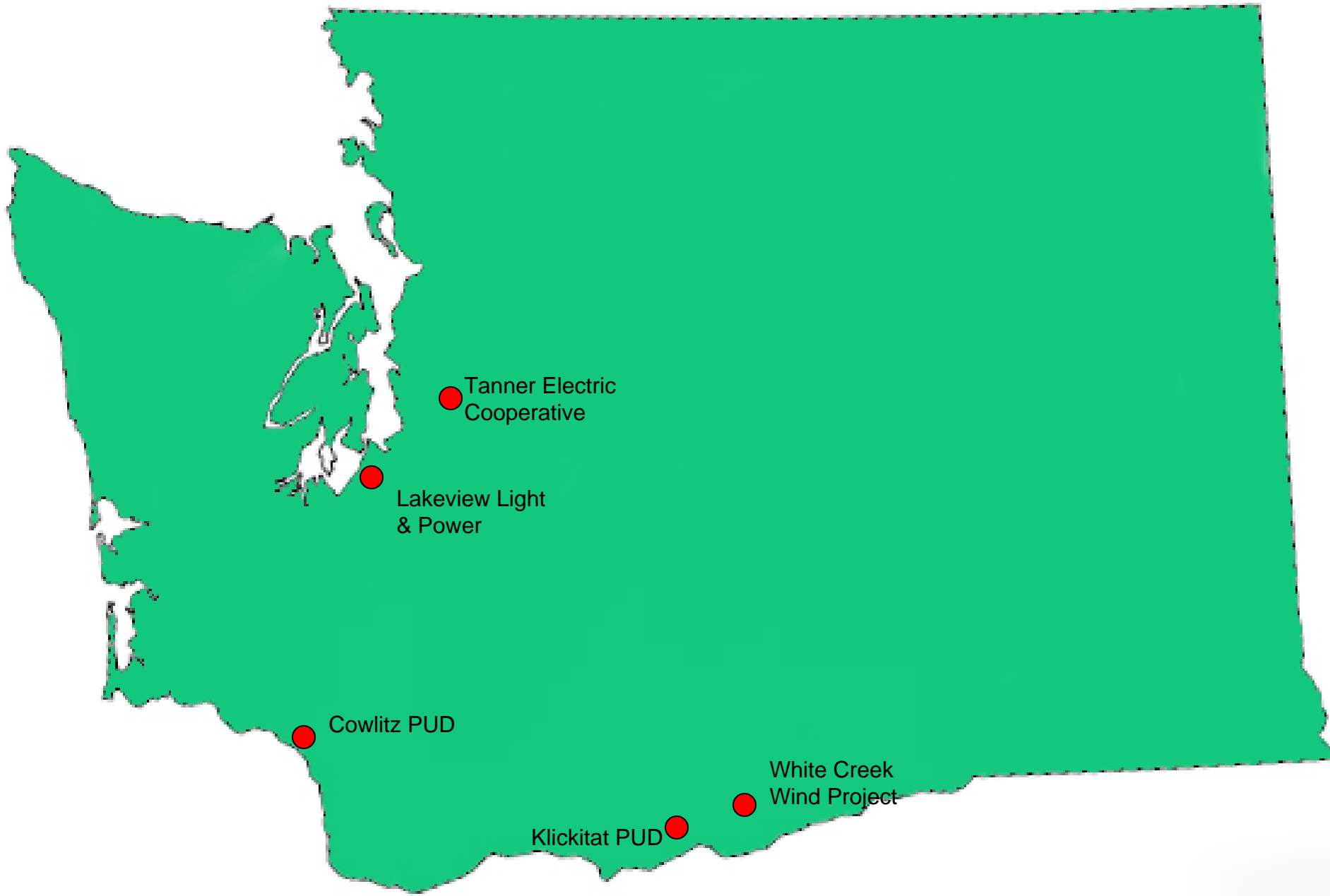
Requires Large Utilities (those selling more than 3% of all electricity sold to retail consumers) to obtain a portion of electricity from renewable resources.

5% by 2011

15% by 2015

20% by 2020

25% by 2025



Tanner Electric
Cooperative

Lakeview Light
& Power

Cowlitz PUD

Klickitat PUD

White Creek
Wind Project

Project Description

Locale:

10,000 acres under lease in Klickitat County near Roosevelt, Washington on the north side of the Columbia River.

Habitat for coyotes, deer, porcupines, badgers and rattlesnakes.....
and wind turbines!



Capacity:

- 205 MW; annual average output of 68MW
- Sufficient for energizing 38,000 homes

Turbines:

- 89 Siemens 2.3MW wind turbines
- Tower height - 263 ft.
- Tower base diameter - 16 ft.
- Blade length - 150 ft.
- Ground to highest blade tip - 415 ft.
- Nacelle - 90 tons
- Cone - 5 tons

Construction Statistics:

- 15 months
- 14 contractors/subcontractors performed the work
- 250 employees
- 300 cubic yards of concrete for each turbine foundation
- Excavation depth to 25 ft. for soil foundations beneath concrete
- Improvements to 11 miles of county road and one state highway intersection
- 33 miles of fiber optic and electrical cable
- 14 miles of transmission line
- 2 substations totaling 1800MW capacity
- \$1.5 million operation and maintenance building

Cost:

\$364,000,000.

Project Development, Financing & Completion

Project Development Team



How Did We Do It?

Involved:

11 Law Firms

13 Financial Institutions

7 Financial Advisors

5 Engineering, Environmental & Permitting Firms

14 Construction-Related Contractors

5 Land Owners



Documents

26 Federal, State and County Permits

623 Certificates relating to mechanical, electrical, foundations, completion and commissioning of each power plant

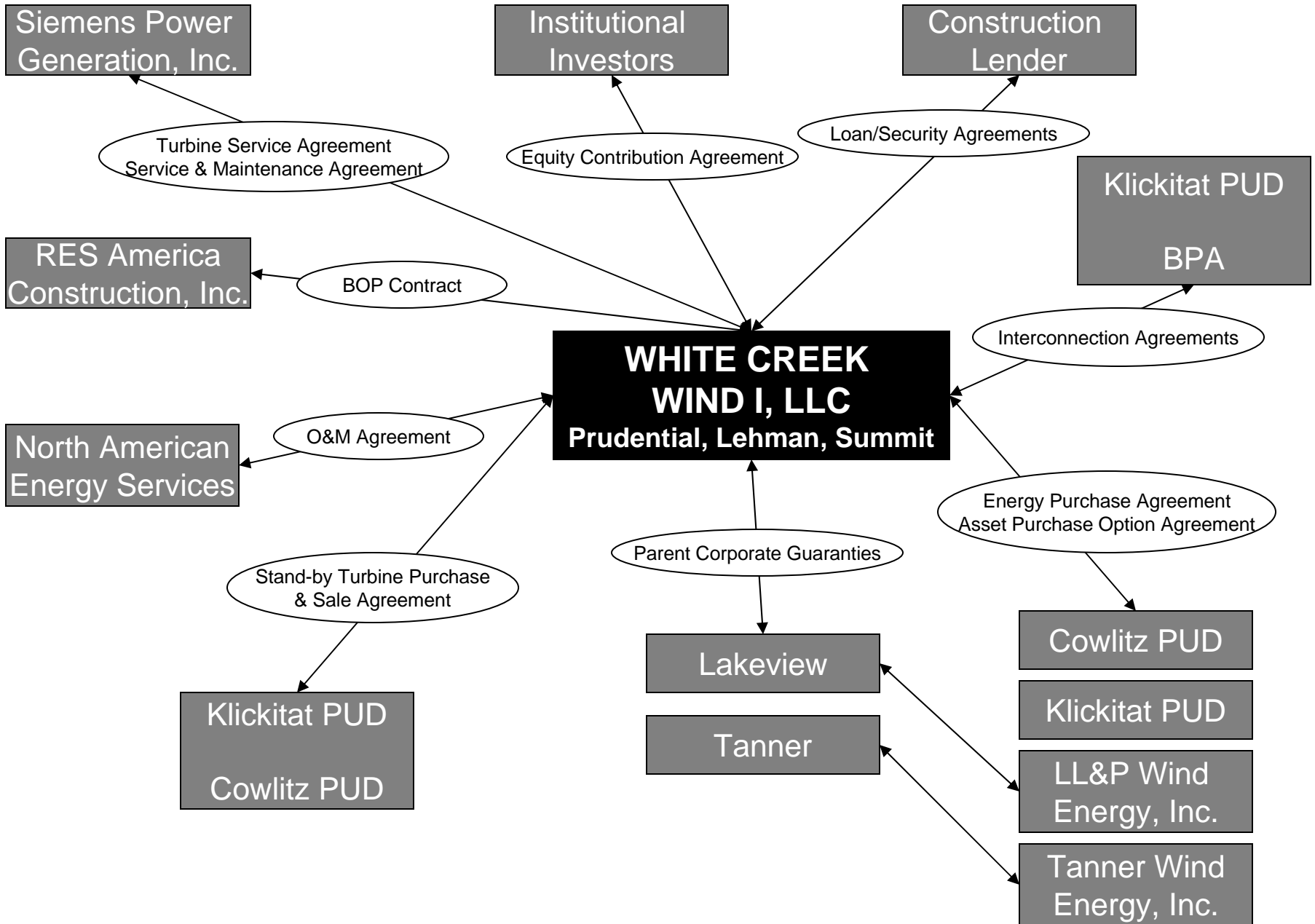
457 Contracts and related documents at closing



Development Process

Corporate and financial complexity was a significant challenge

- Structural: PUDs and Co-Ops with statutory limitations
- Financial: Utility balance sheets, debt structure and rating, bonding capability, project output to load vs. resale
- Management
 - Utility General Managers
 - Boards of Commissioners
 - Law Firms
 - Financial Advisors





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