South Deuel Wind Project

SDPUC Public Input Hearing Presentation

Invenergy

August 22, 2024
Clear Lake Community Center

World's Leading Privately Held Clean Energy Company

Wind
118 projects
19,274 megawatts

Solar
52 projects
6,689 megawatts

Storage
21 projects
1,817 megawatt hours
556 megawatts

Offshore Wind
2 projects
4,000+ megawatts in development

Transmission
4 projects
4,100+ miles of transmission & collection lines developed

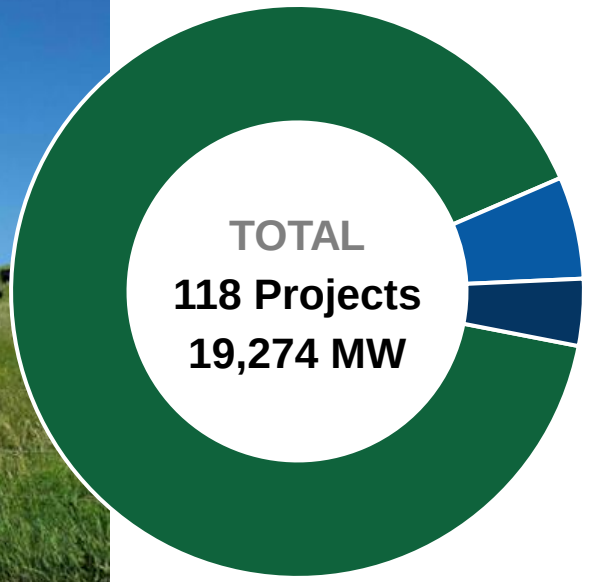
Clean Hydrogen
1 pilot project in construction
40 metric tons will be produced annually

Clean Water
9 water treatment facilities used at our project sites
18 million gallons per day of raw water capacity

Natural Gas
13 projects
6,071 megawatts

Invenergy

Invenergy Wind Portfolio



IN OPERATION
108 Projects; 16,894 MW

IN CONSTRUCTION
6 Projects; 1,676 MW

CONTRACTED
4 Projects; 704 MW

Invenergy

South Deuel Wind Project History

2015-2017
- Began conversations with Deuel County community.
- Began leasing land in Deuel County.
- Began environmental and engineering studies.

2018-2019
- Deuel County CUPs approved for North Deuel and South Deuel.
- North Deuel Wind Farm PUC permit approved.
- Construction of North Deuel Wind Farm begins fall 2019.

2021
- 300 MW North Deuel Wind Farm becomes operational.
- Resume leasing land for South Deuel Wind Project.

2022
- Invenergy hosted stakeholder feedback meetings to identify opportunities for improvement in Clear Lake.
- Received approval for two temporary meteorological (MET) towers.

2023
- Completed leasing land.
- Two MET towers installed.
- South Deuel Wind CUP permit approved.

2024
- Completed engineering and environmental studies.
- Submitted PUC permit application.

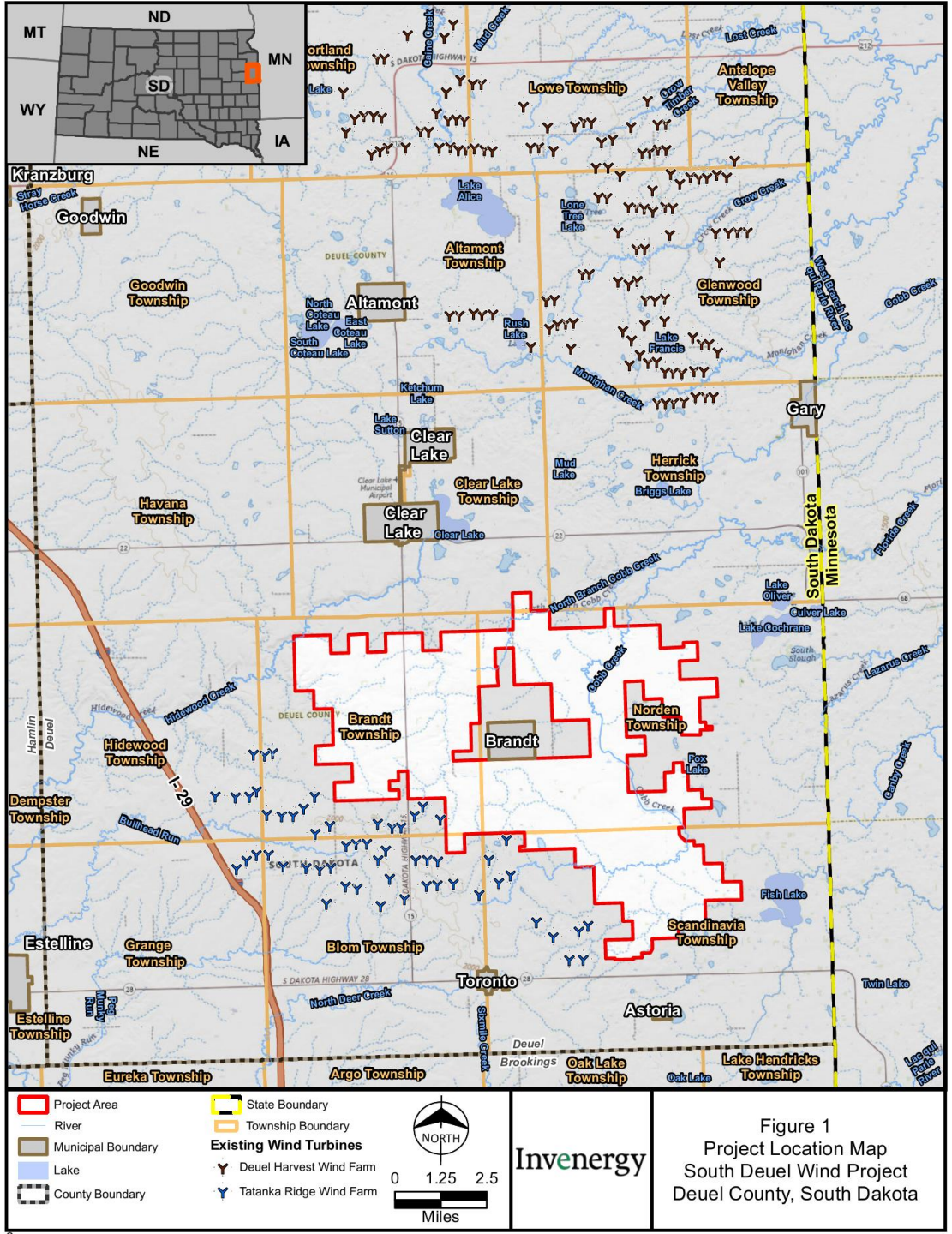
Invenergy

Project Area

Approximately 5 miles south of the operational North Deuel Wind Farm, located in the townships of Blom, Brandt, Clear Lake, Norden, and Scandinavia in Deuel County.

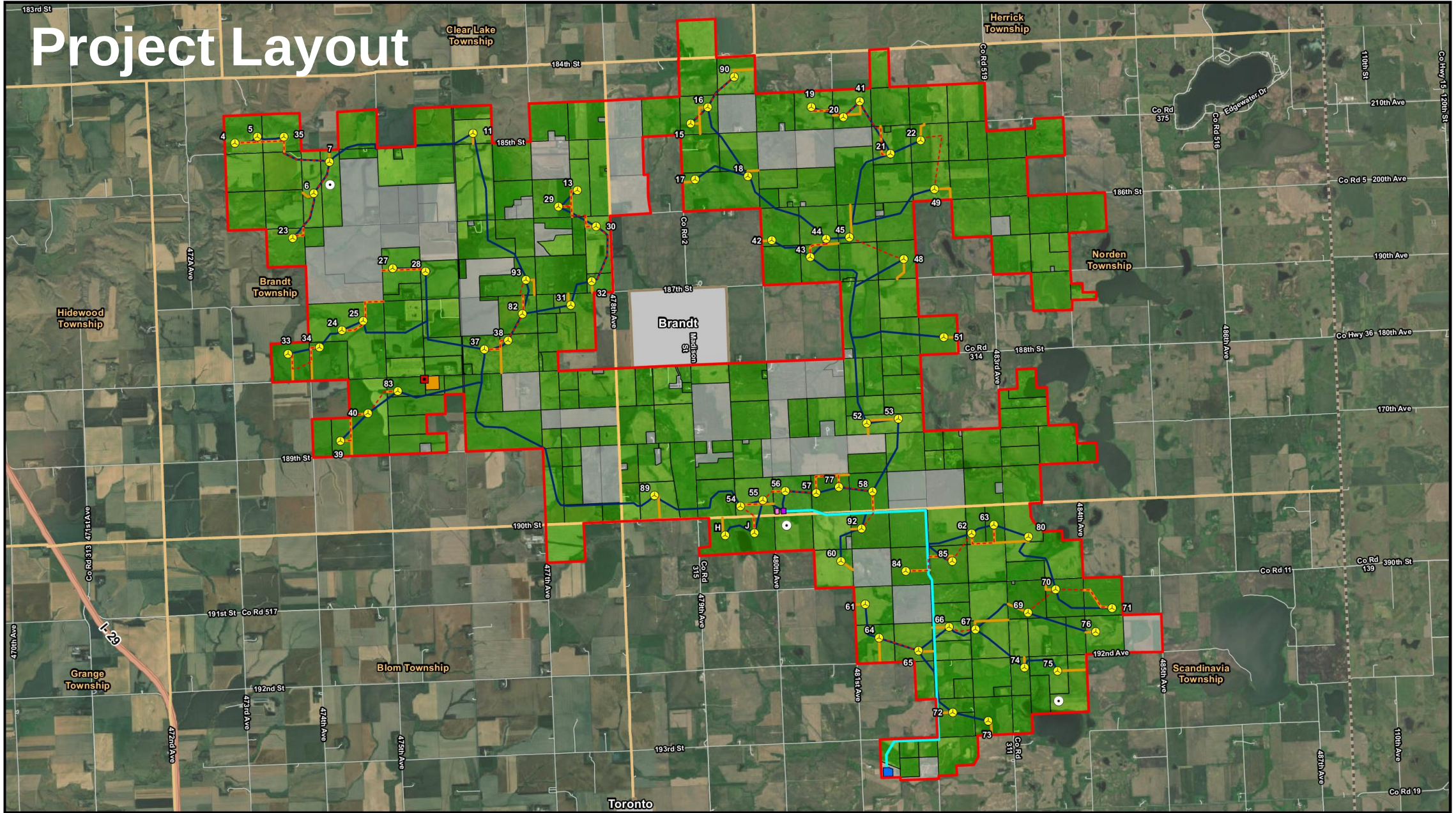
Land Description	Acres
Project Area Total Acres	48,730
Privately-Owned Acres Voluntarily Leased	29,258
Acres Permanently Impacted During Operations	51 (0.1% of Project Area)

*Acres are approximate.



Invenergy

Project Layout



- Turbine Location
- Meteorological Tower
- Aircraft Detection Lighting System Tower
- General Construction Laydown Yard
- Collector Substation
- O&M Facility
- Interconnection Switchyard
- Access Road
- Electrical Collection and SCADA Systems
- Crane Path
- Gen-Tie Line
- Project Area
- Municipal Boundary
- County Boundary
- Township Boundary

Land Status

- Participating
- Not Participating

1 2 3 4

NORTH

0 0.75 1.5

Miles

Invenergy

Figure 2
Project Layout Map
South Deuel Wind Project
Deuel County, South Dakota

Due Diligence

Studies, Surveys, Reports, & Analysis	
Site Characterization Study	Microwave Study
Breeding Bird Survey	AM and FM Radio Report
Tier 3 Avian Use Survey (YR 1)	Communication Tower Study
Tier 3 Avian Use Survey (YR 2)	Radar and Navigational Aid Screening Study
Tier 3 Avian Use Survey (YR 3)	Obstruction Evaluation and Airspace Analysis
Raptor Nest Survey	Noise Analysis
Bald Eagle Nest Monitoring	Shadow Flicker Analysis
Bat Acoustic Survey	Hydrology Study
Bat Mist Netting	Economic Impact Analysis
Wetland Delineations	Market Impact Analysis
Grassland Assessment	Cultural Resources Survey (Level III)
Northern Long-Eared Bat Habitat Assessment	Historic-Age Resource Survey
Protected Butterfly Habitat Assessment	ALTA

Environmental

Constructability

Other

Invenergy

Deuel County Wind Energy System Setbacks

Feature	Setback
Non-participating residences	4x tip height
Participating residences	1500 feet
Public right-of-way	1.1x tip height
Non-participating property lines	1.1x tip height
Lake Cochrane Lake Park District	3 miles & 1000 feet from high-water line
Altamont, Astoria, Brandt, and Goodwin nearest residences	1 mile
Gary, Toronto, and Clear Lake city limits	1.5 miles

Invenergy

Project Design

- Turbines will be illuminated as required by FAA regulations. South Deuel Wind will also employ an Aircraft Detection Lighting System, subject to availability and FAA approval.
- The Project will not exceed 45 dBA at the perimeter of existing non-participating residences.
- The Project will not exceed 50 dBA at the perimeter of existing participating residences.
- The Project will not exceed 30 hours of shadow flicker per year at any residence.

Turbine Models and Specifications

Turbine Model	Nameplate Capacity (MW)	Hub Height		Rotor Diameter		Tip Height	
		Feet	Meters	Feet	Meters	Feet	Meters
General Electric 3.8-154	3.8	322	98	505	154	574	175
Siemens Gamesa 4.4-164	4.4	320	97.5	538	164	589	180
Vestas 163-4.5	4.5	322	98	535	163	589	180

Invenergy

Project Summary

Project Summary	
Capacity	Up to 260 Megawatts (MW)
Turbines	Up to 68 turbines, 3.8 to 4.5 MW/turbine
Associated Infrastructure	Access roads, underground collector circuits, underground fiber optic cables
Other Facilities	Operations and maintenance facility, collector substation, meteorological towers, Aircraft Detection Lighting System towers, construction laydown yard
Transmission Gen Tie	Approximately 6-mile-long 345 kilovolt transmission line connecting the collector substation to the Astoria Substation
Schedule	Construction start: Q3 2025 Commercial operations date: Q4 2026

Turbines

Invenergy

Associated Infrastructure

Permanent access road will be approximately 16 feet wide.

Underground collector circuit and fiber optic cable installation.

Invenergy

Other Facilities

Construction laydown yard

Operations & Maintenance Building (North Deuel Wind Farm).

Typical ADLS tower

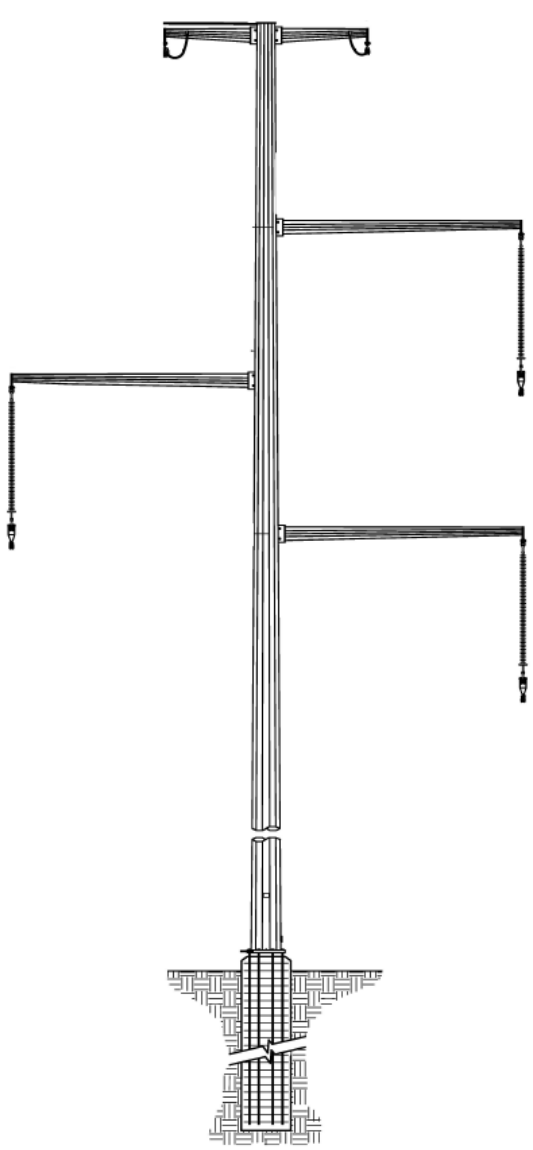
Collector substation

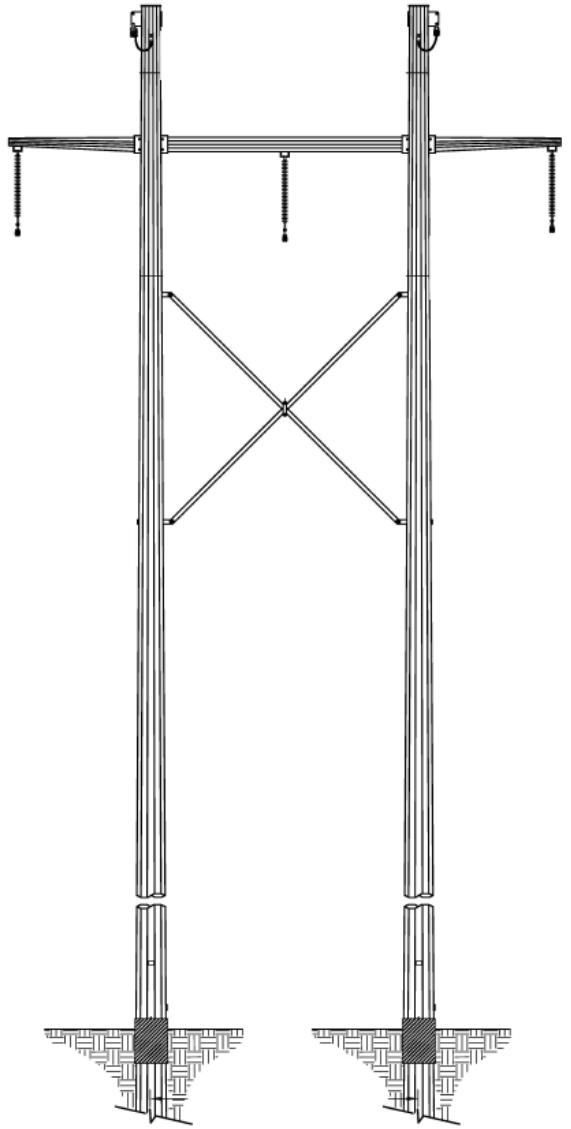
Invenergy

Transmission Gen-Tie

345kV line

Approximately 100-150 foot right of way width along a 6-mile route from the collector substation to the Astoria substation.



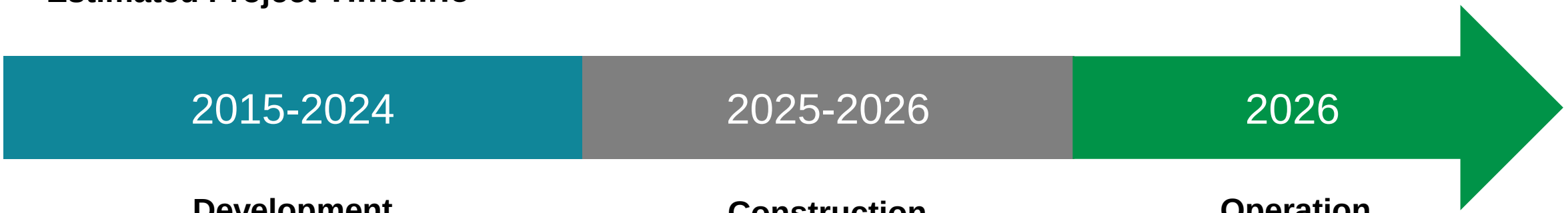


Invenergy

These drawings are preliminary and conceptual. Issued for informational purposes only.

Schedule

Estimated Project Timeline



Development

Land leasing
MET installation
Environmental studies
Engineering studies/surveys
County and State permitting
Public feedback
Finalize layout

Construction

Necessary construction permits to be obtained as needed.
Notification provided ahead of construction start.
~12-18 months

Operation

25-year initial term with an additional 25-year option

Invenergy

Community Engagement

2024 Crystal Springs Rodeo. Invenergy has been an annual sponsor since 2017.

2023 Invenergy Deuel High School Scholarship recipients.

2024 Invenergy Deuel High School Scholarship recipients.

To date, Invenergy has contributed $120k to the Invenergy Deuel School Scholarship and intends to continue contributions throughout the life of the projects.

Invenergy

Community Opportunities

- Approximately 243 jobs during construction.
- Approximately 8 full-time local jobs during operations.
- Continued local involvement, sponsorships, and support of the community.

Construction crew on site.

- A $25,000 annual scholarship provided to the school districts home to the project, funded by Invenergy (in addition to annual generation tax payments made to the school).
- Revenue to landowners and tax revenue to Deuel County, townships, school districts, and the State of South Dakota.

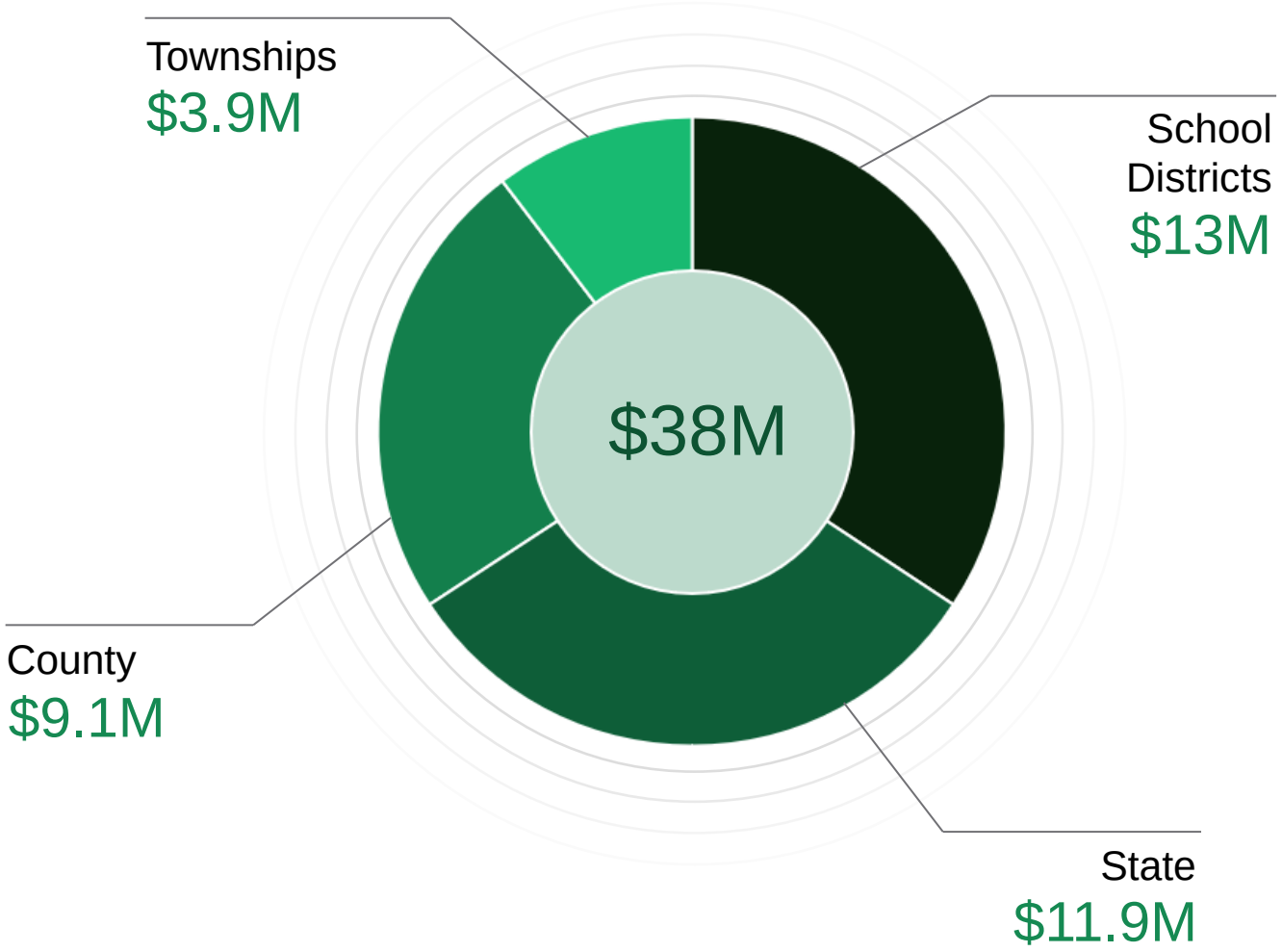
Invenergy

Community Benefits

Over the anticipated 30-year operational life of the Project, South Deuel Wind is anticipated to generate millions in direct economic benefits including approximately **$78 million in lease payments** to Deuel County landowners and **$38 million in property taxes**, **totaling over $116 million**.

All dollar amounts are approximate.

Property Tax Distributions



Invenergy

Conclusion

This is an exciting time for South Deuel Wind!

South Dakota is a great host for the South Deuel Wind Project and the Project will provide significant benefits to the community.

Thank you to our landowners and project participants that came out this evening to support!

We have spent the last few years leasing, studying, and engineering a project that complies with all WES requirements stated in the Deuel County Zoning Ordinance. We received Deuel County's CUP approval in 2023.

We ask the South Dakota Public Utilities Commission to approve South Deuel Wind's application for Energy Facility Permits.

Invenergy

Invenergy Development Team

Monica Monterrosa
Director, Renewable Development
mmonterrosa@invenergy.com
312-638-8499

Michael Iacopetti
Associate, Renewable Development
miacopetti@invenergy.com
708-523-0049

Invenergy

Invenergy

Innovators building a sustainable world.

Join us.