

Cooperative Power Supply System



**BASIN ELECTRIC
POWER COOPERATIVE**

A Touchstone Energy® Cooperative 

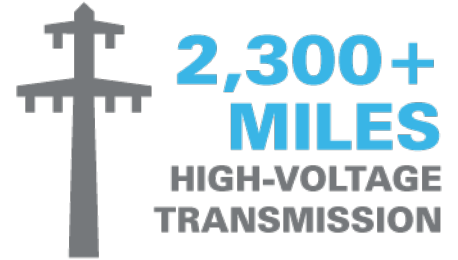


Vision™
WEST ND

April 20, 2017



\$6.1 BILLION
IN TOTAL
ASSETS



SERVING
3 MILLION



MEMBER OWNED

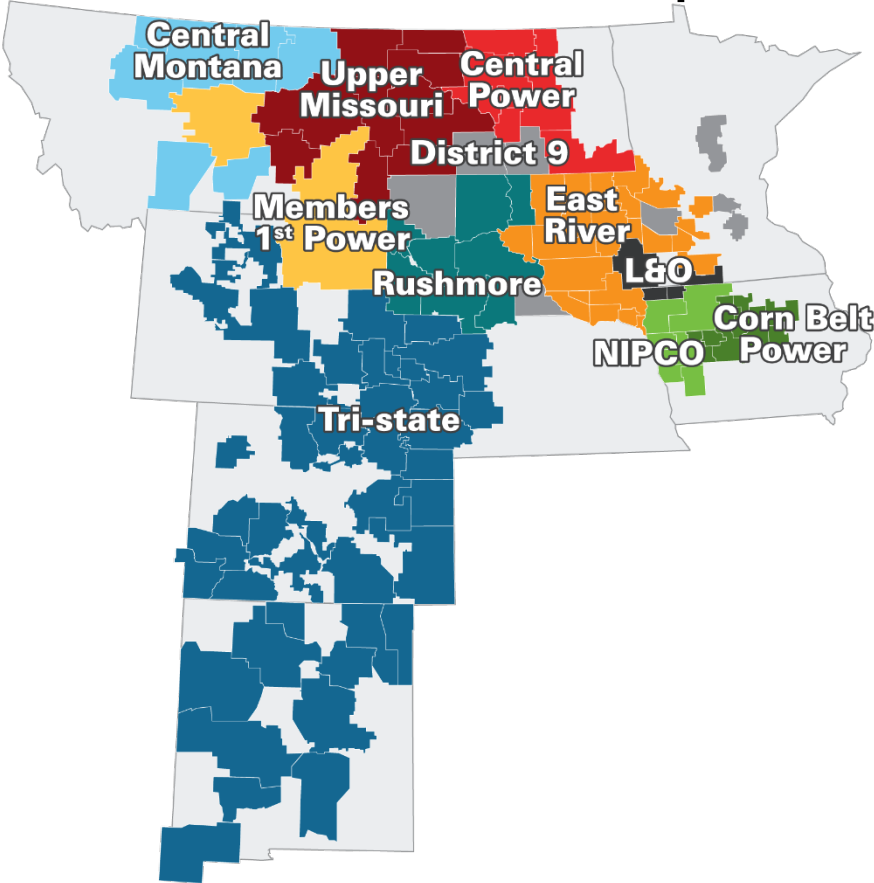


Cooperative Difference

- Basin Electric exists because of and solely for its member cooperatives
 - We provide reliable, at-cost electric service
 - We are owned by the consumers we serve
 - We are governed by a board of directors elected from the membership
- Cooperative business model provides financial strength and stability in uncertain times



Membership



Grassroots Control

Rural Electric Consumers

Director

- Distribution Cooperative (Class C)

Director

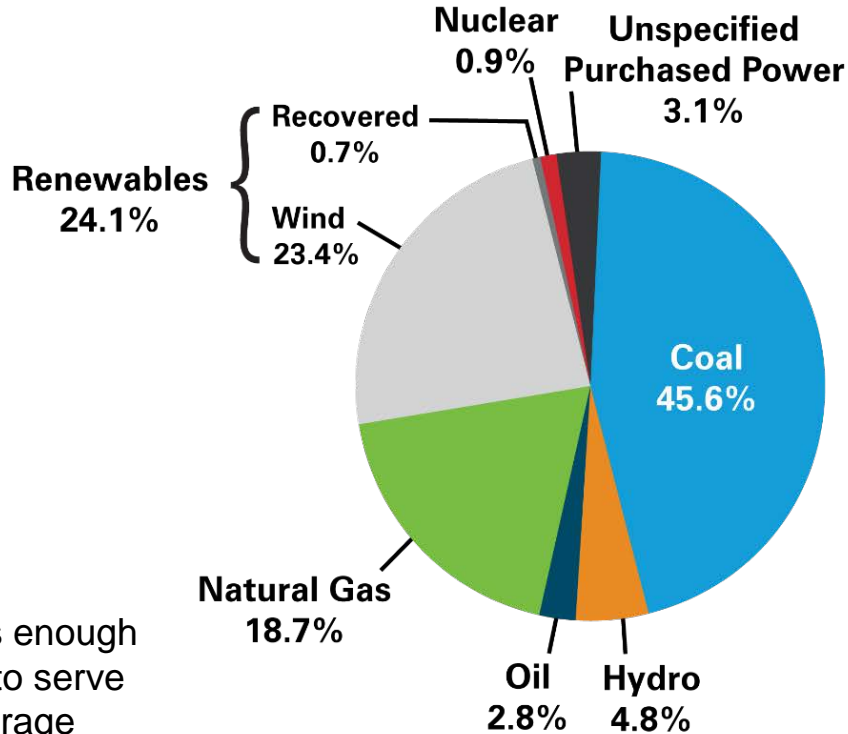
- Intermediate Power Supply Cooperative (Class A)

Director

- Basin Electric Power Cooperative (G&T)



Generation Portfolio



Maximum winter capacity in MW

- Coal-based – 2,991
- Hydro – 316
- Oil – 181
- Natural gas – 1,228
- Wind – 1,533
- Recovered – 44
- Nuclear – 62
- Unspecified Purchased Power – 200

TOTAL = 6,555 MW
2016 EOY

1 MW is enough energy to serve 800 average homes for an hour

Coal-fired Baseload Power Plants



Leland Olds Station
Stanton, ND



Laramie River Station
Wheatland, WY



Antelope Valley Station
Beulah, ND



Dry Fork Station
Gillette, WY

Intermediate Power Plant

- Deer Creek Station
 - Elkton, SD (near Brookings)
 - 300-megawatt natural gas-fired combined-cycle unit



Peaking Power Plants



Spirit Mound Station
Vermillion, SD



Groton Generation Station
Groton, SD



Culbertson Generation Station
Culbertson, MT



WY Distributed Generation
Gillette, WY



Wisdom Station Unit 2
Spencer, IA



Pioneer Generation Station
Williston, ND



Lonesome Creek Station
Watford City, ND

Green Generation



- 1,576 megawatts
 - 1,532 megawatts of wind generation
 - 44 megawatts of recovered energy generation
- Cooperative-owned wind
 - Minot, ND - 82 turbines, 122.6 MW
 - White Lake, SD - 100 turbines, 150 MW

Cooperative Wind Performance

- Capacity factor: Ratio of actual output to potential output
- Availability: Available to generate when called upon
- North Dakota
 - 46% capacity factor
 - 97% availability
- South Dakota
 - 48% capacity factor
 - 97% availability
- U.S. industry average
 - 34% capacity factor





**DAKOTA
GASIFICATION
COMPANY**
A BASIN ELECTRIC POWER
COOPERATIVE SUBSIDIARY

Dakota Gasification Company

- For-profit subsidiary formed in 1988
- Owns and operates the Great Plains Synfuels Plant
- Produces synthetic natural gas from lignite coal
- Valuable products:
CO₂, anhydrous ammonia, DakSul 45, cresylic acid, phenol, krypton-xenon, liquid nitrogen, tar oil, DEF, urea
- Captures CO₂ and sends it via pipeline to Canada for enhanced oil recovery. World's largest CO₂ sequestration project.



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Urea Project

Capacity	1,100 tons of granular urea daily; 53,000 tons of on-site storage
	1.1MM gallon storage for diesel exhaust fluid (DEF)
Feedstock	Anhydrous ammonia & CO ₂
Products manufactured	Urea, DEF & liquefied CO ₂
Workforce peak	~700 construction workers (2017)
Project budget	\$740 million



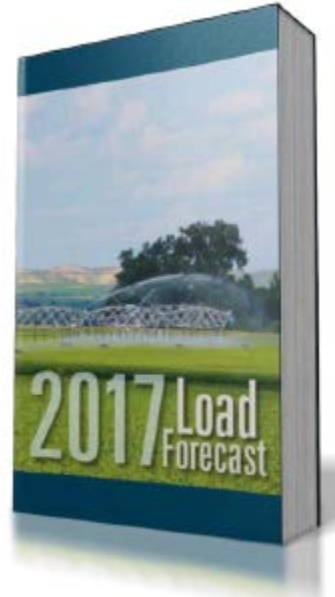
Serving a Growing Membership



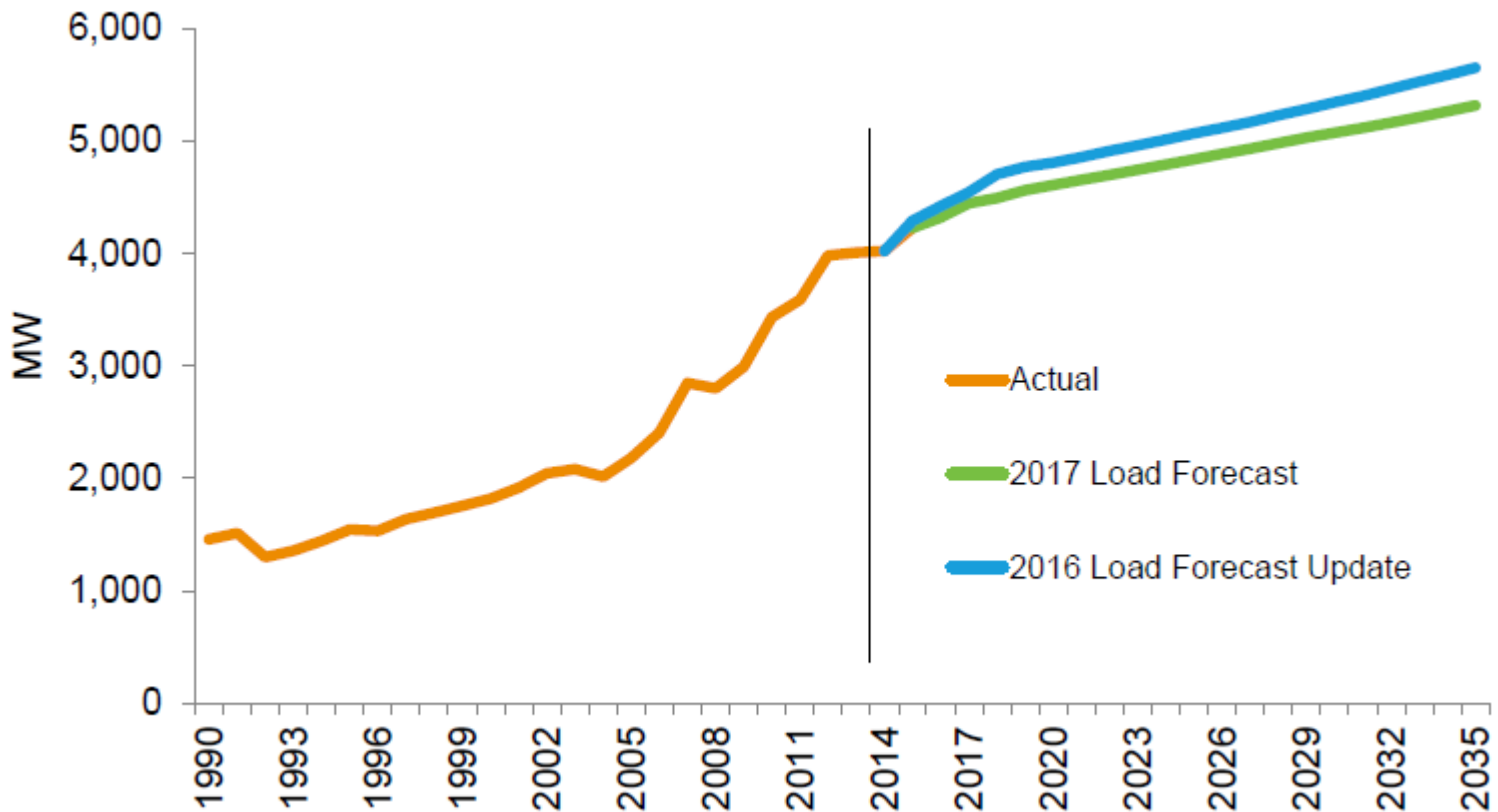
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2017 Load Forecast

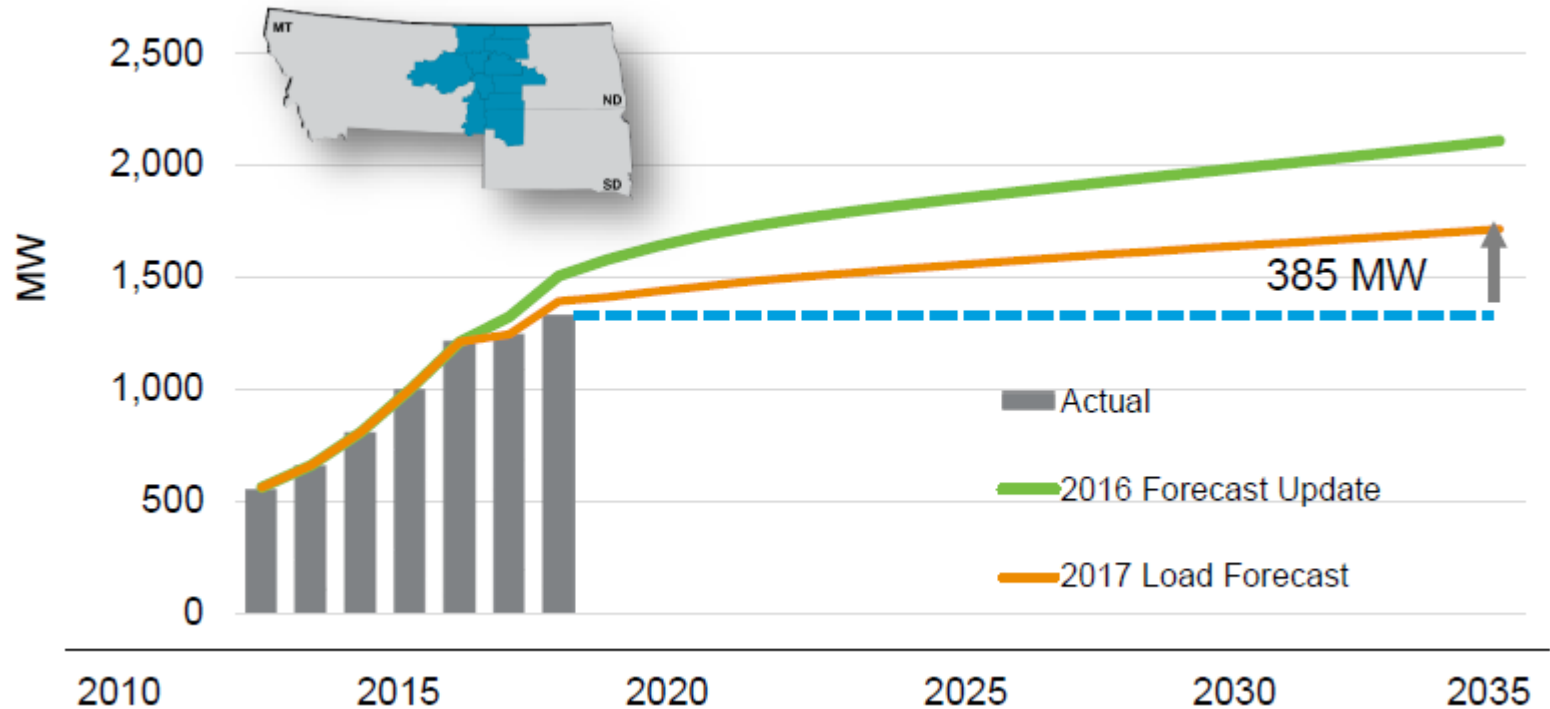
- Completed in January 2017
- National economy continues to improve
 - Employment picture is improving
 - GDP increasing, especially in manufacturing & services
 - Consumer spending is increasing



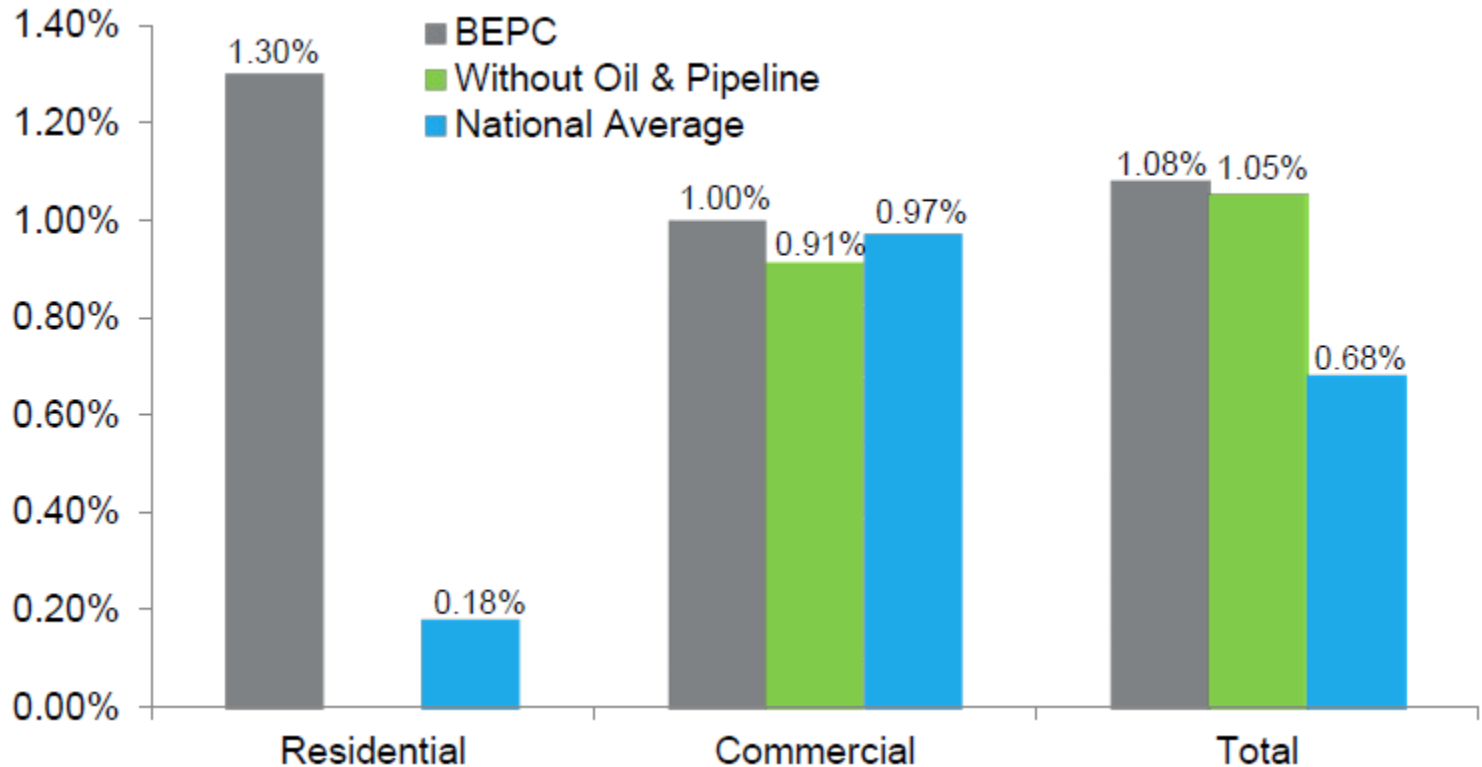
Total Member Summer Peak Demand



Total BEPC Williston Basin Load Growth

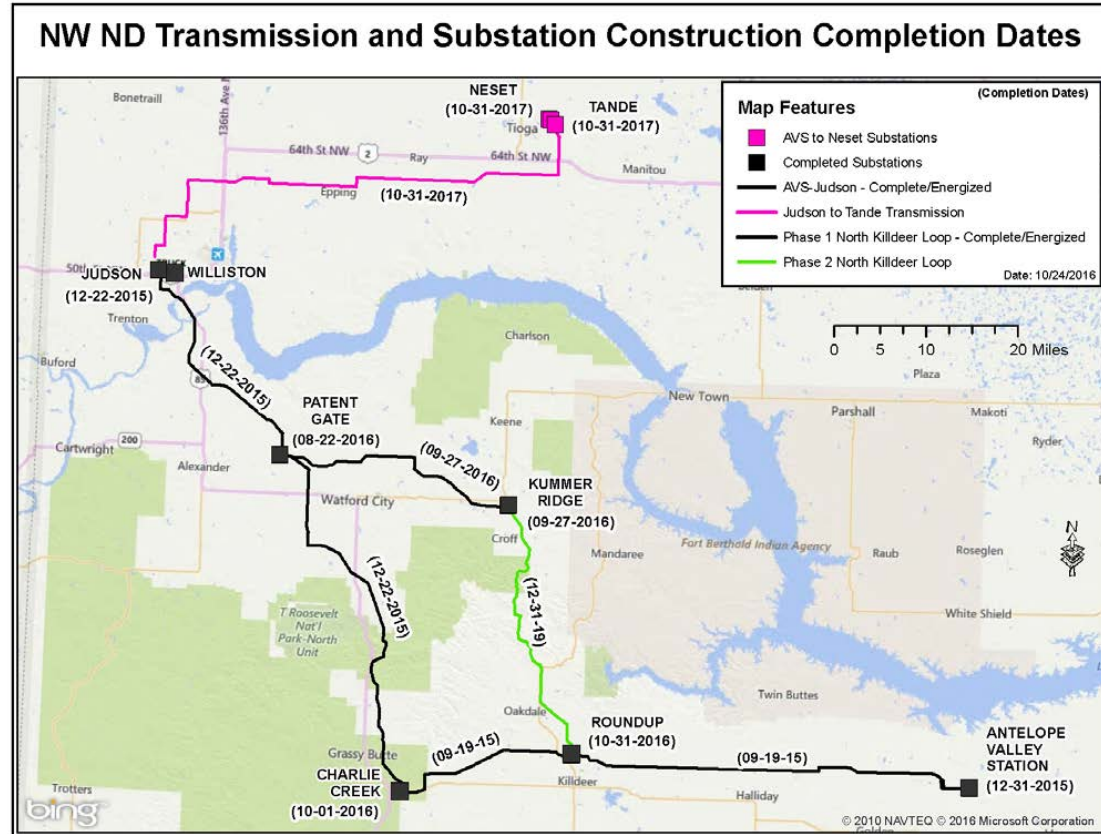


Load Growth Comparison to National Average

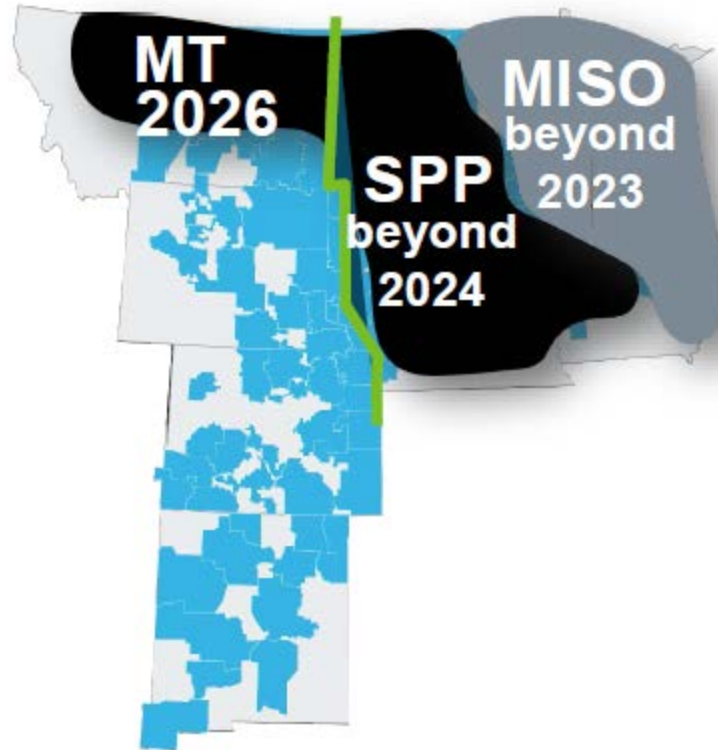


Planned Resources

- Antelope Valley Station-to-Neset 345-kV line
 - 190 miles, 2017 completion
- Roundup-to-Patent Gate 345-kV line
 - 2019 completion
- New units at Pioneer and Lonesome Creek Stations



Currently Expected New Resource Timing

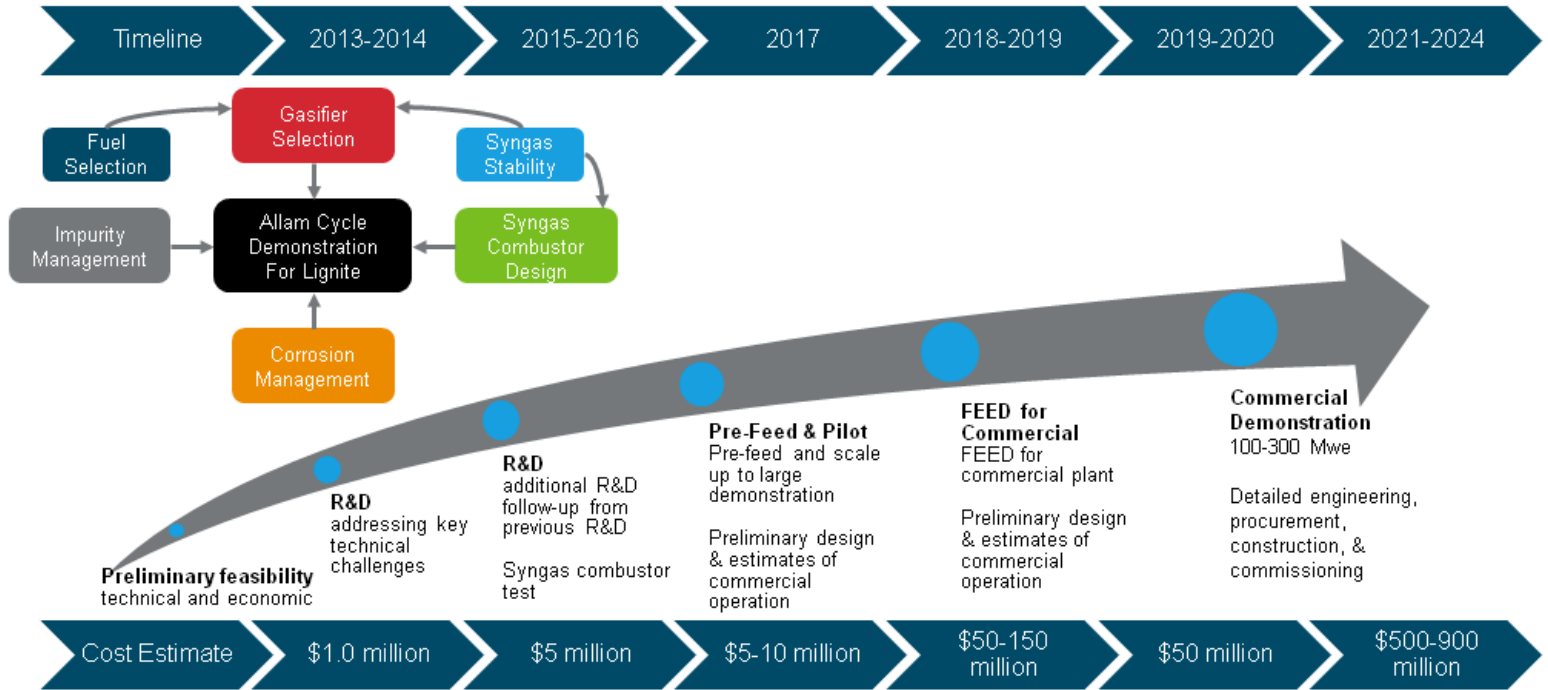


Innovating our Energy Future



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Allam Cycle



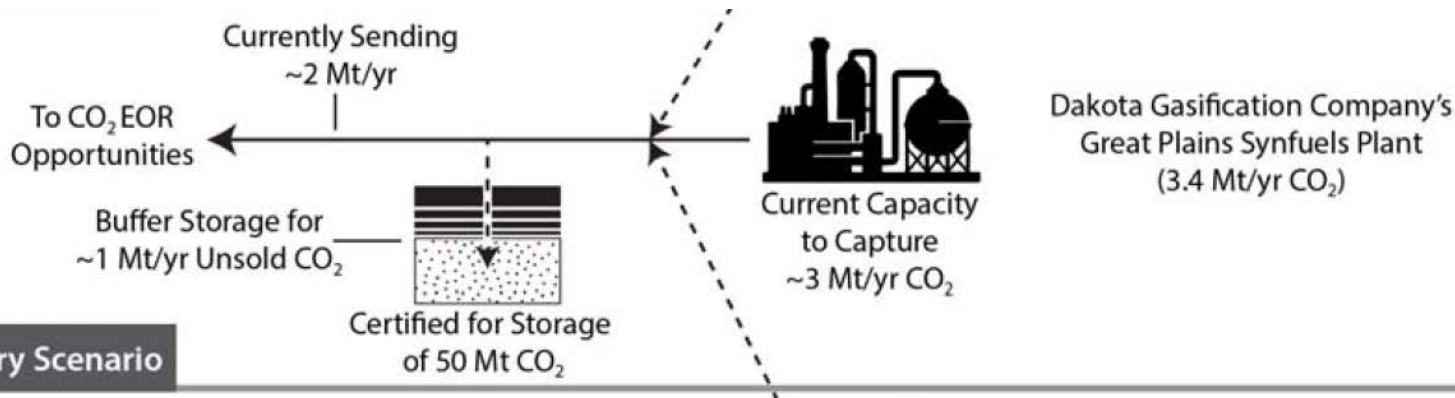
Integrated Test Center

- Integrated Test Center at Dry Fork Station
 - Opportunities to test CO2 capture & uses
- XPRIZE Foundation first tenants
 - \$20 million in prizes to foster global innovation in carbon technology



CarbonSAFE Project

- Two deep test wells, one each in Oliver & Mercer Counties to better understand geology for underground storage of carbon
- \$14-million, 2 years
 - Funding from DOE & ND Industrial Commission
- UND's EERC managing project
- Basin Electric one of project partners



Clean Power Plan

- Obama Administration's rules for carbon regulations on existing coal-based power plants
 - Basin Electric opposed due to burdensome costs & timeline, reliability impacts
- Timeline
 - Aug. 3, 2015, the EPA released CPP
 - Feb. 9, 2016, Supreme Court granted Basin Electric & other petitioners' Motion to Stay the CPP
 - March 28, 2017, Trump signed executive order directing EPA to review CPP & established process to repeal/revise the rule.
- Our plan
 - Take a long-term, multi-faceted approach
 - Support and enhance the legal opposition
 - Slow, modify or reverse the rule



Community Outreach



**BASIN ELECTRIC
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Day Care

- Innovating solutions to critical issues facing our families & communities
- Energy Capital Cooperative Child Care
 - Incorporated by 8 area employers as a **nonprofit** to own & operate child care facilities in Mercer Co.
 - Cooperative governance structure
 - Child care CENTER license with capacity of up to 80 children
 - Dana Santini, program director with 20+ years experience
 - energycapital@westriv.com or 748-3838
 - www.energycapitalcooperative.com and on Facebook



Day Care Partners

- Basin Electric/DGC \$50,000 (one-time)
- Coteau Properties \$10,000 (up to five years)
- Coyote Creek \$5,000 (up to five years)
- Union State Bank \$35,000 (over 3 years)
- Sakakawea Medical Center \$10,000 (one-time)
- Coal Country Community Health Center \$10,000 (one-time)
- Coyote Station \$15,000 (over 3 years)
- Knife River Care Center \$15,000 (over 3 years)
- Hazen Public Schools Valuable in-kind support



A project made possible with critical assistance from Rural Finance Development Corporation (administered by the North Dakota Association of Rural Electric Cooperatives)



EMPOWER YOUTH

GROWING COOPERATIVE LEADERS

We're on a mission to empower tomorrow's leaders, and we need your help.

We are seeking **volunteers** to join us in guiding high school students on a journey of self-discovery and leadership development called the **Empower Youth** program. The program aims to nurture the **leadership potential** in high school students and ready them for the rest of their lives – lives based on the **cooperative mindset** of selflessness and a commitment to bettering the world around them. Volunteers can be co-op employees, co-op retirees, teachers, civic-minded citizens – anyone who's interested in helping shape our future leaders.

Sound like it's for you?

For more information or to volunteer, contact Kristie Ching, program director, at 605.542.7416 or kching@bepc.com.



A Basin Electric supported opportunity for distribution cooperatives in ND, SD and WY to educate their youth about cooperative principles, the importance of their REC and the importance of being an engaged cooperative member and community leader. This program will also offer an opportunity for students to learn about careers in the cooperative utility industry.

