



# **City of Grand Island**

**Tuesday, May 19, 2015**

**Study Session**

## **Item -2**

### **Presentation on Proposed Wind Energy Project**

**Staff Contact: Tim Luchsinger, Utilities Director**

# **Council Agenda Memo**

**From:** Timothy Luchsinger, Utilities Director

**Meeting:** May 19, 2015

**Subject:** Proposed Wind Energy Project

**Item #'s:** 2

**Presenter(s):** Timothy Luchsinger, Utilities Director

## **Background**

State statute requires that public utilities in Nebraska provide its customers with adequate electric service at as low of an overall cost as possible, consistent with sound business practices. To do so, public utilities must look at long-term, in addition to immediate, issues in an overall context. The Utilities Department has taken an approach in its energy supply strategy to incorporate multiple facilities using a blend of fuel sources. This allows flexibility in managing costs that can occur because of market conditions due to industry issues or environmental concerns. Energy supply planning must also take into account the long timeframes that are common in electric generation development, therefore, utilities plan for conditions projected at least five to ten years in the future, sometimes even longer.

Traditional energy sources in Nebraska have been based on coal because of the close proximity of mines in Wyoming and a robust railroad system through this area. These have been supplemented with hydro, natural gas and nuclear facilities, resulting in low cost power to Nebraska customers.

Due to developing environmental concerns, the State's utilities have been developing facilities with renewable energy sources, primarily wind generation because of its potential compared to solar or biofuels. Grand Island has participated in some of these projects on a minor basis to learn more of the details of wind generation costs and operational issues. At this time, wind supplies a little over one percent of the City's energy requirements and has resulted in a cost impact to electric rates of less than one percent.

On May 8, 2012 Council approved a resolution to direct the Utilities Department to evaluate potential renewable energy projects and provide to Council recommendations for participation as needed to maintain a balanced energy portfolio.

## **Discussion**

On March 24, 2015 Council approved execution of a Non-Disclosure Agreement with Invenergy to begin discussions regarding a wind energy project, and on April 28, 2015 approved execution of a Letter of Intent with Invenergy for a non-binding agreement to purchase wind energy. Since that date, City Administration and Department staff has held discussions with Invenergy regarding a Power Purchase Agreement (PPA) between the City and Invenergy's Prairie Breeze Wind Energy III Project. The discussions have resulted in a proposed plan for the City to consider execution of a PPA with Invenergy for the entire capacity of the Project with subsequent participation agreements between the City and the Nebraska City Utilities and the City of Neligh for minority positions in the Project.

## **Conclusion**

This item is presented to the City Council in a Study Session to allow for any questions to be answered and to create a greater understanding of the issue at hand. This information is scheduled to be presented during a hearing of the Nebraska Power Review Board on May 22, 2015 for the Project based on need and cost.

It is the intent of City Administration to bring consideration of approval of a Power Purchase Agreement to a future council meeting for the proposed Wind Energy Project.

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# **Proposed Wind Energy Project**

**City Council Study Session  
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## **Clean Air Act Section 111(d) Clean Power Plan**

- 🌍 Rule to be published later this year
- 🌍 Establishes greenhouse gas emission goals by state
- 🌍 State plans to be submitted to EPA by June, 2016 for achieving emission targets for 2020-2029 and 2030+

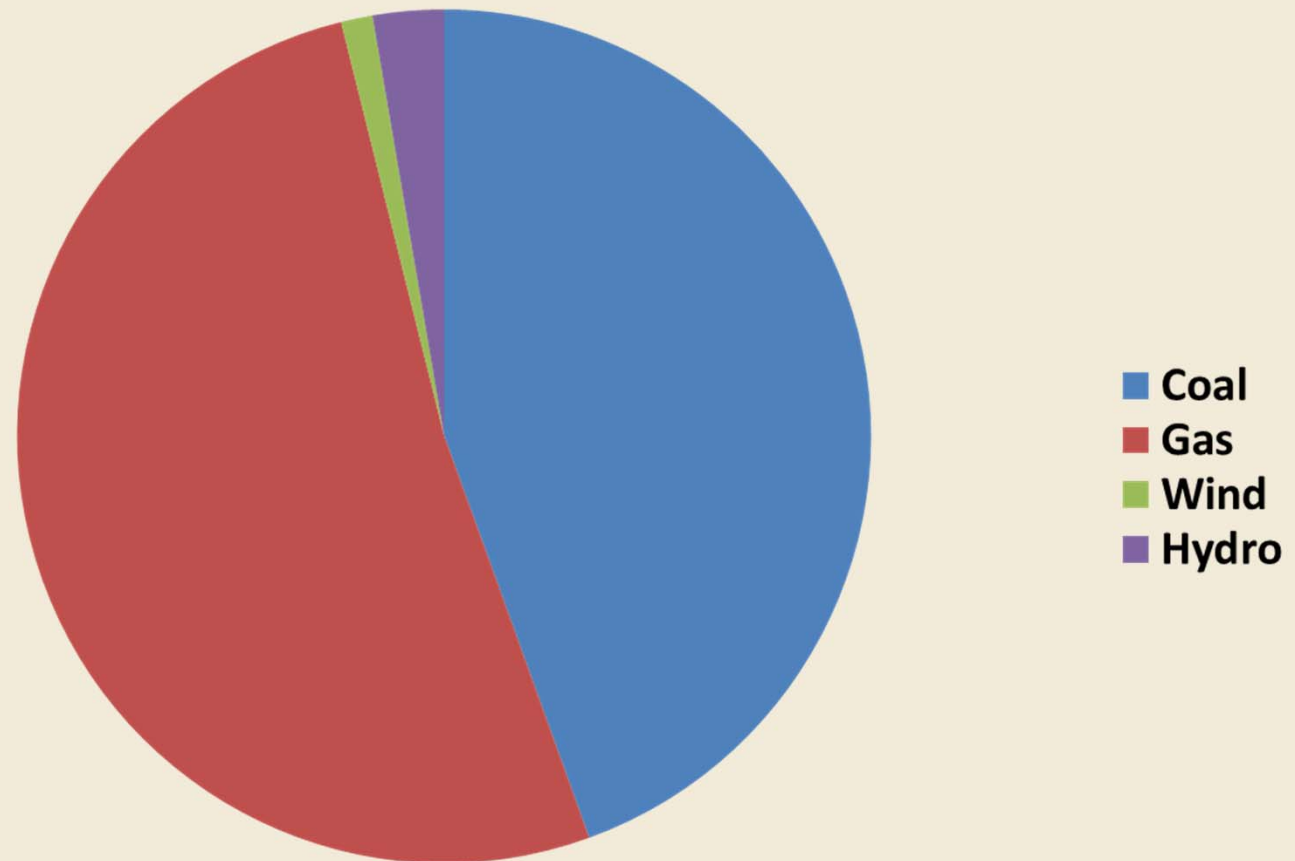
## **Clean Power Plan**

- ➊ Reduce greenhouse gas emissions through the following “building blocks”
  - ➋ Improve existing coal power plant efficiencies
  - ➌ Increase natural gas combined cycle generation
  - ➍ Increase use of renewable energy sources (Renewable Energy Credits)
  - ➎ Implementation of demand-side energy reduction programs

## Grand Island Wind Participation

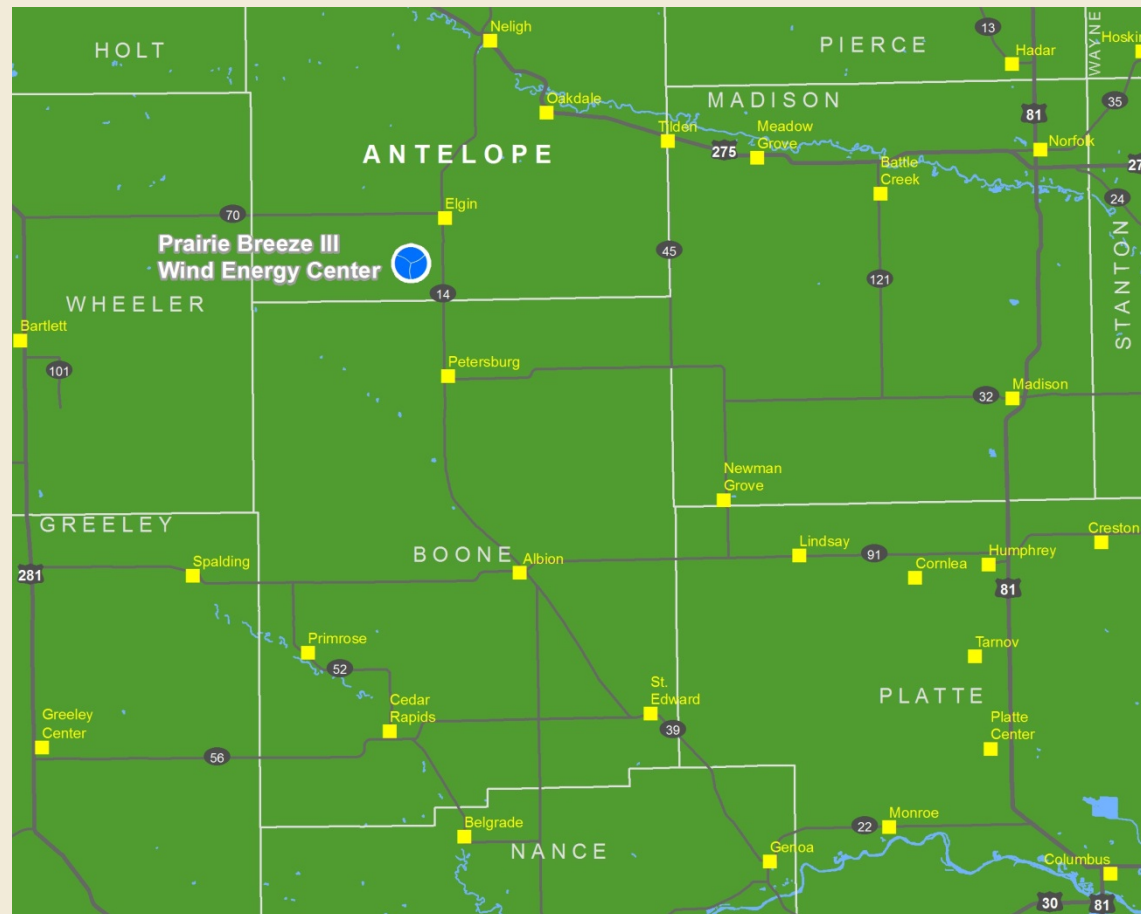
- 🌊 NPPD Power Purchase Agreements with GIUD participation agreements
  - 🌊 Ainsworth – 1 megawatt (MW)
  - 🌊 Elkhorn Ridge – 1 MW
  - 🌊 Laredo Ridge – 1 MW
  - 🌊 Broken Bow – 1 MW
  - 🌊 Springview 2 – minimal output – access to data

## Current Generation Source Ratio





## Prairie Breeze III



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## Prairie Breeze



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## Prairie Breeze



## **Power Purchase Agreement**

- Total project capacity agreement is 35.8 megawatts
- Agreement term is 25 years
- Commercial operation by 4<sup>th</sup> quarter 2016
- Firm energy cost with annual escalation
- Cost paid on energy produced, no upfront cost
- Power Purchase Agreement executed by GIUD and Invenergy

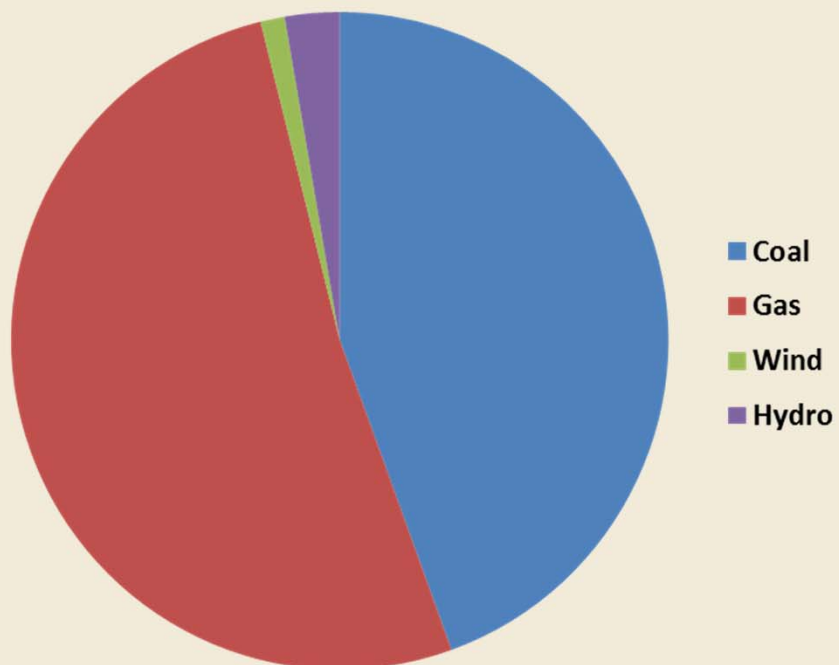


## **Participation Agreements**

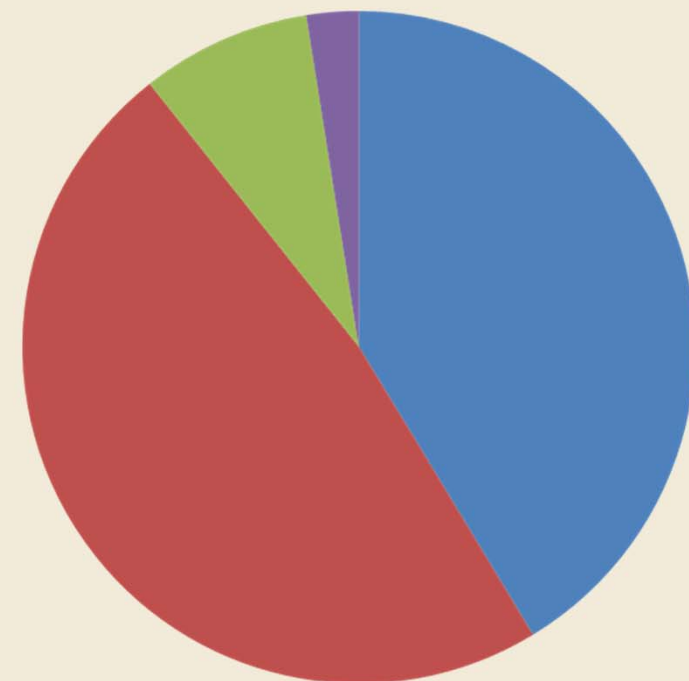
- 🌊 Participation Agreements executed by GIUD and participants
  - 🌊 Nebraska City Utilities – 7 megawatts
  - 🌊 City of Neligh – 2 megawatts
- 🌊 Energy allocation based on pro-rata share of actual generation
- 🌊 Scheduling and settlements by GIUD marketer (Tenaska) – costs shared on pro-rata basis

## Generation Source Ratio

**Current**



**w/Prairie Breeze**



## **Discussion / Questions**

