

STATE OF SOUTH DAKOTA
BEFORE THE
PUBLIC UTILITIES COMMISSION

In the matter of the Petition of Gevo Net-)
Zero 1, LLC to have Kingsbury Electric) Consolidated
Cooperative, Inc. Assigned as its Electric) Docket Nos. EL24-024
Provider in the Service Area of Otter Tail)
Power Company) and EL24-025

PRE-FILED DIRECT TESTIMONY
OF CHRISTOPHER RYAN
ON BEHALF OF GEVO NET-ZERO 1, LLC

October 11, 2014

1 **Q: Please state your name and business address for the record.**

2 **A:** Christopher Ryan. My business address is 345 Inverness Dr. S., Bldg. C, Suite 310,
3 Englewood, CO 80112.

4 **Q: Please state your title and responsibilities.**

5 **A:** I am the President and Chief Operating Officer of Gevo, Inc. (“Gevo Corp”) and Gevo
6 Net-Zero 1, LLC (“NZ1”). I am responsible for the execution of the Net-Zero 1 Project (the
7 “Project”). All the Project functions – engineering, finance, legal, government affairs, etc. – report
8 to me.

9 **Q: When did Gevo Corp form NZ1?**

10 **A:** Gevo Corp formed NZ1 as a limited liability company on August 9, 2021.

11 **Q: Can you please provide an overview of the Project?**

12 **A:** NZ1, a wholly-owned subsidiary of Gevo Corp, owns the Project. Gevo Corp serves
13 various renewable markets, including renewable premium gasoline, sustainable aviation fuel

14 (SAF), specialty oxygenate blend stocks, renewable diesel and material feedstocks. The Project
15 will produce, from No. 2 corn, SAF, corn oil, wet distillers grains, renewable diesel and renewable
16 naphtha.

17 **Q: Where is the Project going to be located?**

18 **A:** The Project will be constructed on 145 acres within 245 acres of property owned by NZ1
19 on US Highway 14 just outside of Lake Preston, South Dakota. Exhibit 1 of NZ1’s petition of
20 June 28, 2024 shows all 245 acres owned by NZ1 and NZ1’s petition includes the legal boundaries
21 for the entirety of the site. We reattach the exhibits showing the site and a draft site plan as Exhibits
22 CR-1 and CR-2 for convenience.

23 **Q: Are there any developments currently located on the project site?**

24 **A:** No. The project site is undeveloped.

25 **Q: Does NZ1 currently have electric demand at the project site?**

26 **A:** No.

27 **Q: Why did Gevo Corp select Lake Preston, South Dakota for the Project?**

28 **A:** Gevo Corp selected the Lake Preston site after an extensive site evaluation process. The
29 Lake Preston site is strategically located in a region of historically high-corn production, near
30 major rail networks, and offers the opportunity for CO₂ transportation to proximately located
31 sequestration locations in North Dakota. Further, the Lake Preston site is proximately located to
32 extensive wind energy resources. Finally, the Lake Preston community and the State of South
33 Dakota welcomed development of the Project.

34 **Q: Does NZ1 have a minimum of 2,000 kW of contracted demand from KEC?**

35 **A:** Yes, Section 2 of the Electric Service Agreement provides that KEC shall “sell and deliver”
36 to NZ1, and NZ1 “agrees to purchase and receive” from KEC, “all of the electrical power and

37 energy requirements” of NZ1. Further, Section 3(c) provides that the electric service shall be
38 “firm.” NZ1’s electric demand will be 40-45 MW at a 90% load factor.

39 **Q: Does the Electric Service Agreement include a “demand” or similar charge?**

40 **A:** Yes, KEC’s tariff under which the Project will take service includes a monthly demand
41 charge, based on the highest actual demand of NZ1 over the Project’s coincident peak.

42 **Q: Does Otter Tail Power Company currently have adequate power supply available at
43 the site?**

44 **A:** We do not believe so. Otter Tail does not currently have adequate power supply available
45 at the site. In our discussions with Otter Tail, they indicated that Otter Tail needed to construct new
46 facilities to support the NZ1 and associated electric demand. As the existing facilities are
47 inadequate to serve the load of this size, we do not believe wasteful duplication will occur, and
48 that certainly isn’t our intent.

49 **Q: Can you describe the developments and improvements to be undertaken by
50 Kingsbury Electric Cooperative to provide electric service to NZ1, the timing of such
51 improvements, and the economic factors relating thereto?**

52 **A:** In its direct testimony to be filed on or before November 1, KEC will provide a full
53 summary of the facilities that the cooperatives expect to build to serve the Project.

54 **Q: What is the proximity of adequate facilities from which electric service of the type
55 required may be delivered?**

56 **A:** Currently, there are not adequate facilities available to supply the NZ1 Facility with electric
57 service to meet its electric demand.

58 **Q: Does NZ1 contemplate that NZ1 will own and operate facilities on the site in addition
59 to the Project?**

60 **A:** At present, NZ1 does not anticipate that it will own and operate facilities on the site other
61 than the Project. However, it is possible that NZ1 may own and operate additional infrastructure
62 on the site that is connected, incidental and/or appurtenant to, the Project. For example, NZ1 could
63 construct and own CO₂ liquefaction infrastructure on the site to support the sequestration of CO₂,
64 a byproduct of the ethanol production process.

65 **Q: Why does the Project require on-site hydrogen supply from Dakota Renewable**
66 **Hydrogen, LLC?**

67 **A:** Hydrogen is a necessary raw material used in the final step of SAF production. Shipping
68 hydrogen is generally higher cost and less reliable than on-site hydrogen production. Therefore,
69 on-site production is the preferred route to obtain hydrogen. Moreover, NZ1’s competitive
70 advantage will be the production of low-cost, low-carbon intensity SAF. Hydrogen production
71 through electrolysis has a lower carbon footprint than hydrogen production through the conversion
72 of natural gas via steam methane reformation. NZ1’s hydrogenation process requires a steady
73 supply of hydrogen.

74 **Q: Why does the Project require directly connected wind power from Kingsbury County**
75 **Wind Fuel, LLC (“KCWF”)?**

76 **A:** The State of California Low Carbon Fuel Standard (“LCFS”) is an important economic
77 assumption for the production and sale of sustainable aviation fuel and the non-recourse financing
78 of the Project. The Project generates monetizable credits under the LCFS program. LCFS requires
79 a direct connection between the generation and consumption of electricity. NZ1 assumes that the
80 LCFS credits may provide up to *[TRADE SECRET/CONFIDENTIAL INFORMATION*
81 *BEGINS]* \$** *[TRADE SECRET/CONFIDENTIAL INFORMATION ENDS]* per gallon of
82 SAF sold into California. There are additional low carbon fuel markets in development in the US

83 and Canada and around the world. These markets are also to likely require directly connected
84 renewable power as part of their credit standards.

85 **Q: Does NZ1 have a contract with KCWF to purchase electricity from it?**

86 A: No. The Project will be a retail electric service customer of KEC.

87 **Q: Why does the Project desire to obtain electric service from Kingsbury Electric
88 Cooperative Inc. (“KEC”)?**

89 A: KEC’s actions demonstrated its clear intent to develop and maintain a collaborative
90 working relationship with NZ1 and DRH and to serve the NZ1 and DRH loads on reasonable terms
91 and conditions. KEC worked expeditiously to negotiate a definitive Electric Service Agreement
92 with NZ1. KEC, in conjunction with East River Electric, is NZ1’s preferred electric service
93 provider for the Project.

94 **Q: Did the Project engage in electric service discussions with Otter Tail Power (“OTP”)?**

95 A: Yes. NZ1, DRH and KCWF undertook negotiations with OTP for electric service from
96 early 2022 to mid-2023. OTP’s commercial and financial requirements for such electric service
97 and the interconnection with the KCWF wind farm made OTP’s proposed electric service
98 unfinanceable from a debt and equity perspective. OTP’s proposed terms and conditions would
99 have negatively affected the equity and debt financing for NZ1.

100 **Q: Did the Project engage in discussions with OTP regarding a service exemption
101 agreement?**

102 A: Yes. KEC, NZ1 and OTP were unable to reach agreement on the terms and conditions of a
103 service exemption agreement. Specifically, OTP imposed several commercial terms that would
104 have made the Project unfinanceable from a debt and equity perspective.

105 ***[TRADE SECRET/CONFIDENTIAL INFORMATION BEGINS]***

106 * *

107 *[TRADE SECRET/CONFIDENTIAL INFORMATION ENDS]*

108 **Q: Is Otter Tail a viable alternative service provider for the Project?**

109 **A:** If the Project is unable to receive electric service from KEC, NZ1 will be unable to obtain
110 debt and equity financing on its current timetable for construction to commence in 2025. As such,
111 it is unlikely that NZ1 will proceed with the construction of the Project as electric service is one
112 of the many work streams being coordinated by NZ1 to be completed in early 2025 for an
113 affirmative final investment decision and financial closing. At this point, OTP is not an option for
114 electric service to the Project.

115 **Q: What benefits does the Project bring to the Lake Preston community and the State of**
116 **South Dakota?**

117 **A:** The Project, during construction and over its 25-year design life, will generate both direct
118 and indirect benefits for the Lake Preston community, the surrounding counties, and the State of
119 South Dakota. These benefits include:

- 120 • Approximately 90 full-time, on-site jobs during the operational period salaries at or above
121 the prevailing wage established by the Department of Labor;
- 122 • Demand for apprentices from South Dakota registered apprenticeship programs during the
123 construction period and in respect of any project repairs, such apprenticeship demand driven by
124 Inflation Reduction Act and implementing regulations;
- 125 • Support for apprenticeship programs at regional technical colleges;
- 126 • Local, long-term, demand for approximately 36 million bushels of corn per year;
- 127 • An estimated \$119 million per year in economic benefits to South Dakota (excluding
128 taxes);

129 • Verity LLC (a Gevo, Inc., subsidiary) collaborating with local farmers to reduce the carbon
130 intensity of farming practices to generate a “green premium” for their corn;

131 • Sales of high-protein, low-carbon intensity wet distillers’ grains;

132 • Service and labor demand during the construction period and associated indirect spending;

133 • Material annual tax revenue to South Dakota.

134 **Q: Does this conclude your pre-filed written testimony?**

135 **A:** Yes.