
**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA**

**IN THE MATTER OF THE APPLICATION
BY SCS CARBON TRANSMISSION LLC
FOR A PERMIT TO CONSTRUCT A
CARBON DIOXIDE TRANSMISSION
PIPELINE**

HP22-001

**ELIZABETH GARST
INITIAL PRE-FILED TESTIMONY
IN SUPPORT OF
LANDOWNER INTERVENORS**

Q: Please state your name and purpose for providing testimony in these proceedings.

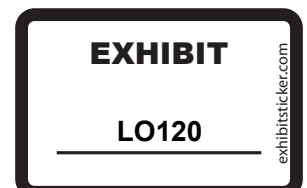
A: My name is Elizabeth Garst. The purpose of my testimony is to provide the PUC information helpful when considering Summit’s claims of economic impacts. I have researched prior claims by other similarly situated companies and there is a history of the claims being different from reality. While the promoters of these projects tend to argue that any incremental economic “benefit” in terms of one new tax dollar or one new, albeit typically temporary, job is enough to be entitled to approval, I encourage thoughtful analysis around the net impacts looking project wide and consider the negative economic effects as well.

Q: What experience, education, training, or background qualify you to provide opinions and your concerns as you have hearing?

A: Please see a summary of my education and experience in **Attachment No. 1**.

Q: Does Attachment No. 2 to this testimony describe your opinions and concerns that you want the PUC to be aware of relative to the proposed CO2 pipeline in question?

A: Yes, that is a true and accurate copy of an article I co-authored discussing the reality pipelines based historical research. I stand by my positions and opinions discussed therein and am competent to testify about them as necessary. I urge the PUC to carefully consider this testimony during the Hearing in this matter and in your



deliberations. I further reserve the right to amend or modify these opinions upon presentation of any additional information that may justify such a change.

Q: Are all of your opinions provided based upon your education, training, experience, and background and given to a reasonable degree of professional certainty?

A: Yes.

Dated June 15, 2023

/s/ Elizabeth Garst

Elizabeth Garst

Attachment No. 1

RESUME OF ELIZABETH GARST

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Tel. 712-651-2029

EDUCATION:

- 1978-1980 HARVARD BUSINESS SCHOOL BOSTON, MA
Received M.B.A. in 1980. Concentration in Agribusiness. First Year Honors.
- 1973-1976 MICHIGAN STATE UNIVERSITY EAST LANSING, MI
Received M.S. in Agricultural Economics in 1976. Emphasis in International Development and Farm Management. Worked as Research Assistant and Instructor.
- 1969-1973 STANFORD UNIVERSITY PALO ALTO, CA
Received B.A. in English Literature in 1973.

WORK EXPERIENCE:

- 1997 - Present GARST FAMILY BUSINESSES COON RAPIDS, IA
Garst Family Business Manager and director of family businesses including community banks headquartered in Jefferson and Perry Iowa; an insurance agency and family farms.
- 2004 - 2006 WHITEROCK CONSERVANCY COON RAPIDS, IA
Acting Executive Director of a new non-profit land trust.
- 1997-2007 GARST FARM RESORT COON RAPIDS, IA
Founder and manager of Garst Farm Resorts, a rural resort offering a variety of accommodations, recreation and educational activities.
- 1997-1998 DALLAS COUNTY DEVELOPMENT, INC PERRY, IA
Executive Director, part-time, of a county-wide non-profit economic development organization.
- 1987-1997 RACCOON VALLEY STATE BANK ADEL, IA
President, CEO and Chair of the Board of a thriving community bank.
- 1982-1986 GARST SEED COMPANY COON RAPIDS, IA
Treasurer and Business Manager. Oversaw business operations, administration and finance, during a period of dramatic change in ownership and business strategy.
- 1980-1982 WORLD BANK WASHINGTON, DC
Researched international grain trade strategies and served as an economist in Malaysia. Promoted to Investment Officer in the Treasurer's Department. Conducted statistical studies of bond swap strategies, managed several portfolios of \$10-\$20 million, and established a "repo" trading program.
- 1976-1978 PEACE CORPS TIBAITATA, COLOMBIA
Economist with the Agricultural Institute of Colombia. Wrote training manuals for rural development economists, worked with a multidisciplinary team to establish research priorities, and served as editor of Division publications. Trained other Peace Corps Volunteers.

CIVIC ACTIVITIES:

Board member of Whiterock Conservancy. Speakers Bureau for Humanities Iowa. Advisor, Environmental Law and Policy Center. Member, Guthrie County Democrat Central Committee. Board member, Riley Resource Group. Past board service: Iowa Environmental Council, Iowa Natural Resources Commission, Iowa Bankers Association, Iowa and American Civil Liberties Union, Iowa Chapter Nature Conservancy, Wallace House Foundation, Iowa Research Council, Coon Rapids Development Group, etc. Unsuccessful campaign for Iowa Senate, 1994. Frequent speaker on agriculture and soil, the environment and family history. Iowa Business Hall of Fame, 2023.

6/23

Attachment No. 2

Des Moines Register

IOWA VIEW | Opinion *This piece expresses the views of its author(s), separate from those of this publication.*

Opinion: We've done the research, and we oppose the proposed CO2 pipelines

There are better opportunities for Iowa to reduce greenhouse gas emissions than through the construction of carbon dioxide pipelines.

Matt Liebman, Elizabeth Garst and Neil Hamilton Guest columnists

Published 5:35 a.m. CT Sept. 25, 2022

Key Points

Matt Liebman is professor emeritus of agronomy at Iowa State University.

Elizabeth Garst is a conservation farmland owner.

Neil Hamilton is professor emeritus of agricultural law at Drake University and a Dallas County soil and water commissioner.

Support for this essay is provided by 14 other Iowans listed at the end of the piece.

We are a group of concerned Iowans, farmland owners, academics, non-profit leaders, and environmental advocates who have urged the Iowa Utilities Board to reject permit applications for carbon dioxide pipelines that would run across Iowa. We recognize that climate change is driven by emissions of greenhouse gases, including carbon dioxide, and we support clean, safe, sustainable, and locally controlled and locally owned energy. But we can do better than the proposed pipelines. Science indicates that they are poor investments and unlikely to have a meaningful effect on reducing greenhouse gas emissions.

We filed a letter on July 29, 2022, with the Iowa Utilities Board and laid out four science-based objections to the projects proposed by Summit Carbon Solutions, Navigator CO2 Ventures, and Archer Daniels Midland partnered with Wolf Carbon Solutions. Our objections are based on publicly funded scientific and engineering studies; links to these studies can be found in our letter to the board.

Soil degradation, reduced crop yields. Iowa State University scientists recently published a study that examined crop yields in areas of fields affected by underground oil pipeline construction. They found that subsoil compaction reduced corn yields by 15% and

soybean yields by 25% for at least several years after pipeline completion. Farmers are aware of these effects and are reluctant to allow degradation of their land by pipeline construction. To date, at least 40 county boards of supervisors in Iowa have filed objections to the proposed pipelines.

Another View: CO2 pipeline technology is safe and beneficial

Minor reductions in greenhouse gas emissions. Capturing carbon dioxide generated during the process of fermentation at ethanol plants and then transporting it by pipelines through Iowa and other states and storing it underground would have trivial effects on our nation's carbon dioxide emissions. Carbon dioxide emissions in the U.S. in 2020 were 110 times greater than the amount that might be captured at all our nation's ethanol plants under the most favorable projections.

Carbon dioxide emitted from tailpipes would greatly exceed what pipelines would transport. The use of ethanol in our cars contributes to greenhouse gas emissions, which exacerbate our ever-increasing climate crisis. Tailpipe emissions from U.S. vehicles in 2020 using gasoline blended with 10% ethanol (E10) were almost 25 times greater than the 43 million metric tons of carbon dioxide that could potentially be captured at all the nation's ethanol plants. Because vehicles using ethanol rather than regular gasoline typically get 4% to 5% fewer miles per gallon of fuel consumed, due to the lower energy content of ethanol, carbon dioxide emissions per mile traveled are as high or higher for ethanol blends as for pure gasoline.

Corruption of the ideal of private sacrifice for public good. The power of eminent domain, which allows private land to be condemned, is granted to governments carefully and must be executed carefully. This process should be used only for projects serving substantial public interest. Given the link between soil health, farm productivity, and forest and grassland integrity, a very large benefit to the public should accrue to offset the damage incurred from building private carbon dioxide pipelines through the fields and timber of hundreds of Iowa citizens. Because the carbon dioxide transported by pipelines from ethanol plants for underground storage would hardly dent U.S. greenhouse gas emissions while incurring substantial damage to private land, we believe insufficient public benefit would accrue from allowing private pipeline projects to proceed using eminent domain.

There are better opportunities for Iowa to reduce greenhouse gas emissions than through the construction of carbon dioxide pipelines. We ask that concerned citizens speak out against the proposed pipelines and file their objections with the IUB.

Matt Liebman is professor emeritus of agronomy at Iowa State University. Elizabeth Garst is a conservation farmland owner. Neil Hamilton is professor emeritus of agricultural law at Drake University and a Dallas County soil and water commissioner.

Support for this essay is provided by Linda D. Appelgate, retired USDA/NRCS resource conservationist; Laura Belin, editor and publisher of Bleeding Heartland; Patricia Boddy, retired agricultural engineer; Christine Curry, environment and conservation advocate; Mike Delaney, professor emeritus of environmental sociology, Des Moines Area Community College; Cornelia B. Flora, distinguished professor of agriculture and life sciences emerita, Iowa State University; Chris Henning, farm owner and manager; Susan Judkins, conservation advocate; Mary Ellen Miller, Wayne County soil and water conservation district commissioner; David Osterberg, professor emeritus of public health, University of Iowa; Mark Rasmussen, professor emeritus, Iowa State University; Ralph Rosenberg, former executive director, Iowa Environmental Council, and former Iowa state representative and senator; Larry A. Stone, farmland owner and environmental advocate; and Tim Wagner, conservation advocate, Iowa Coldwater Conservancy.