



UNITED TO GROW FAMILY AGRICULTURE

TESTIMONY OF JIM FALK

SUBMITTED TO THE HOUSE COMMITTEE ON AGRICULTURE

SUBCOMMITTEE ON COMMODITY EXCHANGES, ENERGY, AND CREDIT

“On Farm Energy Production: Impacts on Farm Income and Rural Communities.”

July 23, 2020

1300 Longworth House Office Building

Washington, D.C.

Chairman Scott, Ranking Member Scott and members of the committee, thank you for providing me the opportunity to testify today regarding “On Farm Energy Production: Impacts on Farm Income and Rural Communities.”

I am Jim Falk, a fourth-generation family farmer from Swift County, Minnesota. I farm with my son, Andrew, who is the fifth generation to work our land. I am also a member of Minnesota Farmers Union and am testifying today on behalf of the National Farmers Union (NFU).

Our farm includes about 1000 acres, of which approximately 550 are in crop production, 250 in pasture and hay meadow, and the balance in conservation programs and wetlands. Since 1985, we have also owned and operated a seed cleaning facility, Falk's Seed Farm, Inc., which is now a key part of our operation. We are a small regional seed company, with the majority of our customers farming within a 150-mile radius of our business.

The energy consumption of the seed plant is significant due to the electric motors needed for processing. We process seed or grain for approximately 10 months of the year – October through May is our peak season. The seed plant uses three-phase power for most of the motors within the plant. We also use single-phase power for all other seed plant electrical needs, including lighting, heat, and temperature control for our office. From 2016 through 2019, the average annual cost of power from both sources was \$14,332 per year.

My wife, Karen, and I have been interested in utilizing renewable energy to offset our power consumption for quite a while. We wanted to do our part to offset our carbon footprint and power the majority of the seed plant from renewable energy produced onsite. In addition, as the cost of power continues to rise, there should be a cost savings for us after the equipment is paid for. Minnesota has a net metering law that allows for renewable energy systems under 40 kilowatts (kW) to be installed for each meter onsite. In 2016, we installed a 30 kW wind turbine to connect to our three-phase power, and in 2017, we installed a 33 kW solar system on the seed plant roof that is connected to our single-phase power. The tax credits for small wind and solar were forecast to be reduced, so we felt we needed to proceed while those credits were available. While we applied for grants from USDA's Rural Energy for America Program to help fund both projects, our applications were unsuccessful. It seems the demand for REAP grants far exceeds the funding available.

With both our wind and solar systems functioning, today we are producing approximately 73.7 percent of the seed plant's power needs on an annual basis. This hits our target of producing approximately 70 percent of the seed plant's power when we initially made our plan and I believe provides long-term sustainability to help reduce our energy cost.

I was asked to testify today to speak about my experience with on-farm wind energy, but my experience also includes on-farm solar energy production. As a result, I am familiar with the positives and negatives of both. To be sure, both energy systems have their place. Wind can produce power any time of the day or night if the wind is blowing. However, our turbine, in our local wind resource, is under performing in comparison to what was projected when I purchased the machine. My tower height is 100 feet, and other installations with taller towers may likely have a higher power output than mine. Our turbine

suffered damage from a severe weather event in 2019, and it took about seven months to complete the repairs. There is a need for more service technicians trained to work on turbine repairs. The turbine is functional again, producing power for the seed plant, but it was offline for quite some time and is an example of the performance and reliability issues that have plagued the small wind industry for some time.

Solar power generation doesn't face these challenges. Our solar system is performing above what was projected as our likely output of power per year. The solar panels I have installed have a 25-year warranty, and because they are mounted on our roof, there are no moving parts to wear or break. Repair and maintenance issues for a solar system are minimal compared to a wind turbine. As the cost of solar continues to come down, solar will be more appealing to farmers and it will be harder for small wind companies to compete.

The hybrid system I have works well for me, but, in my opinion, solar is the safer investment for farmers who wish to install a renewable energy system. The fact is, both these systems work and there is a lot of interest in using both wind and solar on the farm. However, I feel there needs to be a greater effort to encourage farmers to produce their own renewable energy. It just makes good sense that farmers and ranchers are able to produce their own clean energy onsite.

To be sure, renewable energy production presents a lot of opportunities for farmers.¹ Between 2012 and 2017, there was a 132 percent increase in the number of farms that were generating their own power from renewable sources.² The number of farms with wind turbines increased by 56 percent during that time period, while solar panel installations increased by 148 percent. Farmers also invested in geothermal/geoexchange systems and a small number of methane digestors during that time.

As of 2017, there were about 81,000 small-scale wind turbines installed at homes, farms, and other facilities across the United States – about a quarter of which were for agricultural uses.³ The center of the United States, from Texas to North Dakota, has particularly good conditions for wind energy production.⁴ Minnesota ranked third in 2017 for distributed wind generation capacity, behind Iowa and Texas.

NFU supports policies that expand the production and use of on-farm renewable energy. NFU, which is a member of the AgEnergy Coalition, supports making renewable energy development, and reducing U.S. dependence on fossils fuels, a top priority. This includes through ambitious national investments renewable energy production. Our nation's farmers and ranchers will be a key player in reaching these necessary goals. Private agricultural lands can host wind and solar infrastructure that can power farms and, if large enough, sell energy back to the grid. The production of biofuels feedstocks can help to ease

¹ NFU staff provided background research and assisted in the compilation of this document.

² USDA 2017 Census of Agriculture:

https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_1_US/st99_1_0049_0050.pdf

³ DOE 2017 Distributed Wind Market Report: <https://www.energy.gov/eere/wind/downloads/2017-distributed-wind-market-report>

⁴ U.S. Energy Information Administration: <https://www.eia.gov/todayinenergy/detail.php?id=31032#tab2>

America's reliance on petroleum to fuel our vehicle fleet, while woody biomass is a sustainable source for heating and power generation. A combination of these and other renewable energy production technologies will be needed to ensure a sustainable and climate friendly future for America.

Tax incentives, including an extension of tax credits for small wind and solar, increased and targeted research spending, limits on consolidation in the renewable energy sector, and more funding and farmer access for REAP are needed to get more renewable energy systems, especially promising but under-utilized technologies, installed on private lands across the country. Lawmakers should also protect and expand the Renewable Fuel Standard, recognizing its importance as both a key tool for curbing the effects of climate change and a market for U.S. farmers.

All told, on-farm renewable energy and biofuels production are vital tools for U.S. farmers and ranchers and their businesses as they work toward economic and environmental sustainability and combat climate change. Our farm and business are just one example of that.

Thank you for allowing me to share my experience with you today.