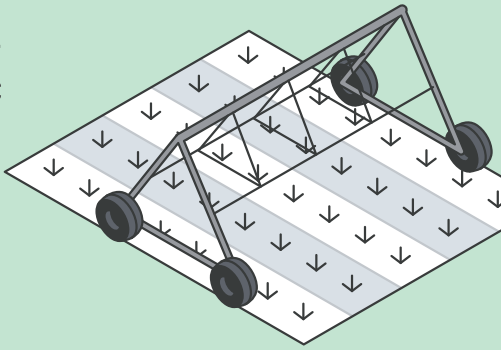
Illuminate NEBRASKA
POWERED BY
NEBRASKA PUBLIC POWER DISTRICT

POWER, STRUCTURE, TECHNICAL SYSTEMS

ELECTRICAL AG INFRASTRUCTURE

CONCEPT Electricity is a significant determinant of agricultural productivity. The impact of electric power on modern agriculture has been at least as significant as that of either steam or gasoline because electricity, in its nature, is far more versatile than the earlier power sources.



REAL WORLD CONNECTIONS

Since the early 2000s, many center-pivot irrigation systems have been converted from diesel or natural gas to electric power. As crude oil peaked at its historic high in 2008, Nebraska farmers started to make this conversion due to operational costs. This conversion process is still underway. As of November 2023, 24% of pivot systems in Nebraska are still powered by diesel engines.

Nebraska's ONE RED Irrigation Engine Program builds off NDEE's Clean Diesel Rebate Program by providing rebates to farmers to replace diesel engines powering irrigation well pumps with electric motors or pumps connected to the electric grid. The rebates would cover a percentage of the costs of new electrical equipment, wiring and installation, utility upgrades, and connection charges.

Here are a few benefits supporting the conversion to electric irrigation motors!

- Electric motors never run out of fuel or require routine maintenance, such as oil changes, air filters, spark plugs or monitoring coolant systems.
- They are cheaper to purchase and operate than fossil fuel motors.
- They can be quickly switched out, provided the service company has inventory in stock.

By using electric power coupled with advanced control panels, farmers can reduce fuel costs and benefit from the ability to control and monitor their irrigation systems remotely. Electricity coupled with technology, such as variable frequency drives (VFDs), sensors and telecommunication advancements, have drastically changed the agricultural landscape.

Illuminate NEBRASKA
POWERED BY
NEBRASKA PUBLIC POWER DISTRICT