



PRESENTED BY GDS ASSOCIATES, INC.

USDA – RURAL ENERGY FOR AMERICA PROGRAM (REAP)

**MREC ANNUAL CONFERENCE
FEBRUARY 13, 2025**

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— WHAT IS REAP?

- Rural Energy for America Program
- Farm Bill
- Offers guarantees loans, grants, and loan/grant combinations
- Funded twice per year
 - *deadlines March 31 and October 31*

— GRANTS AND LOANS

□ Guaranteed loan financing (up to 75%)

- Loan only, up to 75% project cost OR
- Combination of grant/loan, up to 75%
- Loans are typically same interest rate as banks, but 80% guaranteed by USDA
- Loan/grant combinations must be applied for at the same time
- FSA may offer better loan rates

□ Grant funding (up to 25%)

- Grants cover eligible project costs

— ONLY 25% GRANT?

Farm Bill REAP

- *Around about 20 years*
- *Up to 25% grant on eligible expenses*
- *EEl up to \$250,000*
- *RES up to \$500,000*
- *Funded twice per year, March and October*

IRA REAP

- *Limited time, 6 quarters June '23 – Sept '24*
- *Grants up to 50%*
- *EEl up to \$500,000*
- *RES up to \$1 million*
- *Oct '24 extended – 3 rounds per year through Sept 2027*
- *Paused December 2024 until July 2025*

— ELIGIBILITY

□ Eligible project costs include:

- Equipment, materials, and freight
- Labor, rental equipment, engineering, permits
- Concrete (for grain dryers, etc.)

□ Ineligible costs include:

- Vehicles
- Buildings
- 3-phase or natural gas line

□ Who Qualifies?

- Agricultural producers
- Rural small businesses, per USDA map & NAICS code
 - <https://eligibility.sc.egov.usda.gov/eligibility/welcomeAction.do>

— APPLICATION TYPES

- **Energy Efficiency Improvement (EEI)**
 - Reduces energy consumption
 - Includes all fuel types (electric, gas, wood, diesel, etc.)
 - Requires qualified energy audit showing savings

- **Examples**
 - Lighting
 - Insulation
 - Grain dryers and grain handling
 - Fans
 - VFD's
 - Irrigation equipment
 - Diesel to electric equipment

— APPLICATION TYPES

□ Renewable Energy System (RES)

- Solar PV
- Solar Thermal
- Biogas
- Biomass
- Geothermal
- Wind
- RES with battery storage

Battery storage alone is not eligible

— GRANT DEADLINES

- **Next deadline**

- March 31, 2025

- **Following deadlines TBA**

- Likely October 31, 2025

— APPLICATION REQUIREMENTS

- ❑ Energy audit showing baseline energy use of existing equipment and energy savings
- ❑ Quote for full cost of project with install
- ❑ Active registration on sam.gov and UEI number
- ❑ Documentation of historical energy use
- ❑ Additional documentation varies based on size of the project

— IMPORTANT DETAILS

- ❑ **REAP is a competitive program**
 - *Not everyone will get an award*
- ❑ **USDA scores each application to determine which will get grant funding**
- ❑ **Can take several weeks to get UEI and an active registration**
- ❑ **Audits require a full quote for all equipment including install**
- ❑ **Applications require most recent 12 months of fulling energy billing statements**

— IMPORTANT DETAILS

- ❑ You cannot change your mind on equipment or location once you are awarded
- ❑ Can take several months to find out if you are awarded
- ❑ **DO NOT PAY** for anything until application is submitted and marked complete by USDA
 - *Anything you pay for prior to notice of a complete app is not eligible for funding.*

— WHERE TO START

- **Contact your state USDA Rural Development coordinator**

- https://www.rd.usda.gov/sites/default/files/RBS_State_EnergyCoordinators.pdf

- **Contact Bethany at GDS Associates**
920.246.8453

— GDS REAP SERVICES

- **Energy audits for energy efficiency improvements**

- **Feasibility studies for renewable energy systems that require a study**

- **Grant application package**
 - Assistance with sam.gov to get a federal Unique Entity Identifier (UEI)
 - Federal forms
 - Environmental Checklist
 - Applications tend to be between 150-250 pages total
 - GDS submits the application to the USDA on the client's behalf

— GDS REAP SERVICES

- ❑ **GDS will complete the same scoresheet to verify that it is worthwhile to move from the energy audit to an application**
- ❑ **GDS will never take a % of your grant award**

REAP – TAG (TECHNICAL ASSISTANCE GRANT)

- **No cost assistance to qualifying participants**
- **Assistance includes**
 - *Sam.gov registration and acquisition of UEI number*
 - *Required energy audit/assessment/feasibility study*
 - *REAP grant application package*
 - *Post installation savings verification follow up*
- **Must meet one of following criteria:**
 - *REAP grant request is for \$20,000 or less*
 - *REAP grant request is for an underutilized technology*
 - *REAP applicant is in a distressed/disadvantage area*

— HELPFUL LINKS

□ REAP

How to apply:

<https://www.rd.usda.gov/programs-services/energy-programs/rural-energy-america-program-renewable-energy-systems-energy-efficiency-improvement-guaranteed-loans#to-apply>

Frequently Asked Questions:

<https://www.rd.usda.gov/media/file/download/reap-renewable-energy-systems-faqs.pdf>

— EEI EXAMPLE

- Diesel to Electric Feed Mixing
 - 2500 cow dairy
 - 2 diesel feed mixer wagons
 - Replace with stationary electric mixer

- Savings:
 - 53,254 gallons diesel
 - (324,281) kWh
 - (422) kW demand

- Project Economics
 - Cost: \$1,110,187
 - \$161,073 annual savings
 - 6.9 year payback, without grant
 - \$500,000 REAP grant
 - Payback with grant: 3.8 years



— EEI EXAMPLE

- **Diesel to electric irrigation pumping plant**
 - Existing 92 HP pumping plant
 - Replace with 75 HP electric pumping plant

 - Savings
 - 2,000 gallons diesel
 - (22,326) kWh
 - \$3,818

 - Economics
 - Installed cost: \$57,654
 - Simple payback: 15 years grant
 - Grant: \$28,827
 - Payback with grant: 7.5 years



EEI EXAMPLE

□ Biomass to LP Grain Dryer

- Existing cord wood grain dryer
- Replace with LP dryer
- Drying about 110,000 bu/year corn, removing about 8 points

- Savings
 - **206.7 full cords wood**
 - **7,225 kWh**
 - **(15,274) gallon LP**
 - **\$31,713**

- Economics
 - **Project cost: \$406,193**
 - **Simple payback: 12.8 years**
 - **Grant: \$203,096**
 - **Payback with grant: 6.4 years**

— RES EXAMPLE

- **Solar PV installed at beef farm to offset purchased electric**
 - *16.8 kW roof mount system*
 - *Offset 100% of farm use as well as most residential use*

 - *Savings*
 - **21,642 kWh (18,618 kWh farm use and 1,636 kWh home use)**
 - **\$2,597 annually**

 - *Economics*
 - **Project cost: \$44,600**
 - **Simple payback: 17.2 years**
 - **Grant: \$18,955**
 - **Payback with grant: 10.3 years**

SOLAR PHOTOVOLTAIC (PV) RETURN ON INVESTMENT CALCULATOR FOR:

Corey Kuchta - N1757 Behnke School Road - Coleman, WI 54112

SYSTEM SIZE	20.00	DC rated capacity of the system (KW)			
INSTALLED COST	\$52,600.00	Up-front cost to install the system			
EST. FOCUS ON ENERGY REBATE	\$6,000.00	Cash-Back reward from Focus on Energy			
ESTIMATED REAP GRANT	\$20,000.00	Potential REAP Grant Amount			
ESTIMATED TAX INCENTIVES	\$19,863.00	Estimated 30% ITC plus MACRS 5-year depreciation			
NET INVESTMENT	\$6,737.00	Cost after rebates and tax incentives used for ROI calculations			
PROJECTED ANNUAL PRODUCTION	25,765	Annual energy generated (kWh)			
ANNUAL VALUE OF ENERGY YEAR 1	\$2,719.78	Function of annual energy and utility rate			
UTILITY INFLATION RATE	1%	Rate of utility cost increase			
BLENDED UTILITY RATE	0.106	Blends utility rate and over generation at avoided cost			
25-YEAR ANNUALIZED RATE OF RETURN	66.70%	Annualized rate of return on investment (IRR) calculation			
BREAK-EVEN POINT (YRS)	2.51	The point in time (yrs) when the system has paid for itself			
COST/WATT INSTALLED	\$2.63	Metric to look at the cost per watt installed (\$/watt)			
SYSTEM YEAR	1	2	3	4	5
INFLATED UTILITY RATE (\$/kWh)	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11
DEGRADED KWH/YEAR PRODUCTION	25,250	25,187	25,124	25,061	24,998
VALUE OF ENERGY PRODUCED	\$2,665	\$2,685	\$2,705	\$2,726	\$2,746
CUMMULATIVE ENERGY VALUE	\$2,665	\$5,351	\$8,056	\$10,782	\$13,528
SYSTEM YEAR	6	7	8	9	10
INFLATED UTILITY RATE (\$/kWh)	\$0.11	\$0.11	\$0.11	\$0.11	\$0.12
DEGRADED KWH/YEAR PRODUCTION	24,936	24,873	24,811	24,749	24,687
VALUE OF ENERGY PRODUCED	\$2,766	\$2,787	\$2,808	\$2,829	\$2,850
CUMMULATIVE ENERGY VALUE	\$16,294	\$19,081	\$21,889	\$24,718	\$27,568
SYSTEM YEAR	11	12	13	14	15
INFLATED UTILITY RATE (\$/kWh)	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12
DEGRADED KWH/YEAR PRODUCTION	24,626	24,564	24,503	24,441	24,380
VALUE OF ENERGY PRODUCED	\$2,871	\$2,893	\$2,915	\$2,936	\$2,958
CUMMULATIVE ENERGY VALUE	\$30,440	\$33,333	\$36,247	\$39,184	\$42,142
SYSTEM YEAR	16	17	18	19	20
INFLATED UTILITY RATE (\$/kWh)	\$0.12	\$0.12	\$0.13	\$0.13	\$0.13
DEGRADED KWH/YEAR PRODUCTION	24,319	24,259	24,198	24,137	24,077
VALUE OF ENERGY PRODUCED	\$2,980	\$3,003	\$3,025	\$3,048	\$3,071
CUMMULATIVE ENERGY VALUE	\$45,122	\$48,125	\$51,150	\$54,198	\$57,268
SYSTEM YEAR	21	22	23	24	25
INFLATED UTILITY RATE (\$/kWh)	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13
DEGRADED KWH/YEAR PRODUCTION	24,017	23,957	23,897	23,837	23,778
VALUE OF ENERGY PRODUCED	\$3,093	\$3,117	\$3,140	\$3,163	\$3,187
CUMMULATIVE ENERGY VALUE	\$60,362	\$63,478	\$66,618	\$69,782	\$72,969





Application process for USDA Grant

- Get GDS to agree to write grant
- get Solar estimate in writing
- provide utility usage
- only for farm usage/residential not covered
- Document every farm motor & usage
- Deed for the farm/well information
- property tax information
- GDS submits grant application
- wait several months for grant approval
- once approved wait several months for install
- put required insurance on panels
- sign your life away on paperwork
- once installed wait several months to get funding





SM COMM ELEC TOU 1PH Cg3-OTOU

Meter 5470466

Actual Reading 10/03/2024

999510

Set Reading 09/16/2024

-0

Total Electric Use

-490 KWH

Energy Charges/Credits

Customer Charge

16 Days at \$0.90840

\$14.53

On-Peak Avoided Energy Cost Rate

-490 KWH at \$0.03532

-\$17.31

Fuel Cost Adjustment - Prior Year

-490 KWH at -\$0.01181 (2/16 Days)

\$0.72

Other Service Charges/Credits

WI Low Income Assistance Fee

3% of \$0.72

\$0.02

Subtotal:

-\$2.04

Electric Service Total:

\$10.83

QUESTIONS?

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