

# USDA RURAL ENERGY FOR AMERICA PROGRAM

Kansas Energy Program

June 17, 2021

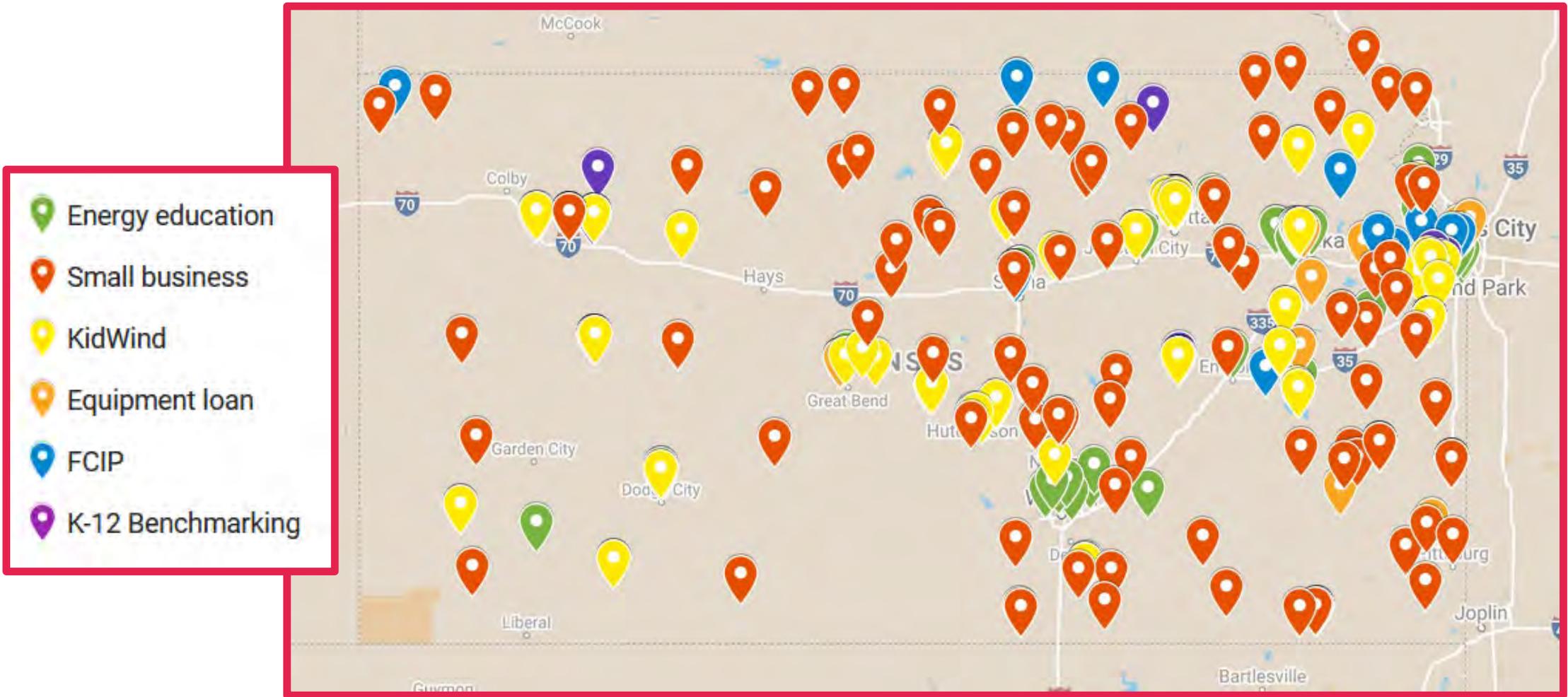
# PARTNERSHIPS

- Kansas Corporation Commission
  - Extended partnership to Kansas State University Engineering Extension in 2016
    - ✓ Small Business Energy Program
    - ✓ Energy Education
    - ✓ Facility Conservation Improvement Program
- USDA Rural Energy for America Program
- Kansas Energy Program

# SMALL BUSINESS ENERGY PROGRAM

- Free energy audits to rural small businesses and agricultural producers
  - Populations less than 50,000
  - Meet Small Business Administration small business size standard
- Technical assistance in applying for U.S. Department of Agriculture Rural Energy for America Program (REAP) Grant
  - If approved, reimburses up to 25% of eligible project costs
  - Only for-profit businesses are eligible

# WHERE WE GO – 52 COUNTIES AND COUNTING



# KANSAS ENERGY PROGRAM PROCESS

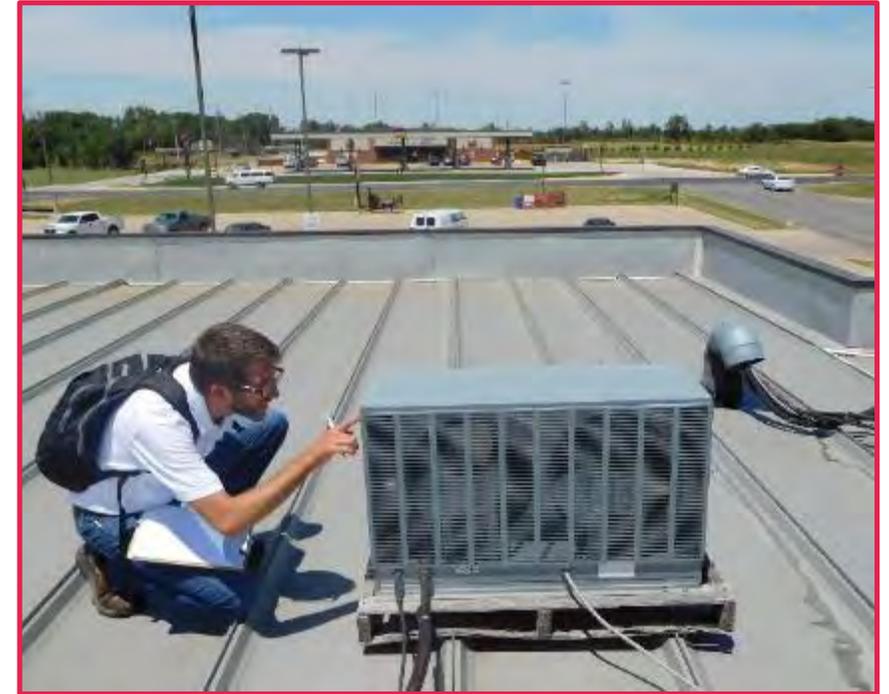
- You contact us
- We send you an e-mail
  - Population
  - NAICS
  - DUNS/SAM
  - Utility bills
  - Taxpayer identification number
  - Annual receipts from three most recent tax years
  - Average number of employees for most recent 12 months
  - Commitment of funds
  - Quotes and specifications
  - **Any orders, purchases, down payments, etc., completed before the application is submitted to USDA are not eligible for reimbursement, even if the application is subsequently approved.**

# KANSAS ENERGY PROGRAM PROCESS (CONTINUED)

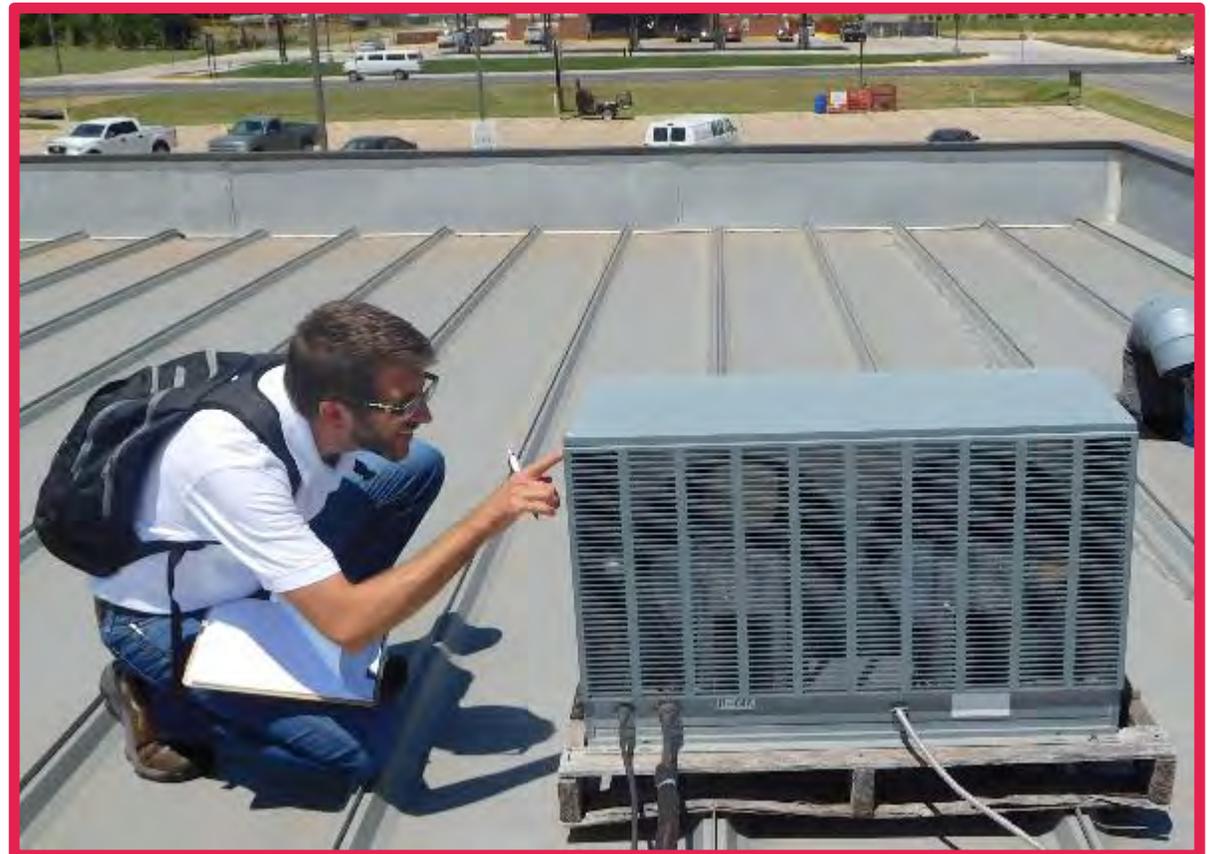
- Energy Assessment
- REAP Grant Assistance
  - Complete required forms (USDA 4280-3A/B/C, SF 424, SF 424C, SF 424D) and assist with acquiring required information
  - Assist with applying for DUNS number and SAM CAGE Code
  - Deliver to business for signature
  - Deliver to USDA
  - USDA Scoring Criteria

# ENERGY ASSESSMENTS – WHAT WE DO

- Energy Assessment
  - Interview owner/manager
  - Determine square footage
  - Collect data for energy-consuming devices, exterior, building envelope
  - Collect name plate information for compressors, coolers
  - Conduct visual inspection of interior, exterior, roof, basement
  - Collect data using infrared imaging, light meters
- Energy Report
  - Yearly and monthly energy consumption
  - Calculations, simple payback

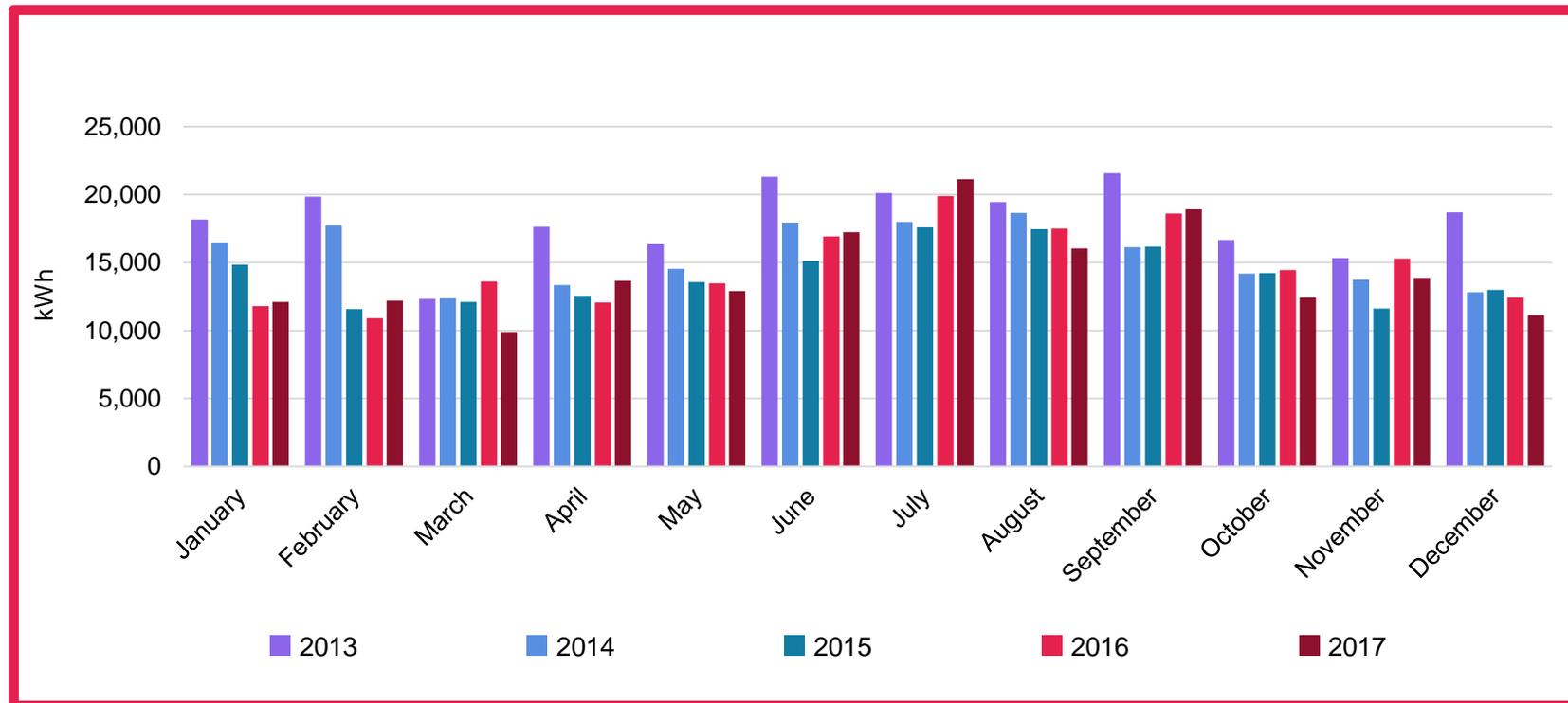


# ENERGY ASSESSMENTS – WHERE WE GO



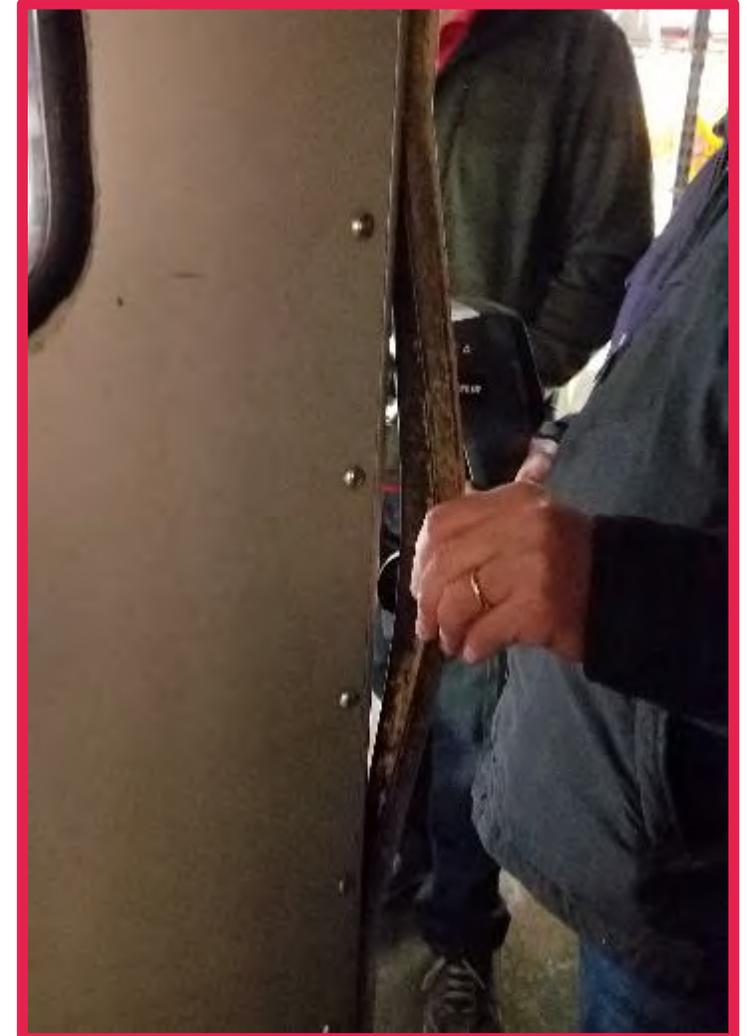
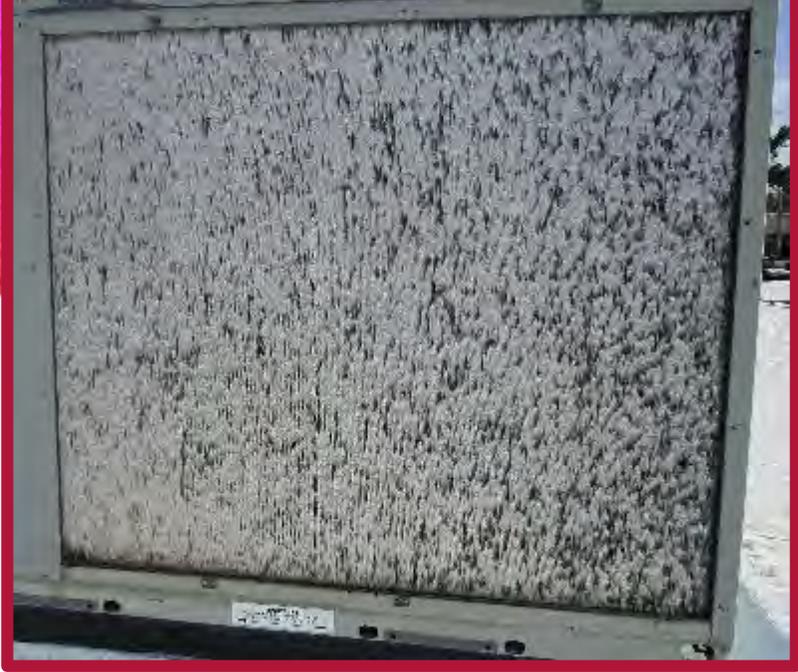
# ENERGY ASSESSMENTS – WHAT WE DO

- Energy Analysis - Electrical and natural gas data (1-5 years)

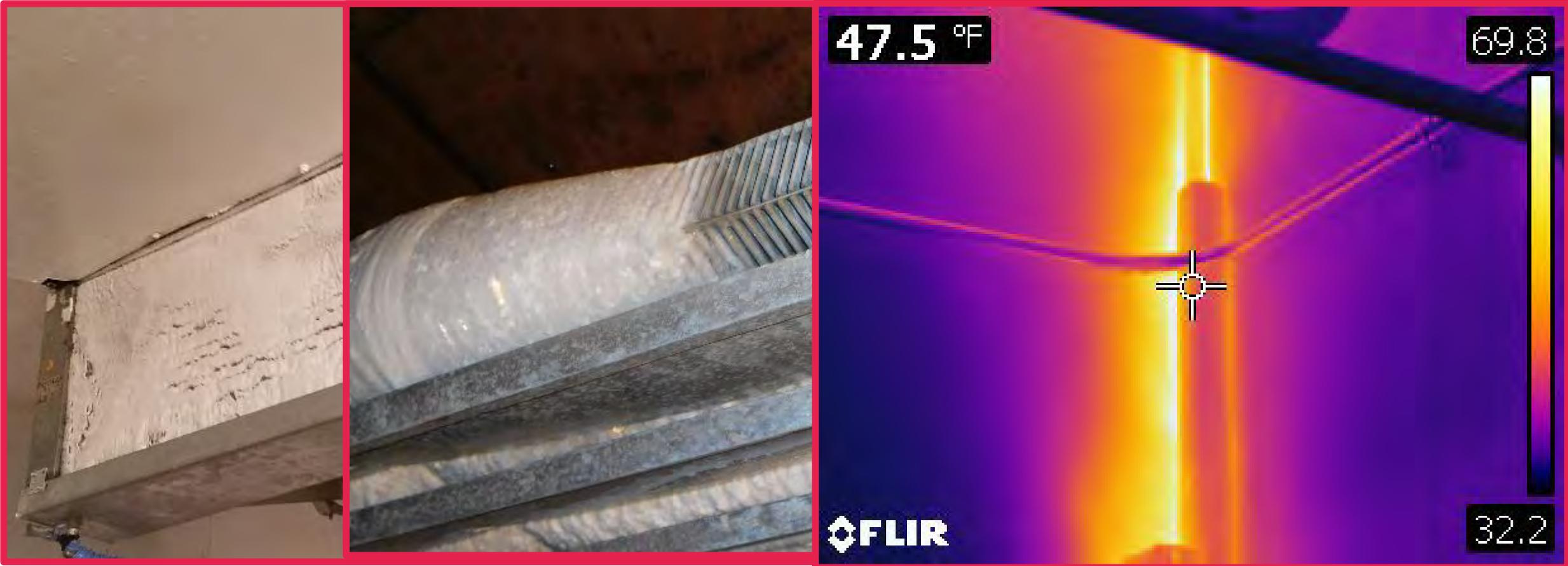




# ENERGY ASSESSMENTS<sup>11</sup> – WHAT WE SEE



# ENERGY ASSESSMENTS – WHAT WE SEE



# ENERGY ASSESSMENTS – WHAT WE SEE



# ENERGY ASSESSMENTS – WHAT WE SEE



# ENERGY ASSESSMENTS – WHAT WE SEE



# OUTDOOR WALK-IN UNIT WITH A FEW ISSUES



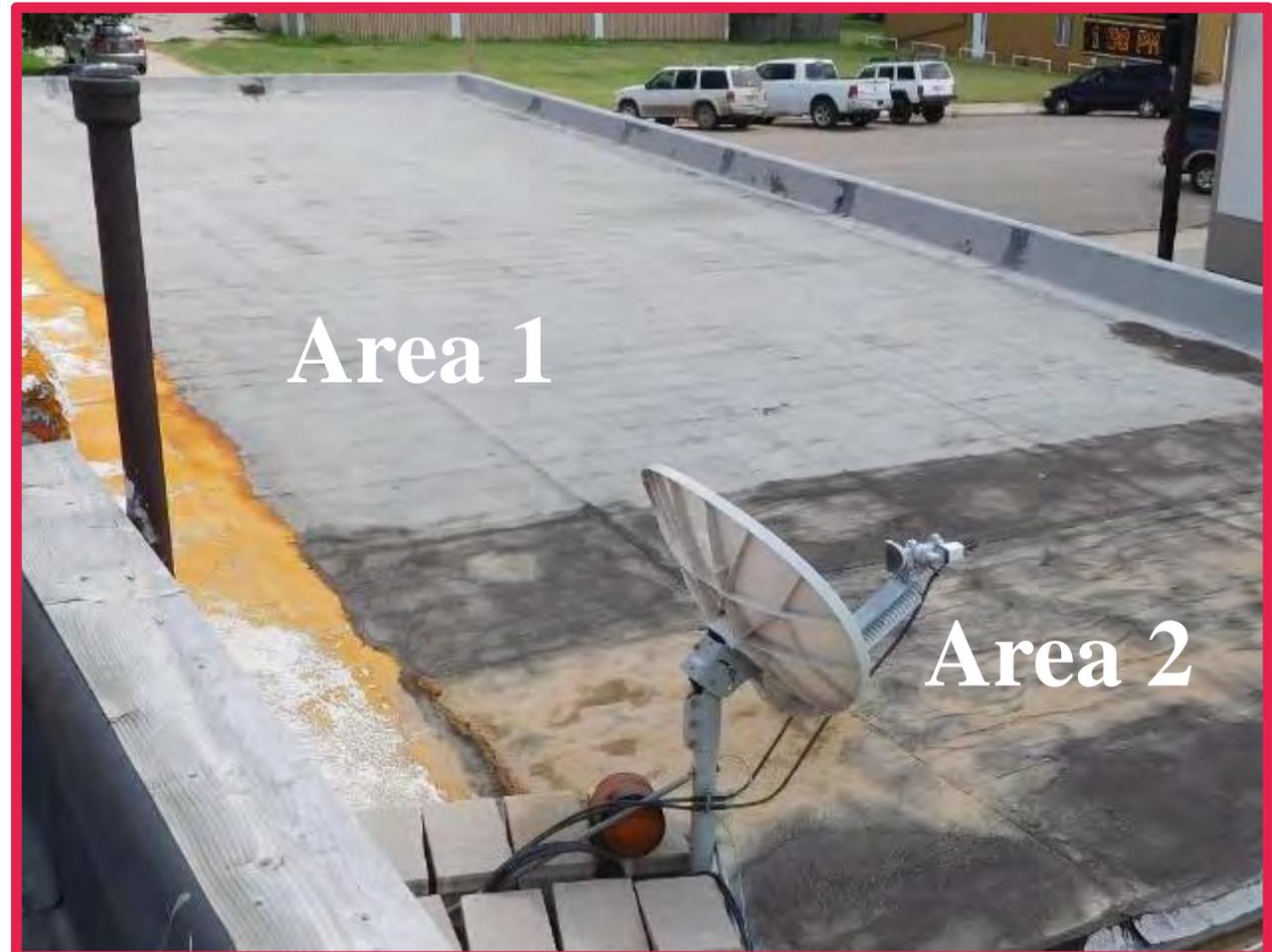
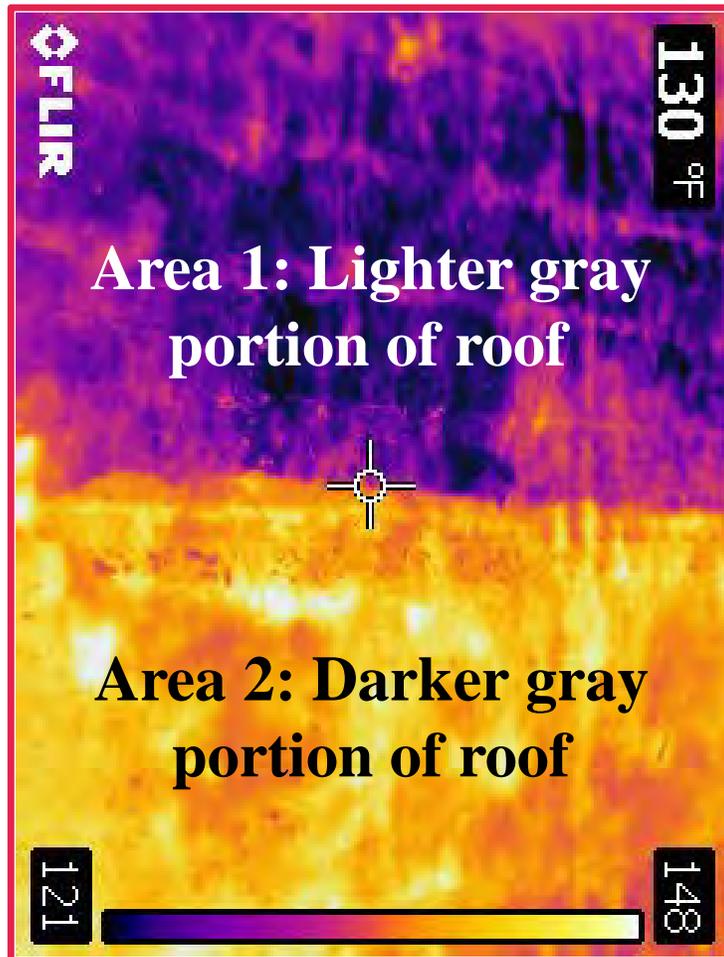
# EXTERIOR VENDING MACHINES: WORTH THE EXPENSE?



# WHERE SHOULD YOU PUT THAT ICE COOLER?



# ROOF COLOR'S IMPACT



# SMALL BUSINESS ENERGY PROGRAM – BEFORE AND AFTER



Before



After

# SMALL BUSINESS ENERGY PROGRAM – BEFORE AND AFTER



Before



After

# SMALL BUSINESS ENERGY PROGRAM – BEFORE AND AFTER



Before



After

# SMALL BUSINESS ASSISTANCE RESULTS

**116 Completed Assessments**  
in **78 Cities**  
covering **52 Counties**

**48** REAP applications awarded for a  
**92.3%** grant approval rate

This success has resulted in **\$779,000** in USDA grant  
reimbursement funds made available to Kansas rural small businesses



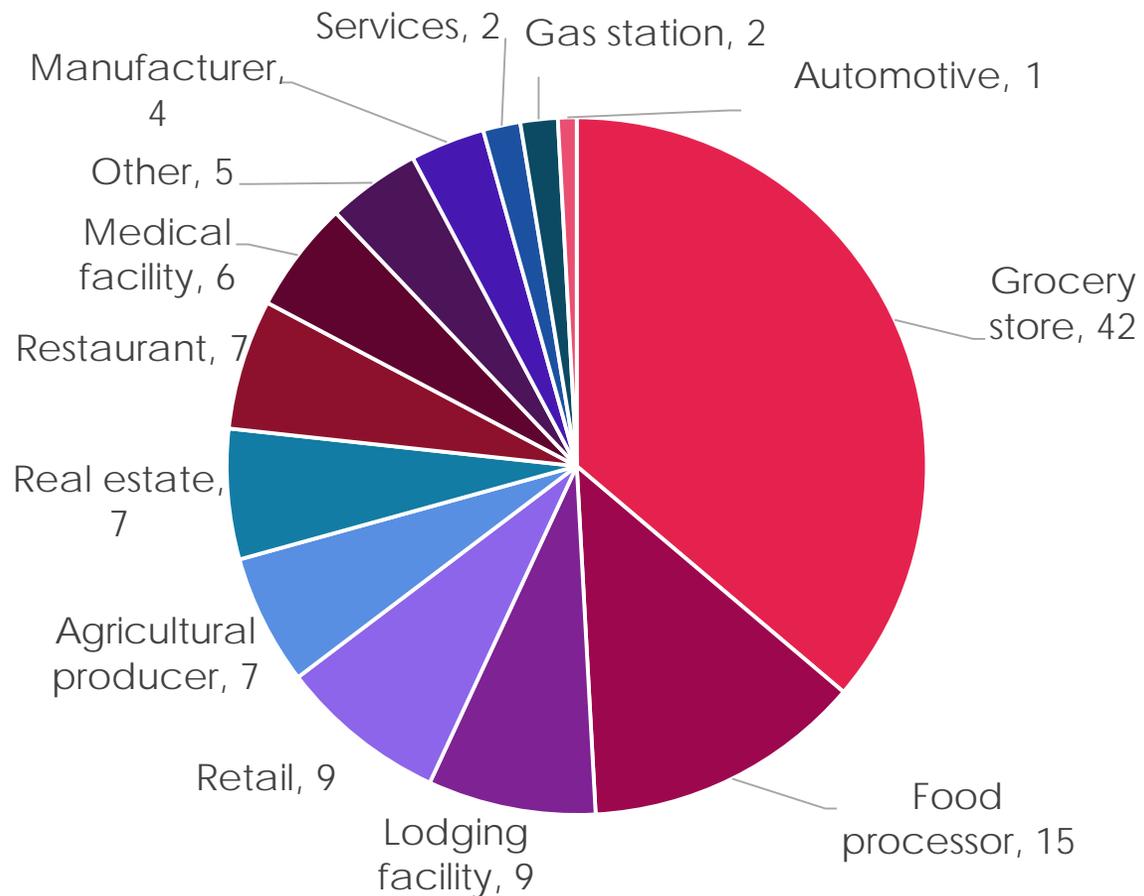
# SMALL BUSINESS ENERGY PROGRAM – RESULTS

**7,629,000 kWh annual energy savings identified, which is enough energy to annually power –**

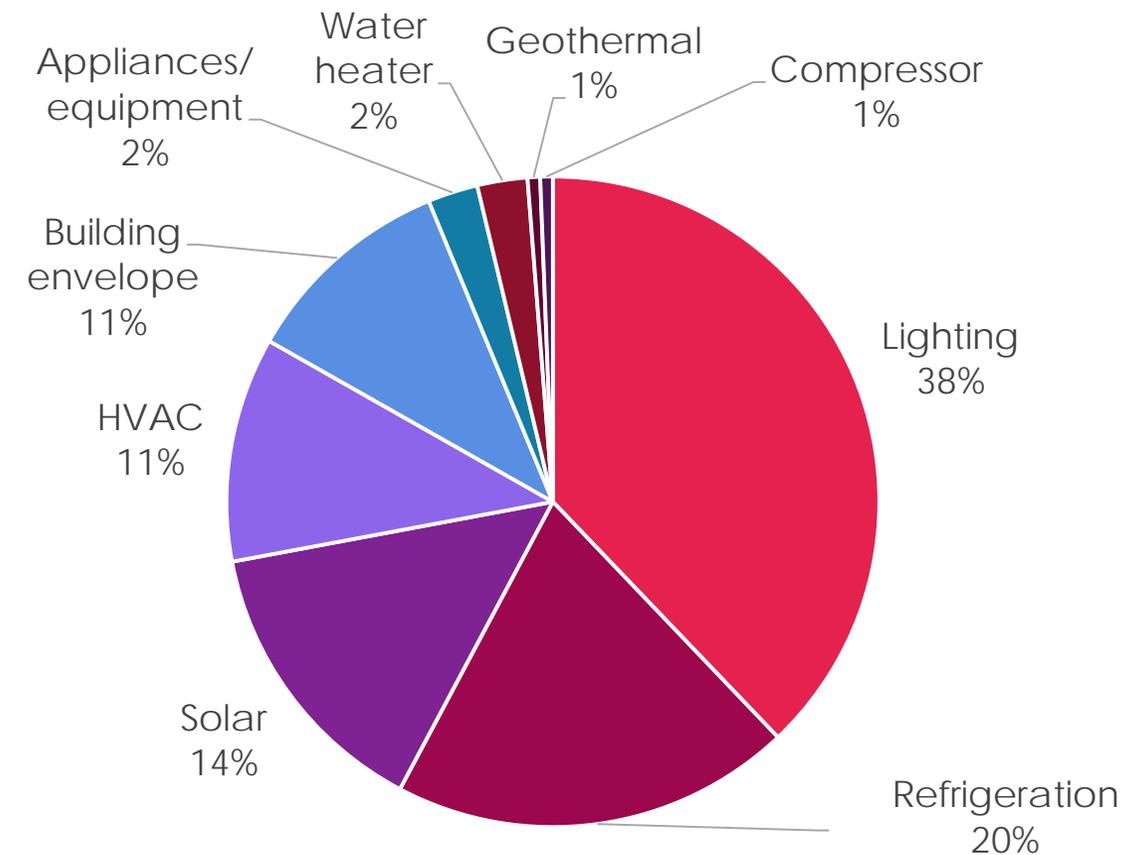
- 716 U.S. homes with electricity
- 14,515 incandescent lightbulbs (60W)
- 102,458 LED lightbulbs (8.5W)
- 1,178,571 smartphones for one year
- 29,342,308 miles of driving in 2020 Tesla Model 3

# SMALL BUSINESS ENERGY PROGRAM – RESULTS

## Energy Assessments by Business Type



## Energy Assessments by Project Type



# SCENARIOS WHERE A BUSINESS IS LIKELY INELIGIBLE

- If you're expanding
- If the facility has been unoccupied
- If you're installing used equipment (refurbished is ok)
- If the equipment will be associated with residential apartments
- If you can't obtain the most recent 12 months of utility bills
- If you've already removed existing equipment
- If it's not a like business (purpose change)

# USDA REAP UPDATES

- **Disclaimer: USDA has final say on eligibility, interpretation of regulations**
- Scoring criteria
- Energy rates
  
- **Acronyms**
  - RES = Renewable Energy Systems
  - EEI = Energy Efficiency Improvement
  - EEE = Energy Efficiency Equipment
  - TPC = Total Project Cost

# SCORING CRITERIA

1. Environmental benefits – 5 points
2. Energy generated, replaced or saved – 25 points
  - a. Part 1 – 10 points
  - b. Part 2 – 15 points
3. Commitment of funds – 15 points
4. Previous grantee – 15 points
5. Existing business – 5 points
6. Simple payback – 15 points
7. Size of request – 10 points
8. State Director/Administrator points – 10 points

# 1. ENVIRONMENTAL BENEFITS

1. Environmental benefits – 5 points
  - a. Project will have a positive effect on (1) resource conservation, (2) public health, and (3) the environment
    - 1) All 3 impact areas – 5 points
    - 2) Any 2 of the 3 impact areas – 3 points
    - 3) Any 1 of the 3 impact areas – 1 point

## 2. ENERGY GENERATED, REPLACED OR SAVED

1. Energy generated, replaced or saved
  - a. Part 1: Quantity/\$ Requested or % Efficiency – up to 10 points
    - 1) RES: quantity of energy generated or replaced per federal dollar requested
      - a) 50,000 BTUs or higher energy generated or replaced/\$ - 10 points
      - b)  $<50,000 \text{ BTUs generated or replaced}/\$/50,000 \times 10$  (points rounded to nearest hundredth of a point)
    - 2) EEI: average annual energy saved per federal dollar requested
      - a) 50,000 BTUs or higher energy generated or replaced/\$ - 10 points
      - b)  $<50,000 \text{ BTUs generated or replaced}/\$/50,000 \times 10$  (points rounded to nearest hundredth of a point)
    - 3) EEE: increased energy efficiency of the proposed equipment and system is:
      - a) 75% or greater – 10 points
      - b)  $<75\%$  but equal to or greater than 50% - 5 points
      - c)  $<50\%$  but equal to or greater than 25% - 2.5 points
      - d)  $<25\%$  - 0 points

## 2. ENERGY GENERATED, REPLACED OR SAVED

2. Energy generated, replaced or saved
  - b. Part 2: Quantity – up to 15 points
    - 1) Energy replacement: amount of energy replaced compared to amount of energy used by applicable process over a 12-month period
      - a) >50% - 15 points
      - b) >25% but equal to or less than 50% - 10 points
      - c) Equal to or less than 25% - 5 points
    - 2) Energy generation: RES for production of energy or retrofitting of existing RES (increases amount of energy generated) – 10 points
    - 3) Energy saved: Based on percentage of estimated energy saved
      - a) 50% or greater – 15 points
      - b) 35% up to, but not including 50% - 10 points
      - c) 20% up to, but not including 35% - 5 points
      - d) <20% - 0 points
    - 4) Energy efficiency : if the energy efficiency of the proposed equipment is:
      - a) >50% - 15 points
      - b) >25%, but equal to or less than 50% - 10 points
      - c) Equal to or less than 25% - 5 points

# 3. COMMITMENT OF FUNDS

## 3. Commitment of funds

- a. Total amount of funds for which written commitments have been submitted/total amount of matching funds and other funds required
  - 1) 100% of matching funds – 15 points
  - 2) Less than 100%, but more than 50% –  $((\% \text{ of written commitments} - 50\%) / (50\%) \times 15)$  – points will be round to the nearest hundredth
  - 3) 50% or less – 0

## 4. PREVIOUS GRANTEE

- 4. Previous grantee
  - a. Based on whether the grantee has received and accepted, and REAP grant funds were disbursed (determination based on fiscal year in which obligation was made)
    - 1) Never – 15 points
    - 2) Not within the two previous federal fiscal years – 10 points
    - 3) Within the two previous federal fiscal years – 0

# 5. EXISTING BUSINESS

## 5. Existing business

- a. An existing agricultural producer or rural small business that meets the definition of existing business – 5 points

*Existing business* means a business that has been in operation for at least one full year. The following will be treated as existing businesses provided there is not a significant change in operations of the existing business: mergers by an existing business with a new or existing business, a change in the business name, or a new business and an existing business applying as co-borrowers.

## 6. SIMPLE PAYBACK

6. Simple payback
  - a. RES: Total Project Costs (TPC)/Dollar value of energy units replaced, credited, sold or used – 15 points
    - 1) Less than 10 years – 15 points
    - 2) 10 years up to but not including 15 years – 10 points
    - 3) 15 years up to and including 25 years – 5 points
    - 4) Longer than 25 years – 0 points
  - b. EEI: TPC/dollar value of energy saved
    - 1) Less than 4 years – 15 points
    - 2) 4 years up to but not including 8 years – 10 points
    - 3) 8 years up to and including 12 years – 5 points
    - 4) Longer than 12 years – 0 points
  - c. Energy Efficient Equipment and Systems: TPC/dollar value of efficiency savings
    - 1) Same as EEI

Demand (kW)	Electricity Use (kWh)	Customer Charge	Energy Charge	Fuel Charge	Property Tax Surcharge	Transmission Charge	Environmental Charge	Energy Efficiency Fee	Renewable Energy	Total Current Charges	Franchise Fee	Sales Tax	Other Transactions	Monthly Electricity Cost	\$/kWh (Electricity Charge/ Electricity Use)	\$/kWh (Total Charges/ Electricity Use)
6	919	\$14.50	\$67.30	\$17.88	\$1.11	\$13.74	\$0.00	\$0.24	\$2.30	\$117.07	\$4.68	\$2.97		\$124.72	\$0.07	\$0.14
6	1263	\$14.50	\$95.59	\$26.94	\$1.53	\$18.89	\$0.00	\$0.32	\$3.16	\$160.93	\$6.44	\$4.10		\$171.47	\$0.08	\$0.14
12	1246	\$14.50	\$94.22	\$26.57	\$1.51	\$18.63	\$0.00	\$0.32	\$3.12	\$158.87	\$6.35	\$4.05		\$169.27	\$0.08	\$0.14
8	1026	\$14.50	\$76.38	\$21.88	\$1.24	\$15.34	\$0.00	\$0.26	\$2.57	\$132.17	\$5.28	\$3.37		\$140.82	\$0.07	\$0.14
8	533	\$14.50	\$39.18	\$12.13	\$0.64	\$7.97	\$0.00	\$0.14	\$1.33	\$75.89	\$3.03	\$1.93		\$80.85	\$0.07	\$0.15
8	492	\$14.50	\$36.17	\$11.19	\$0.59	\$7.36	\$0.00	\$0.12	\$1.23	\$71.16	\$2.85	\$1.81		\$75.82	\$0.07	\$0.15
8	853	\$14.50	\$62.71	\$19.41	\$1.03	\$12.75	\$0.00	\$0.20	\$2.13	\$112.73	\$4.51	\$2.87		\$120.11	\$0.07	\$0.14
9	565	\$14.50	\$41.54	\$11.27	\$0.54	\$8.45	\$0.00	\$0.13	\$1.41	\$77.84	\$3.12	\$1.97		\$82.93	\$0.07	\$0.15
7	490	\$14.50	\$36.02	\$9.77	\$0.47	\$7.33	\$0.00	\$0.12	\$1.23	\$69.44	\$2.53	\$1.62		\$73.59	\$0.07	\$0.15
8	485	\$14.50	\$35.65	\$9.67	\$0.47	\$7.25	\$0.00	\$0.11	\$1.21	\$68.86	\$2.76	\$1.75		\$73.37	\$0.07	\$0.15
9	605	\$14.50	\$44.48	\$11.07	\$0.58	\$9.35	\$0.00	\$0.14	\$1.51	\$81.63	\$3.26	\$2.08		\$86.97	\$0.07	\$0.14
7	599	\$14.50	\$44.04	\$10.96	\$0.58	\$9.31	\$0.00	\$0.14	\$1.50	\$81.03	\$3.24	\$2.07		\$86.34	\$0.07	\$0.14
9	1186	\$14.50	\$87.68	\$21.71	\$1.14	\$18.44	\$0.00	\$0.28	\$2.97	\$146.72	\$5.87	\$3.74		\$156.33	\$0.07	\$0.13
8	1418	\$14.50	\$108.16	\$26.95	\$1.36	\$22.05	\$0.00	\$0.34	\$3.55	\$176.91	\$7.07	\$4.50		\$188.48	\$0.08	\$0.13
9	1166	\$14.50	\$87.73	\$22.16	\$1.12	\$18.13	\$0.00	\$0.28	\$2.92	\$146.84	\$5.88	\$3.74		\$156.46	\$0.08	\$0.13
8	918	\$14.50	\$67.62	\$17.45	\$0.88	\$14.27	\$0.00	\$0.22	\$2.30	\$117.24	\$4.69	\$2.98		\$124.91	\$0.07	\$0.14
6	514	\$14.50	\$37.78	\$10.36	\$0.49	\$7.99	\$0.00	\$0.12	\$1.29	\$72.53	\$2.90	\$1.84		\$77.27	\$0.07	\$0.15
8	502	\$14.50	\$36.91	\$10.12	\$0.48	\$7.81	\$0.00	\$0.10	\$1.26	\$71.18	\$2.85	\$1.81		\$75.84	\$0.07	\$0.15
8	796	\$14.50	\$58.52	\$16.05	\$0.77	\$12.38	\$0.00	\$0.16	\$1.99	\$104.37	\$4.18	\$2.65		\$111.20	\$0.07	\$0.14
	793	\$14.50	\$58.06	\$14.11	\$0.76	\$12.32	\$0.00	\$0.16	\$1.98	\$101.89	\$4.08	\$2.60		\$108.57	\$0.07	\$0.14
	581	\$14.50	\$42.47	\$10.33	\$0.68	\$9.03	\$0.00	\$0.12	\$1.45	\$78.58	\$3.14	\$1.61	-\$6.09	\$77.24	\$0.07	\$0.13
	419	\$14.50	\$30.67	\$7.46	\$0.52	\$6.52	\$0.00	\$0.08	\$1.05	\$60.80	\$2.43	\$1.55		\$64.78	\$0.07	\$0.15
	475	\$14.50	\$34.73	\$9.20	\$0.58	\$8.63	\$0.00	\$0.09	\$1.19	\$68.92	\$2.76	\$1.76		\$73.44	\$0.07	\$0.15
	472	\$14.50	\$34.52	\$9.14	\$0.58	\$8.88	\$0.00	\$0.09	\$1.18	\$68.89	\$2.76	\$1.76		\$73.41	\$0.07	\$0.16

# CHANGES TO PAYBACK CALCULATION

- Blended rate versus energy rate

Rate Schedule: IP&I - GS

Current Blended Cost of Electricity: \$0.163/kWh

Blended Rate **\$.163/kWh:**

\$7,605 Total Bill/ 46,800 Total kWh

Energy Rate **\$.145/kWh:**

\$6,823 Total Energy charge/46,800 Total kWh

Time Periods	Energy Use (kWh)	Charges Other	Charges Energy	Total
Bill Ranges & Seasons	Total			
1/1/2020 - 2/1/2020 W	4,240 ✓	\$66	\$503	\$569 ✓
2/1/2020 - 3/1/2020 W	5,400 ✓	\$62	\$759	\$821 ✓
3/1/2020 - 4/1/2020 W	5,900 ✓	\$66	\$557	\$623 ✓
4/1/2019 - 5/1/2019 W	7,400 ✓	\$64	\$522	\$586 ✓
5/1/2019 - 6/1/2019 W/S	2,300 ✓	\$66	\$435	\$501 ✓
6/1/2019 - 7/1/2019 S	1,360 ✓	\$64	\$244	\$308 ✓
7/1/2019 - 8/1/2019 S	1,200 ✓	\$66	\$218	\$284 ✓
8/1/2019 - 9/1/2019 S	1,140 ✓	\$66	\$207	\$273 ✓
9/1/2019 - 10/1/2019 S/W	1,080 ✓	\$64	\$135	\$249 ✓
10/1/2019 - 11/1/2019 W	1,620 ✓	\$66	\$250	\$316 ✓
11/1/2019 - 12/1/2019 W	10,440 ✓	\$64	\$1,438	\$1,502 ✓
12/1/2019 - 1/1/2020 W	10,220 ✓	\$66	\$1,408	\$1,474 ✓
Totals:	46,800	\$782	\$6,823	\$7,605

# CHANGES TO PAYBACK CALCULATION

## REAP RES/EEI/EEE Scoring



## SIMPLE PAYBACK RES REPLACEMENT

Total Project Cost: \$72,000

46,000 kWh RES annual generation

46,800 kWh annual historical use

Blended Rate \$.163/kWh:

46,000 kWh x \$.163 = \$7,498 15pts

Energy Rate \$.145/kWh:

46,000 kWh x \$.145 = \$6,670 10pts

**(i) Renewable energy systems**

**Renewable Energy Systems Simple Payback** = Total project costs / Dollar value of energy units replaced, credited, sold, or used and fair market value of byproducts as applicable in a typical year. *Historical use must be based on average actual energy used by applicant entity over at least the most recent 12 month period. Only energy charges directly reduced by the unit of energy being replaced should be included in the actual average price of energy for replacement projects. Documentation should be provided to justify the quantity and price per unit of energy and byproducts (e.g. compost from a digester or distillers grain from ethanol plant). Documentation of price per unit of a conventional fuel source may be provided to calculate payback when renewable energy will be used in a new facility or off grid application. Residential energy consumption is excluded. Do not include proposed additional energy consumption. Does not include tax credits, carbon credits, RECs and construction or investment related benefits which are not received for the entire life of the system. Quotient over a whole number is rounded up to the next whole number.*

Total Project Costs (Auto Calculates):	\$72,000	\$ Replaced	\$7,498	9.60
		\$ Sold or Credited		
Total Income:	\$7,498	\$ Used		
		\$ By Products		

If the simple payback of the proposed project is:

(1) Less than 10 years, award 15 points.	Points
(2) 10 years up to but not including 15 years, award 10 points.	
(3) 15 years up to and including 25 years, award 5 points.	15
(4) Longer than 25 years, award 0 points.	

Total Project Costs (Auto Calculates):	\$72,000	\$ Replaced	\$6,670	10.79
		\$ Sold or Credited		
Total Income:	\$6,670	\$ Used		
		\$ By Products		

If the simple payback of the proposed project is:

(1) Less than 10 years, award 15 points.	Points
(2) 10 years up to but not including 15 years, award 10 points.	
(3) 15 years up to and including 25 years, award 5 points.	10
(4) Longer than 25 years, award 0 points.	

## 7. SIZE OF REQUEST

7. Size of request – 10 points
  - a. Grant applications requesting less than \$125,000 for EEI
  - b. Grant applications requesting less than \$250,000 for RES

## 8. STATE DIRECTOR/ ADMINISTRATOR POINTS

8. State Director/Administrator points – 10 points
  - a. Under-represented technology
  - b. Geographic diversity
  - c. Unserved or under-served population (veteran, socially disadvantaged)
  - d. Selection helps further a Presidential initiative or a Secretary of Agriculture priority
  - e. Federally Declared Disaster area within last 3 calendar years
  - f. Project is located in an area where 20 percent or more of its population is living in poverty, as defined by the U.S. Census Bureau
  - g. Area which has experienced long-term population decline, or loss of employment

*Under-served communities* mean communities that have limited access to affordable, healthy foods, including fresh fruits and vegetables, in grocery retail stores or farmer-to-consumer direct markets and that have either a high rate of hunger or food insecurity or a high poverty rate as reflected in the most recent decennial census or other Agency-approved census.

# HOW THE POINTS ARE USED (SCENARIO)

Company Name	Amount Requested	USDA REAP Score
Company A	\$50K	95
Company B	\$20K	90
Company C	\$10K	85
Company D	\$60K	80
Company E	\$20K	75
Company F	\$40K	70

**\$200K**

**\$180K budget**

\$160K; only \$20K remaining

- Will Company F take \$20K or will the application go up to the national level?

# PROJECTS OF \$80,000 OR LESS<sup>42</sup>



# USDA CONTACTS

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- Ryan Hamel, PE, CEM, CMVP – K-State; Kansas Energy Program
- Kurt Foley, EMIT – K-State; Kansas Energy Program
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