

With the Flip of a Switch on the Rural
Frontier: REA Lights the Way

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In July, I began my National History Day project by searching for the perfect topic related to my passion, agriculture. Growing up in the midwest and working on the family farm means I've heard many stories about rural life. In fact, my curiosity concerning rural electrification was initially sparked by listening to my grandfather's recollections about challenges my great-grandparents faced while living and working on the same farm with no electricity. Additionally, my experiences attending Butler County Rural Electric Cooperative annual meetings furthered my interest in researching both how electric cooperatives formed and transformed the American rural frontier.

In August, I began my research with secondary sources, such as books and journal articles, to build knowledge on rural electrification. In October, I visited the University of Northern Iowa library where I obtained additional articles and documents, such as a Depression-era diary about rural life before electricity. Shortly after, Butler County REC shared access to their collection of articles, photos, and documents from the inception of electric cooperatives. Next, I utilized Newspapers.com, New York Times Online and Newspaper Archives to find articles from the time period my topic occurred. Later, I obtained posters and films created by the Rural Electrification Administration through the Library of Congress that provided examples of REA efforts to promote rural cooperatives. Additionally, I found primary source documents, photographs, and oral narratives in online collections from the U.S. Department of Agriculture, National Archives, Franklin D. Roosevelt Presidential Library, National Museum of American History, Southern Oral History Program, Franklin Institute, Henry Ford Museum, Hathi Trust, and the American Presidency Project. Finally, I conducted interviews with 99-year-old Anna Mae Bahlmann and 88-year-old Lloyd Stauffer concerning their

recollections of rural life with and without electricity, 94-year-old retired REC employee Carl Heyenga who installed the original rural lines, current Butler County REC manager Craig Codner and Board President Duane Rieckenberg who expanded my knowledge concerning rural cooperatives past and present, and current U.S. Secretary of Agriculture Tom Vilsack who deepened my understanding of RECs and aided my topic analysis.

With my research complete, I began creating my project. I selected the individual website category because I felt I could best portray my topic through a combination of pictures, documents, quotes, audio clips, video clips, and my own words. I created my project using NHD WebCentral, selected yellow as the accent color to symbolize how electricity lit up the rural frontier, and utilized iMovie to edit interviews, films, and audio clips for my project.

My thesis presents a strong argument concerning my topic, its theme connections, and significance. In 1935, President Franklin D. Roosevelt established the Rural Electrification Administration (REA) that, by the flip of a switch, lit up the rural frontier. After being rejected by private utilities, the REA's low-cost loan provision prompted establishment of rural electric cooperatives, which provided affordable, reliable, rural electric access that sparked economic and cultural transformation, and created a key conduit for continued rural vitality through focusing on people, communities, and energy innovation.

Annotated Bibliography

Primary Sources

Archival Collection

Butler County Rural Electric Cooperative Collection, 1936-2022. Butler County REC, Allison, Iowa.

Butler County REC had an incredible collection of photographs, documents, and newsletters dating back to the inception of this rural cooperative, which provided excellent primary source material for several pages of my website. I was excited to find it had photographs of Carl Heyenga putting up poles and electric wire in the 1950s because I later got to interview the now 94-year-old Heyenga. Overall, this collection offered important visual and written evidence from the time period that helped me show the process of rural electrification and the reaction to it.

Books

Rural Electrification Administration. *A Guide for Members of Cooperatives*. Washington D.C.: United States Government Printing Office, 1939.

This guidebook for cooperative members covered numerous topics regarding the REA, including facts about electric cooperatives, benefits of rural electrification, and step-by-step guidance on the uses of electricity for farm and home. It also included visuals that provided information and tips designed to educate rural residents about electric appliances, safety, and the overall benefits of rural electricity. I used two of these illustrations on the “Powerful Impact” page of my website to show the instant transformative effects that one mere kilowatt hour of electricity meant to the farm and the farm home.

Rural Electrification Administration. *Electric Power on the Farm*. Washington D.C.: United States Government Printing Office, 1936.

Electric Power on the Farm had a great deal of information about how electricity transformed urban areas and provided detailed diagrams comparing rural electrification in various countries. It shocked me to learn that the U.S. ranked last in rural electrification among those countries. This information deepened my understanding of the need for the REA program and the development of a cooperative approach to light up the rural frontier, which I explained on the “Lighting the Way” and “A Cooperative Approach” pages of my website.

Diary

Depression Diary of Elmer Powers, 1932-1933. Digital transcript of original diary. University of Northern Iowa. https://iowahist.uni.edu/Social_Economic/Powers_Diary/elmer_powers_diary.htm.

Iowa farmer Elmer Powers' diary described the Great Depression, his concerns about commodity prices and banks, and overall life on the rural frontier without electricity. Powers' perspective was very eye-opening concerning the hardships of rural life. Thus, I used a quote from his diary about the dark days of the Depression on the "Sparking Change" page of my website, as it gave context for understanding how FDR's promise of a New Deal helped him win the presidency.

Film

"Power and the Land." USDA, Rural Electrification Administration, 1940. Posted by Electriccoops, 13 June 2013. www.youtube.com/watch?v=-KVwWAJBjUA.

The Rural Electrification Administration made this film in 1940 to illustrate the problems associated with life on the rural American frontier due to the lack of electricity. I used a clip from it on the "Sparks Fly" page of my website to show how the REA's film successfully built public confidence in the REA and the cooperative approach for providing affordable and reliable electricity throughout the rural frontier.

Government Document

U.S. Congress. Senate. Country Life Commission. *Report of the Country Life Commission*. 60th Cong., 2d sess., S. Rep. No. 60-705. Washington, D.C.: Government Printing Office, 1909.

In 1909, the Country Life Commission conducted a survey of 12,000 rural citizens and summarized their results in a report to the U.S. Senate, which revealed great quality of life differences between rural and urban areas. The report also included a message from President Theodore Roosevelt about the dire rural situation and how cooperatives could bring improved services. This report both deepened my understanding about the conditions at the time and provided a quote from Roosevelt that I used on the "Electric Divide" page of my website to illuminate how this dark situation negatively affected both farmers and farmwives.

Interviews

Bahlmann, Anna Mae. Interview by the author. January 25, 2023.

A true highlight of my research was interviewing my 99-year-old great, great aunt, Anna Mae Bahlmann! During our hour-long conversation, she told me stories about the hardships of growing up on a farm without electricity, visiting her grandma in town who had electricity, and the absolute joy she felt when she flipped the switch and the lights came on for the first time in her own home. Anna Mae's interview provided a crucial first-hand perspective about rural electricity, which is why I used an audio excerpt and a video clip from it on the "Electric Divide" and "Powerful Impact" pages of my website.

Heyenga, Carl. Interview by the author. February 16, 2023.

I was fascinated by the stories 94-year-old retired REC linesman and manager Carl Heyenga shared during his personal interview with me. Heyenga provided important details about the way cooperatives run, the process for installing mile upon mile of rural electrical lines, and the reaction of farmers and farmwives to getting electricity for the first time. As a result, I used an audio clip and a quote from his interview that complimented a photo of Heyenga installing poles, which I got from the Butler County REC, on the "A Cooperative Approach" page of my website.

Morrison, Alvin. Interview by Dusty Rhodes. *Southern Oral History Program, University of North Carolina*. October 23, 1984.

<https://dc.lib.unc.edu/cdm/compoundobject/collection/sohp/id/10633/rec/29>.

In this Southern Oral History Program interview, Alvin Morrison described his experiences living and working on a farm without electricity and how dramatically everything changed when rural electricity became available. Morrison's personal perspective deepened my understanding about the hardships of life on the rural frontier without electricity and how rural electric cooperatives dramatically improved that situation. Additionally, I used a quote from Morrison's interview on the "Electric Divide" page of my website to highlight the labor-intensive and difficult nature of rural life before electricity.

Samuelson, Orion. Interview by Mark DePue. *Illinois State Museum*. February 2, 2009. <https://avbarn.museum.state.il.us/viewclip/3776>.

I was thrilled to discover this Illinois State Museum Society recorded interview with national agricultural broadcaster Orion Samuelson, who explained how rural cooperatives changed his life by providing electricity to his family's farm. His recollections provided first-hand information concerning how electricity transformed farm work, how his mother benefited from electricity, and how World War II delayed the rollout of electricity to rural America after the Rural Electrification Act initiated the process. I used a quote from this interview on the "Thesis" page of my website because it drives home the point that cooperatives sparked a complete cultural transformation by electrifying the rural frontier.

Stauffer, Lloyd. Interview by the author. April 9, 2023.

I interviewed my 88-year-old great uncle Lloyd Stauffer about getting electricity for the first time in 1940 on the farm where he and his wife still live today. His remembrances provided an important personal perspective about how much that event changed and improved their own lives, as well as the lives of pretty much everyone living on the rural frontier, which both confirmed and personalized the information I found in my earlier research. Additionally, his story about people trading livestock for electric appliances helped me more fully understand the extent of economic hardship experienced by people living on the rural frontier without electricity and their desperation to leave the dark times behind.

Letter

Roosevelt, Franklin D. Letter, January 15, 1943. Congressional Record, A457.

President Franklin D. Roosevelt wrote this letter to the National Rural Electric Cooperative Association, which was read at their first annual meeting in St. Louis, Missouri. In his letter, Roosevelt expressed appreciation for their efforts to support rural electric cooperatives nationwide, and even affectionately referred to the organization as a "peaceful army." I used a quote from this letter on the "Sparks Fly" page of my website because Roosevelt called electric cooperatives the most democratic form of business, while critics at the time were accusing them of promoting communist ideals.

Magazines

B. M. "Needs Other Things More than Juice." *Wallaces' Farmer*, Nov. 16, 1946, 30.

The author of this editorial, identified only by their initials, shared reasons why they were opposed to rural electricity. In particular, they felt electrification should not be forced on anyone and stated it was un-American to do so. I used this clipping on the "Sparks Fly" page of my website because it provided an important perspective representing critics of rural electricity and the REA.

"Farm Home Gets 'New Look:' Equipment to Help Homemakers Share in Post-War Mechanical Revolution." *Wallaces' Farmer*, August 7, 1948, 34.

This article focused on new appliances, particularly irons, washers, and dryers that became available to homemakers after World War II, due to a mechanical revolution brought about by electricity. The article compared the time it took doing laundry without electricity versus the time it took doing the same amount of laundry with electricity and the hours saved by homemakers. I used this headline on the "Powerful Impact" page of my website because it represents the transformative effects of electricity for farmwives through rural electrification.

Kelloway, E.A. "Around the Farm and in the Feedlot." *Wallaces' Farmer*, January 21, 1950, 55.

This article discussed an REA announcement that 78 percent of the nation's farms had been electrified by 1950 and a million more would be soon. I used an excerpt from this article on the "Powerful Impact" page of my website to show the massive growth of rural electrification over a short time period.

"Power Lines Bring Help to Farms: Electricity Makes Cheap "Hired Man" and Means a Better Life for the Whole Family." *Wallaces' Farmer*, August 7, 1948, 37.

This 1948 *Wallaces' Farmer* article provided statistics concerning the number of Iowa farms that had electricity a dozen years after the REA's passage. It also helped me understand how acquiring electricity changed the lives of farm women and how the REA impacted the economy through job creation and electric appliance sales. I used this headline on the "A Cooperative Approach" page of my website to reinforce that rural electric cooperatives brought great change to the rural frontier, and used the subtitle on the "Powerful Impact" page to point out the economic effects of rural electrification.

"Wiring Farms for Electricity: Rural Electrification Administration Stimulates Line Construction Thru Loans." *Wallaces' Farmer*, January 16, 1937, 1.

This article explained that private utilities wouldn't provide power to rural Iowa due to high costs that made it unprofitable. It also had statistics concerning the number of Iowa farmers who had electricity and how those numbers rose over time. I used this article's headline on the "A Cooperative Approach" page of my website to show how the REA contributed to rural electrification.

Newspapers

Associated Press. "Ickes Throws Switch on Electrical Farm to Milk Cows, Kill Flies and Shave Farmer." *The New York Times*, July 23, 1936, 1.

This 1936 article discussed the moment when Secretary of Agriculture Harold Ickes flipped the switch on the Rosedale dairy farm exhibit at the 3rd World Power Conference sponsored by the Rural Electric Administration. This exhibit demonstrated the labor-saving advantages and everyday conveniences of work and life with electricity. This helped me understand the educational aspect of rural electrification that was needed to get farmers to join rural cooperatives.

Associated Press. "Text of Executive Order: Electric Home and Power Authority Created by Roosevelt." *The Evening Star* (Washington, D.C.), December 20, 1933, 4.

This article included the text of FDR's 1933 executive order creating the Electric Home and Farm Authority for the Tennessee Valley to promote full utilization of productive practices and growth of industries, such as electricity, to increase purchasing power and relieve unemployment. This article helped me better understand the TVA and how it became a model for the REA in the delivery of rural electricity, which was useful for the "Lighting the Way" page of my website.

Associated Press. "U.S. Seeks Larger Electricity Use: Million-Dollar Agency Will Help Tennessee Valley Utilize Power." *The Evening Star* (Washington, D.C.), December 20, 1933, 4.

In December 1933, FDR used his executive power to establish the Electric Home and Power Authority in the Tennessee Valley. Its purpose was to provide loans, educate consumers, and reduce power rates through agreements with private utilities. The intent of this plan was to test its suitability in Tennessee and expand it nationwide, which I discussed on the "Lighting the Way" page of my website.

Barre Daily Times (Barre, VT). "Much Support for Electric Cooperatives." Feb. 28, 1941.

This article discussed a 1941 public hearing of the Vermont legislature, in which many people expressed the opinion that the state should support rural electric cooperatives because 63 percent of rural Vermont farms lacked electricity. This helped me grasp the severity of the situation for rural Americans. Also, I used this headline on the "Sparks Fly" page of my website to show the strength of rural support for electric cooperatives as a way to improve their dire circumstances.

Brooklyn Daily Eagle (Brooklyn, NY). "Wall St. in Panic as Stocks Crash." October 24, 1929, 1.

This article described the stock market crash of 1929, which plunged the United States into the Great Depression. This event caused widespread American suffering and, when the government failed to intervene, led to the election of Franklin D. Roosevelt who campaigned on a New Deal plan that included rural electrification. I used this headline on the "Sparking Change" page of my website because it refers to the event that sparked the rollout of New Deal programs, including the REA, which lit up the rural frontier and alleviated despair.

Coontz, John. "America's Greatest Project." *Charleston Daily Mail* (Charleston, WV), November 12, 1933, 28.

Coontz's article discussed the Tennessee Valley Authority, which was authorized by President Roosevelt in 1933 to bring electricity, jobs, and infrastructure to two million people living in rural Tennessee. It was also considered an experiment to decide if this model could be applied to other regions of the country. Because the TVA's success ultimately led to the establishment of the REA, I used a map and quote from this article on the "Lighting the Way" page of my website.

Farmers' Weekly Review (Joliet, IL). "Electricity Spurs More Modernizing of Rural Homes." January 17, 1940, 1.

This article urged rural families to make a list of electric appliances they were most likely to purchase before deciding where to place wall outlets. Also, it discussed that electric home appliances made farmwives' work safer because they no longer had to add gasoline or kerosene to the fire in their indoor cookstoves. This article greatly expanded my knowledge concerning the effects of rural electrification for rural homes, which helped me determine what to write on the "Powerful Impact" page of my website.

Farmers' Weekly Review (Joliet, IL). "Taking Electricity to Rural America Approaches Completion." July 7, 1948, 3.

This article stated many interesting facts that were useful in understanding the short-term impact of electrifying the rural frontier. It stated that, within four years, new power lines could circle the globe eighteen times! I used this headline and a quote on the "Powerful Impact" page of my website to show the growth of rural electrification and the role it played in American progress.

The Humboldt Republican (Humboldt, IA). "Need of Electricity on Farms Compelled REA Establishment." October 21, 1938, 1.

This article provided information about attempts before the REA to bring electricity to rural areas through cooperatives, which almost always failed because of funding issues. However, once the REA was established and provided a significant, sustained funding source, rural electric cooperatives sprang up all across the U.S. to make rural electricity a reality. I used this headline on the "Lighting the Way" page of my website because it showed how the desperate need for rural electricity contributed to creation of the REA.

IRECA News. "More IRECA News - Our Newspaper." January 1948, 1.

The Iowa Rural Electric Cooperative Association began publishing a statewide newspaper for its members in 1948 and this editorial appeared in the first issue. The purpose of this newspaper was to build confidence in rural cooperatives so people would support their mission to electrify the rural frontier. I used the front page of the newspaper, in which the editorial appears, on the "Sparks Fly" page of my website because it shows one way the REA promoted a positive message about cooperatives when private utilities and politicians were criticizing them.

Lancaster Farming (Ephrata, PA). "Nearly 95 P.C. of Farms in U.S. Now Electrified." October 26, 1956, 7.

This article revealed that 95 percent of U.S. farms had been electrified by 1956 and discussed the role of rural cooperatives in making it happen. I used the headline from this article on the "Powerful Impact" page of my website to show the degree to which the REA and rural electric cooperatives impacted life on the rural frontier through electrification.

The New York Times. "Electricity Curbs for Farms Denied: Federal Agency Says Loans for Rural Power Surpass Volume Under Truman." April 11, 1954, 53.

This article discussed criticism by U.S. Congressional Democrats that the REA was deliberately slowing progress of the farm power program. The REA countered that claim as false because the agency had issued more loans than the previous year after a \$45,000,000 increase was approved by the House Agricultural Appropriations subcommittee the prior year. This helped deepen my understanding of the conflict surrounding rural electrification.

The New York Times. "Few Farmers Use Electric Current." May 23, 1924, 33.

This article discussed the lack of affordable electricity available to farmers in 1924, as only 2.5% had rural power at that time. I used the headline from this article on the "Electric Divide" page of my website to show how rural Americans were left in the dark compared to their highly electrified urban counterparts.

The New York Times. "Tractors Carrying Power to Farms." May 23, 1937, 65.

This article discussed how private utilities took their opposition beyond advertisements, editorials, and political agendas by erecting "spite lines" to limit areas where RECs could serve customers. I used a quote from this article on the "Sparks Fly" page of my website about these actions, which usually happened at night and disrupted cooperatives' efforts to electrify rural America.

The New York Times. "Winter Says REA Seeks Socialism." December 2, 1941, 16.

This article discussed a chief criticism put forth by anti-big government politicians concerning the REA's financial support of rural cooperatives. By playing on communist fears developed during the Red Scare, politicians turned public opinion against cooperatives. I used this headline and a quote on the "Sparks Fly" page of my website to show an important perspective on my topic.

Oakland Tribune (Oakland, CA). "Increasing Demand for Electricity in Homes." September 13, 1928, 22.

This article discussed the growing demand for household appliances in urban areas during the 1920s. It also stated sales of appliances increased 265 percent in one year, due to availability of electricity. I used this headline on the "Electric Divide" page of my website to emphasize electric trends and their impact.

Utley, William C. "REA Plans Power for 1,000,000 Farms." *The Roanoke Rapids Herald* (Roanoke Rapids, NC), October 3, 1935, Feature.

This article explained the REA's plan for bringing electricity to 1,000,000 rural Americans with assistance from rural electric cooperatives, a move designed to positively impact the lagging economy through job creation. I used this headline on the "Lighting the Way" page of my website to show how the REA's actions were intended to both electrify the rural frontier and bring jobs to people.

The Ypsilanti Press (Ypsilanti, MI). "I Won't Eat." June 22, 1944, 4.

This brief article discussed a resident of St. Louis, Missouri, who was planning a hunger strike to protest the Rural Electrification Administration's political power. I used this article on the "Sparks Fly" page of my website as it represented a frequently shared criticism that the REA had too much political influence.

Newspaper Advertisement

Virginia Electric and Power Company. "'You Don't Ride Two Bikes When One Is Enough...Why Pay for Two Duplicate Electric Systems Where One Will Do the Job?'" Advertisement. *Tidewater Review* (West Point, VA), January 12, 1950, 6.

The Virginia Electric and Power Company took out this paid ad, designed to look like a regular article, to undermine rural cooperatives. It said cooperatives were socialist organizations, wasted public money, and provided an unnecessary duplication of private utility services. I used this ad on the "Sparks Fly" page of my website to show tactics used by private utilities to attack rural cooperatives.

Pamphlet

Rural Electrification Administration. *Power and the Land*. Washington, D.C.: Government Publishing Office, 1940.

This pamphlet was distributed to audiences before viewing the 1940 REA feature film *Power and the Land*, which was shown in theaters nationwide. The film's slogan, "Made by Real Farm People," graced the cover to give the perception the production was a documentary rather than a promotional film with paid actors, which is why I used it on the "Sparks Fly" page of my website when discussing the different methods used by the REA to promote rural cooperatives after politicians and private utilities attacked them.

Photographs

Becoming a Cooperative Member. April 1945. Photograph. South Dakota Rural Electrical Association. Accessed December 20, 2022. <https://www.sdpb.org/blogs/images-of-the-past/power-to-the-people-electrifying-rural-south-dakota/>.

This photograph shows farmers crowded in a room filling out paperwork and paying a five-dollar fee to become rural electric cooperative members. I used this photograph on the “A Cooperative Approach” page of my website because it shows the significance of rural electrification to farmers on the rural frontier.

Electric Ventilation. January 8, 1959. Photograph. South Dakota Agricultural Heritage Museum. Huron, SD. Accessed February 25, 2023. <https://www.sdpb.org/blogs/images-of-the-past/power-to-the-people-electrifying-rural-south-dakota/>.

This photograph shows a farmer and a new electric ventilation fan that was installed in his barn to improve air quality for himself and his livestock. Improvements such as these were made possible by rural cooperatives providing electricity that powered much needed equipment for farms. I used this photograph on the “Powerful Impact” page of my website as an example of how rural electricity improved the health and safety of farmers.

Emptying Milk into the Bulk Tank. November 8, 1955. Photograph. South Dakota Agricultural Heritage Museum. Accessed February 25, 2023. <https://www.sdpb.org/blogs/images-of-the-past/power-to-the-people-electrifying-rural-south-dakota/>.

This photograph shows a farmer dumping milk into an electric bulk tank to prevent spoilage. This is a prime example of one of the many ways that rural electrification modernized farms and improved their profitability. I used this photograph on the “Powerful Impact” page of my website when I discussed how electricity transformed the lives of hardworking farmers.

Fair Tent. 1961. Photograph. Butler County Rural Electric Cooperative. Accessed February 23, 2023.

This photograph shows a county fair presentation in Iowa that served to educate rural residents about how electric ovens worked and the benefits of having one. I used this photograph on the “Powerful Impact” page of my website to demonstrate the transformative effects of electricity, which extended far beyond the farmer in the barn to wives and mothers in the farmhouse.

FDR Swimming in a Warm Springs, GA Pool. October 1925. Photograph. Franklin D. Roosevelt Presidential Library and Museum. Accessed January 18, 2023. <https://www.fdrlibrary.org/polio>.

This photograph shows Franklin D. Roosevelt in a swimming pool at Warm Springs, Georgia, where he frequently traveled for polio rehabilitation. I used this picture on the “Sparking Change” page of my website because FDR credited Warm Springs as the birthplace of the Rural Electrification Administration, since that is where he first discovered the lack of affordable rural electricity.

Federal Project Rural Electrification REA. c. 1940. Photograph. U.S. Department of Agriculture. Accessed 12 November 2022. <https://lcecnecnet.com/Electric-cooperatives>.

This photograph shows a sign identifying a federal project overseen by the REA. I used this photo on the “Lighting the Way” page of my website because it showed one example of methods the REA used to communicate which of its projects were active in providing electricity throughout the rural frontier.

First Truck of this Type in Iowa. Carl on pole, Al on truck. December 1957. Photograph. Butler County Rural Electric Cooperative. Accessed February 3, 2023.

I was excited to find this photograph of Carl Heyenga, Butler County REC lineman, putting in power poles and wires. It’s special because I personally interviewed the now 94-year-old Heyenga, who shared information about his experiences working for the REC and the joy of bringing electricity to farmers. I used this photograph on the “A Cooperative Approach” page of my website to illustrate the process of electrifying the rural frontier, which I paired with Heyenga’s quote and audio clip.

Ford Model A Assembly Line, Rouge Plant. 1928. Photograph. Henry Ford Museum of American Innovation. Accessed Nov. 15, 2022. <https://www.thehenryford.org/collections-and-research/digital-collections/artifact/198754#slide=gs-277700>.

This Henry Ford collection photograph shows an assembly line at a massive Ford factory in Michigan. It is an example of progress made possible by electricity in urban factories. I used this picture on the “Electric Divide” page of my website because it clearly shows how electricity positively impacted urban areas, a phenomenon that was nearly non-existent in rural areas because it wasn’t profitable for private utilities to provide electricity to sparsely populated areas.

Historic American Buildings Survey. *Roosevelt's Little White House, Georgia Highway 85-W, Warm Springs, GA*. 1933. Photograph. Library of Congress. Accessed January 18, 2023. <https://www.loc.gov/resource/hhh.ga.0421.photos>.

This picture shows FDR's Warm Springs, Georgia cottage where he went for polio rehabilitation. His ideas for rural electrification were born here, after noticing the electric bill for his cottage was four times higher than at his New York home. I used this photograph on the "Sparking Change" page of my website because his experiences in Georgia sparked Roosevelt to take action for rural electrification.

Lee, Russell. *Christmas Dinner in Home of Earl Pauley. Near Smithfield, Iowa. Dinner Consisted of Potatoes, Cabbage and Pie*. December 1936. Photograph. Library of Congress. Accessed Dec. 12, 2022. <https://www.loc.gov/item/2017763426/>.

This photograph shows a rural Iowa family with small children eating dinner during the Great Depression. Seeing the smallest child standing on a box, without a chair to sit in for their Christmas meal, reinforced my understanding of the difficulties rural families faced during the Great Depression. I used this picture on the "Sparking Change" page of my website because it shows Depression-era hardships that sparked the New Deal plan, which included the REA.

Rothstein, Arthur, photographer. *Eddie Saugstad and his son, Teddy, leaving the U.S. Rural Electrification Administration REA cooperative*. 1942. Photograph. <https://www.loc.gov/item/2017834954/>.

This photograph shows a father and son leaving a Rural Electric Administration cooperative office, which I used on the "Sparks Fly" page of my website because it has a clearly visible sign. Signs were used by the REA as a form of branding to promote the role of co-ops in rural electrification, since their reputation had been undermined by private utilities upset they no longer had an electric monopoly.

Rothstein, Arthur, photographer. *Hayti, Missouri Members of the U.S. Rural Electrification Administration Cooperative at the Annual Meeting*. 1942. Photograph. Library of Congress. Accessed January 23, 2023. <https://www.loc.gov/pictures/item/2017835102/resource/>.

This 1942 photograph shows cooperative members gathered in front of an REA co-op on the day of their annual meeting. I used this photograph on the "A Cooperative Approach" page of my website to reinforce the idea that rural electric cooperatives were member-owned and directed organizations.

Rural Electrification Administration (REA) Lineman Working on Pole as Farmer Watches. 1936. Photograph. Franklin D. Roosevelt Presidential Library and Museum. Accessed September 5, 2022. <https://fdr.blogs.archives.gov/2010/05/08/this-week-in-roosevelt-history-may-8-14/>.

This photograph shows an REC linesman putting up a pole under the watchful eye of a farmer. I used this image on the “Thesis” page of my website to illustrate the role of cooperatives in bringing electricity to the rural frontier.

Sakaer, Peter. *Rural Electrification Administration Co-op Office. Lafayette, Louisiana.* 1939. Photograph. National Archives. Accessed September 5, 2022. https://www.archives.gov/exhibits/new_deal_for_the_arts/images/work_pays_america/rural_electrification.html.

This photograph shows an electric co-op building illuminated in the darkness surrounding it. I used this photograph on the “Thesis” page of my website because it is a strong visual symbol of how rural cooperatives lit up the frontier by bringing affordable electricity to rural residents.

Unloading Spools of Wire. April 1956. Photograph. Butler County Rural Electric Cooperative. Accessed February 3, 2023.

This photograph shows Butler County Rural Electric Cooperative employees unloading large spools of wire off railroad cars. This provided a useful snapshot of the logistic processes involved in lighting up the rural frontier, which is why I used this photograph on the “A Cooperative Approach” page of my website.

Posters

A brighter future... Electricity on Every Farm. Special Collections, USDA National Agricultural Library. Accessed January 14, 2023, <https://www.nal.usda.gov/exhibits/speccoll/items/show/214>.

A brighter future... Electricity on Every Farm shows a farmer at a table writing a letter using light from an electric lamp. This poster was created by the Rural Electrification Administration to promote cooperatives providing affordable electricity to farms after private utilities tried to spread misinformation about RECs. These posters played a significant role in gaining support for rural electricity and cooperatives.

Beall, Lester. *Light - Rural Electrification Administration*. 1937. Poster. Library of Congress. Accessed January 14, 2023. <https://www.loc.gov/item/2010646236/>.

“Light” was one of many propaganda posters designed by Lester Beall in the late 1930s for the REA that promoted the need for rural cooperatives to provide electricity to powerless farms. I used this poster on the “Sparks Fly” page of my website as it illustrated the manner by which the REA responded to private utility attacks so it could fulfill its mission of electrifying the rural frontier.

Beall, Lester. *Rural Electrification Administration*. 1937. Poster. Library of Congress. Accessed January 14, 2023. <https://www.loc.gov/item/91481634/>.

The REA used this poster, which shows farm children smiling because of cooperative-provided electricity, to promote its purpose and build support for rural cooperatives. This all-out publicity campaign was needed because private utilities, which felt threatened by the REA, coordinated a public smear campaign to turn public opinion against them.

It's Coming for You. c. Late 1930s. Poster. Association of Electric Cooperatives. Accessed September 9, 2022. <https://vmdaec.com/co-op-history/>.

“It’s Coming - Electricity For You” was the slogan on a poster published by the Association of Electric Cooperatives in the late 1930s to promote the cooperative approach for rural electrification. I used this poster on the “Thesis” page of my website because it captures the significance of rural electrification and one of the main methods used by the REA to build confidence in cooperatives. This was especially important at the time because private utilities attempted to undermine the cooperatives in order to maintain a monopoly on electricity and prices.

New Member – New Owner. c. 1940. Poster. Courtesy of the Rural Electric Cooperative Association. Accessed January 25, 2023.

“New Member - New Owner” was the featured slogan on a poster published in the 1940s to promote REA electric cooperatives as member-owned and controlled. I used this poster on the “A Cooperative Approach” page of my website because rural cooperatives were focused on providing affordable, reliable electricity to members throughout the rural frontier, rather than pursuing profit like private utilities.

Speeches

Rankin, John E. "Rural Electrification." Speech, February 2, 1935. In *Vital Speeches of the Day*, 343-44. Vol. 1.

In 1935, NBC broadcasted U.S. Representative John Rankin's speech about the Tennessee Valley Authority and how it provided customers with electricity at a fraction of the cost of private utilities through leveraging local hydropower and cutting out the middleman. Rankin helped me better understand the TVA's approach and its benefits, which was useful for understanding why FDR decided to use a similar approach nationwide through establishing the REA. I used an excerpt from this speech on the "Lighting the Way" page of my website concerning the cost of electricity in TVA areas versus non-TVA areas, because it provided statistical proof about the cost-effectiveness of this approach.

Roosevelt, Franklin D. "Barnesville, GA - Address." Speech presented in Barnesville, GA, August 11, 1938. Franklin D. Roosevelt Presidential Library and Museum. Accessed January 14, 2023. http://www.fdrlibrary.marist.edu/_resources/images/msf/msf01202.

In this address, President Franklin D. Roosevelt referred to Warm Springs, Georgia, as the birthplace of the REA and stated his belief that it was the government's responsibility to bring economic stability nationwide. FDR's speech strengthened my understanding concerning Roosevelt's goals for his New Deal legislation. Therefore, I used two quotes on the "Sparking Change" and "Lighting the Way" pages of my website to show FDR's forward march toward electrifying the frontier and sparking economic progress.

Roosevelt, Franklin D. "Campaign Address on Public Utilities and Development of Hydro-Electric Power." Speech presented in Portland, OR, Sept. 21, 1932. American Presidency Project. Accessed Jan. 2, 2023. <https://www.presidency.ucsb.edu/documents/campaign-address-portland-oregon-public-utilities-and-development-hydro-electric-power>.

Franklin Roosevelt's 1932 campaign address in Portland, Oregon, demonstrated he understood hardships faced by those without electricity by stating electricity was no longer a luxury but a necessity. This showed rural Americans that FDR was committed to leading the charge for rural electrification and providing funds to make it happen. I used a quote from this address on the "Sparking Change" page of my website because it represents FDR's belief in electricity for all.

Roosevelt, Franklin D. "Inaugural Address." Speech presented in Washington D.C., District of Columbia, January 20, 1937. Franklin D. Roosevelt Presidential Library and Museum. Accessed November 14, 2022. http://www.fdrlibrary.marist.edu/_resources/images/msf/msf01059.

In his second inaugural address, President Franklin D. Roosevelt spoke about his administrative priorities, one of which was electrifying the rural frontier to overcome the divide between urban and rural Americans. I used a quote from this address on the "Lighting the Way" page of my website because it describes Roosevelt's desire to help rural Americans live better lives through rural electrification.

Unpublished Manuscript

Bahlmann, Anna Mae. *Written Recollections*. 1988.

My great, great aunt, Anna Mae Bahlmann, wrote these recollections for her grandchildren to help them understand what life was like growing up as a little girl during the Great Depression without the conveniences of rural electricity. This primary source included descriptions and commentary about the struggles she faced as a teacher in a one-room schoolhouse without electricity and her excitement when she finally experienced the conveniences of electricity. This was helpful in the creation of the "Electric Divide" and "Powerful Impact" pages of my website.

Secondary Sources

Books

Phillips, Sarah T. *This Land, This Nation: Conservation, Rural America, and the New Deal*. New York, NY: Cambridge University Press, 2007.

Phillip's book provided a detailed explanation about Roosevelt's New Deal plan and how new government programs, such as rural electrification, assisted rural development. This source provided important historical context for understanding my topic as a whole and the events that sparked rural electrification, which was extremely helpful in determining the content focus for the "Sparking Change" and "Lighting the Way" pages of my website.

Rural Electrification Administration. *Rural Lines-USA: The Story of the Rural Electrification Administration's First Twenty-Five Years: 1935-1960*. Washington D.C.: U.S. Government Printing Office, 1960.

The Rural Electrification Administration published this book on the twenty-fifth anniversary of its existence to document both the history of the REA and the significance of member-owned electric systems to the prosperity of rural America. It contained a great deal of helpful information, as well as valuable charts, pictures, diagrams, and a historical timeline of key events in rural electrification. I found this crucial source early in my research and came back to it frequently while creating an organizational plan for my project and to verify information throughout the creation of my website.

Interviews

Codner, Craig. Interview by the author. February 16, 2023.

I conducted a personal interview with Craig Codner, General Manager of Butler County Rural Electric Cooperative, who provided valuable insight concerning the role of the REC and its expansion over his twenty-five years of service with the cooperative. Codner explained how rural cooperatives are leaders in energy innovations such as electric vehicles, renewable energies, and nuclear capabilities, as well as their role in decreasing the digital divide between urban and rural areas through providing increased access to rural broadband. I used two quotes from Codner's interview on the "A Cooperative Approach" and "Powerful Impact" pages of my website because they reinforce the important role rural electric cooperatives play in ensuring the vitality of rural America.

Rieckenberg, Duane. Interview by the author. February 16, 2023.

My personal interview with Duane Rieckenberg, Board President of Butler County Rural Electric Cooperative, helped me understand how board members are elected and their responsibility for deciding matters that impact the cooperative and its members. Rieckenberg also shared ways that co-ops are changing and adapting to make electricity a more sustainable source of power for the ever-growing needs of today's rural communities. I used two quotes from Rieckenberg's interview on the "A Cooperative Approach" and "Powerful Impact" pages of my website that provide elaboration on the functions of rural electric co-ops for their members and communities.

Vilsack, Tom. Interview by the author. March 15, 2023.

It was exciting to interview U.S. Department of Agriculture Secretary Tom Vilsack, who deepened my understanding of the relationship among and roles of the USDA, REC, and NRECA (past and present) in providing for the power needs of rural America. Vilsack, who previously served as the Governor of Iowa, had deep knowledge on my topic, including the economic and personal significance of rural cooperatives for ensuring continued rural vitality. This interview aided my topic analysis and provided an excellent quote I used on the “Powerful Impact” page of my website to drive home how RECs affect rural communities.

Journals

Free, Jonathon. "Meet Mr. Kilowatt: Building Demand for Electricity in the Rural U.S., 1936-1940." *Technology's Stories* 5, no. 3 (January 3, 2017).

This journal article discussed electric inventions on the farm, such as electric chicken and pig brooders that saved the lives of livestock through heat given off from electric bulbs. Additionally, the article included graphics about the importance of one kilowatt hour, which inspired me to do deeper research to locate the origins of the illustrations and learn more. Finally, this source helped me make content decisions for the “Powerful Impact” page of my website.

Kitchens, Carl, and Price Fishback. "Flip the Switch: The Impact of the Rural Electrification Administration 1935–1940." *The Journal of Economic History* 75, no. 4 (2015): 1161-1195.

This journal article provided clarity about REA loans through charts and graphs showing the number of loans made and other loan factors. I learned that REA loans to rural electric cooperatives were required to increase agricultural productivity and improve amenities in the homes of those who received electricity. This was useful for the “A Cooperative Approach” page of my website in which I discussed the provision of REA loans to cooperatives and consumers.

Kleinjan, Brenda. "Don't Shoot! Vandals and Errant Shots Wreak Havoc with Equipment." *Cooperative Connections* 20, no. 7 (November 2019): 12-13.

This journal article provided the photograph I used as the header for my website pages. I selected it because of the series of rural power lines in the photograph, which symbolizes how the REA and rural cooperatives closed the electric divide to improve life on the rural frontiers of America.

Kline, Ronald. "Resisting Development, Reinventing Modernity: Rural Electrification in the U.S. before World War II." *Environmental Values* 11.3 (2002): 327-344.

Kline's article examined initial resistance to the New Deal's rural electrification program, which some opposed as they didn't understand how it would transform their lives. In response, the REA created a campaign to educate rural residents about electricity, which I discussed on the "Sparks Fly" page of my website.

Morain, Tommy. "Life Without Automobiles & Rural Electrification in 20th-Century Iowa." *Iowa Heritage Illustrated* 81.3-4 (2000).

This journal article was interesting because it discussed information I hadn't encountered in other sources about how the lack of electricity stigmatized farmers and caused them to be viewed as second-class citizens. It also discussed how the Rural Electrification Act changed the lives of rural Americans through providing electricity that brought about mechanical advancements on the farm and in the home. This article helped me better grasp the overall situation and determine what to include on the "Electric Divide" page of my website.

Sablik, Tim. "Electrifying Rural America: During the Great Depression, Communities Banded Together to Bring Electricity to America's Farmland." *Econ Focus*, 2020, 24-26.

This journal article was a valuable source focused on farmers banding together to form rural electric cooperatives during a time when cooperatives existed but were not commonly used for the distribution of rural electricity. It had particularly helpful information about the REA's role in organizing cooperatives and negotiating prices. Additionally, it provided a quote for the "A Cooperative Approach" page of my website that told why private utilities rejected REA loans.

Wolfe, Audra J. "How Not to Electrocute the Farmer: Assessing Attitudes Towards Electrification on American Farms, 1920-1940." *Agricultural History*, vol. 74, no. 2, 2000, pp. 515-29.

This journal article discussed safety concerns of rural residents before they were assured that electricity would be a safe way to relieve the drudgery of their daily lives. Much of the initial skepticism was influenced by private utility smear campaigns, but that lessened once the REA countered with its own promotional campaign. These perspectives were helpful for constructing the "Sparks Fly" page of my website.

Letter

Federal Broadband Infrastructure Coalition. Letter, June 28, 2021. Accessed March 4, 2023. <https://www.electric.coop/wp-content/uploads/2021/06/Federal-broadband-infrastructure-coalition-letter.pdf>.

The National Rural Electric Cooperative Association and 170+ advocacy groups wrote this letter to Congress, which urged full funding for rural broadband infrastructure to close the digital divide between rural and urban America. I used a quote from this letter on the “Powerful Impact” page of my website that compares the need for Congressional action in this modern circumstance, to the rural electric needs that FDR responded to when he created the REA in the 1930s.

Magazines

Berger, Michele W. "How the Appliance Boom Moved More Women into the Workforce." *Penn Today*, January 30, 2019. Accessed March 3, 2023. <https://penntoday.upenn.edu/news/how-appliance-boom-moved-more-women-workforce>.

This article discussed electrification and the degree to which it transformed women’s lives in the time period after World War II known as the appliance boom. One particularly interesting detail concerned a report about the number of hours women spent doing housework before they had electricity versus after their households had electricity. I learned that after electrification, rural women had much more time available to acquire jobs outside the home, take trips into town, and participate in leisurely activities, which I explained on the “Powerful Impact” page of my website.

Jarvis, Brooke. "Empowered by the Past: Red State Co-ops Go Green." *YES!*, April 4, 2013. Accessed February 23, 2023. <https://www.yesmagazine.org/issue/issues-how-cooperatives-are-driving-the-new-economy/2013/04/04/empowered-by-the-past-how-red-states-grow-green-co-ops>.

Brooke’s article discussed various rural cooperative programs today that focus on renewable energy resources. Many modern programs are experimental but show the promise of rural cooperatives collaborating to find answers for society’s ever-changing energy needs. This helped me better understand the continuing role, yet changing focus, of cooperatives today, which I emphasized on the “Powerful Impact” page of my website.

Schilling, Emily. "Like a New World Dawn of Rural Electrification 85 Years Ago Changed the Countryside." *Indiana Connection*, April 23, 2020. Digital file.

This article discussed hardships faced by rural families in the years prior to rural electrification and how President Roosevelt's REA plan helped close the electric divide for rural residents. This article deepened my understanding of what farmers faced and the life-changing effects the REA had on rural Americans. I used two photographs from this article on the "Electric Divide" and "Powerful Impact" pages of my website.

Newsletters

Butler County Rural Electric Cooperative. "Annual Meetings Date Back to 1936." *In Touch*, February 2012.

This newsletter discussed the first annual meeting of the Butler County Rural Electric Cooperative in 1936, at which they elected board members, adopted laws, and approved the process for building power lines. Attendance at annual meetings grew over the years and, by 1961, a record 1,300 REC members were in attendance. This enhanced my knowledge of both the process by which rural cooperatives operate, as well as the significant role they played in electrifying the rural American frontier, which I emphasized on the "A Cooperative Approach" page of my website.

Butler County Rural Electric Cooperative. "Celebrating 75 Years of Service." *In Touch with Members of Butler County Rural Electric Cooperative*, June 2011, 4.

This article celebrated a significant milestone for Butler County Rural Electric Cooperative, 75 years of providing member service, which began on June 29, 1936. It also elaborated on the history of the cooperative, which taught me that Butler County Rural Electric Cooperative received its first REA loan in July 1937, and used it to build eighty-three miles of power line for its members. This helped me better understand the method by which cooperatives provided affordable and reliable rural electricity, an amenity from which I still benefit as a Butler County REC member!

Butler County Rural Electric Cooperative. "Married Life Spans History of Co-op." *In Touch*, November 2011.

This article told the story of a married couple who didn't have the luxuries of electricity on the farm they lived on and had to rely on kerosene lamps and gasoline powered milkers. When Butler County Rural Electric Cooperative hooked them up with electricity, it completely changed their lives, which was helpful for understanding the impact of rural electricity.

Butler County Rural Electric Cooperative. "1936: The Dream Becomes Reality." *In Touch with Members of Butler County Rural Electric Cooperative*, July 2011.

This article discussed the organization of the Butler County Rural Electric Cooperative in 1936 during a time when farmers lacked electricity due to the fact it wasn't profitable for private utilities to provide. In response, farmers organized into rural cooperatives and applied for loans through the REA to bring light to the rural frontier. This was helpful information I included on the "A Cooperative Approach" page of my website.

Butler County Rural Electric Cooperative. "1938: The Family Farm Is Energized." *In Touch with Members of Butler County Rural Electric Cooperative*, October 2011.

In this article, Bill Debner recalled the day in 1938 when, at 5-years-old, his family's farm was electrified. This article discussed that ten members had to request electricity in an area before crews built power lines to connect them, and that farmers were responsible for wiring their homes prior to getting electricity. Debner's recollections provided insight regarding the joys people experienced when they flipped the power switch for the first time in their own rural homes, which I discussed on the "Powerful Impact" page of my website.

Butler County Rural Electric Cooperative. "Remembering When the Lights Came on." *In Touch with Members of Butler County Rural Electric Cooperative*, August 2011.

In 1934, Ernest Neal, a rural farmer from Shell Rock, Iowa, realized that the only way he and his neighbors would get electricity would be by forming their own rural electric cooperative. Neal, along with other dedicated farmers, diligently worked toward the goal of electrification through obtaining an REA loan for their newly established cooperative. I used a quote from Ernest Neal on the "Powerful Impact" page of my website to show the happiness people experienced when they flipped the switch for the first time.

Newspapers

The Associated Press. "R.E.A. out to Find Rural-Area Jobs: Enlisting Co-ops in Drive to Help Idle Farm Workers." *The New York Times* (New York, NY), August 6, 1961, 64. <https://login.proxy.lib.uni.edu/login?url=https://www.proquest.com/historical-newspapers/r-e-out-find-rural-area-jobs/docview/115466853/se-2>.

This article explained how President Kennedy expanded the role of the Rural Electric Administration to create jobs for 1,400,000 unemployed rural Americans. This helped to improve one of the negative unintended consequences of rural electrification, the loss of jobs on the farm because farmers no longer needed multiple hired hands. This provided useful information for the "Powerful Impact" page of my website.

Emery, Tom. "Power to the People: Rural Cooperatives Reminders of Massive Effort to Bring Electric to Farms." *Jacksonville Journal-Courier* (Jacksonville, Illinois), April 30, 2022. Accessed November 17, 2022. <https://www.myjournalcourier.com/news/article/Rural-cooperatives-reminders-of-massive-effort-to-17085754.php>.

This article provided useful information on the role of rural cooperatives today and in the past. It also featured a picture of a farmhouse with a bright light shining in a window that I used as the cover image on the homepage of my website. This photo captures the significance of the REA and rural cooperatives, which by the flip of a switch brought electricity to Americans who had previously been living in the dark on the rural frontier.

Reference Books

Brown, Clayton D. "Rural Electrification Administration (REA)." In *Encyclopedia of the Great Depression*, edited by Robert S. McElvaine, 853-57. Vol. 2. N.p.: Macmillan Reference USA, 2004.

This reference book article had interesting information regarding the steps taken to create a program designed to bring electrification to the rural areas of the United States. It provided important contextual information about how the Tennessee Valley Authority, through its creation of farmer-owned rural electric cooperatives, provided a successful model for providing electricity to rural areas. Additionally, it discussed the effects of electricity on people's lives, which was useful for the "Impact" page of my website.

"Electrifying Rural America." *Great Depression and the New Deal Reference Library*, edited by Allison McNeill, et al., vol. 1: Almanac, UXL, 2003, pp. 143-158.

This reference book article was organized into a timeline account of rural electrification, the events leading up to it, and included illustrative photographs, as well as a map that provided helpful historical context. It also provided information concerning how rural electrification modernized American farms to make the U.S. a world leader in agriculture. This aided the development of the "Sparking Change" and "Powerful Impact" pages of my website.

Klein, Andrew R. "Rural Electrification Act (1936)." In *Major Acts of Congress*, edited by Brian K. Landsberg, 167-68. Vol. 3 of *Major Acts of Congress*. N.p.: Macmillan Reference USA, 2004.

Klein's reference book article illuminated factors that contributed to the creation of the Rural Electrification Administration and later congressional passage of the Rural Electrification Act in 1936. These actions resulted in lighting up the rural frontier as one of the most important pieces of New Deal legislation put into effect during Franklin D. Roosevelt's presidency. This information was very useful for both the "Sparking Change" and "Lighting the Way" pages of my website.

Lerner, Adrienne Wilmoth. "'Mr. Carmody, We Want Lights': The Tennessee Valley Authority and Rural Electrification Under the New Deal." *Science and Its Times*, edited by Neil Schlager and Josh Lauer, vol. 6: 1900 to 1949, Gale, 2000, pp. 561-563.

Lerner's reference book article highlighted various impacts of the Tennessee Valley Authority not discussed in other sources, such as the partnership between the TVA and archaeological organizations. Some of the best archaeological discoveries in the southeastern United States were made in conjunction with TVA projects. This deepened my knowledge about the TVA's desire to not only provide electricity to rural people but also maintain the landscape.

"Rural Electrification Administration 1934-1941." *Historic Events for Students: The Great Depression*, edited by Richard C. Hanes and Sharon M. Hanes, vol. 3, Gale, 2002, pp. 153-176.

This reference book article discussed notable people who played important roles in the TVA, REA, and REC, which collaborated to electrify the rural frontier. This furthered my knowledge about how organizations worked together to address the electric divide and ensure quality of life for people living on the rural frontier.

Websites

"Edison's Lightbulb." The Franklin Institute. Last modified 2022. Accessed November 17, 2022. <https://www.fi.edu/history-resources/edisons-lightbulb>.

This website dove into Thomas Edison's life and discussed the bright idea surrounding Edison's invention that sparked great cultural change. This technology created better living conditions for those who were lucky enough to have electricity, which was primarily those individuals living in urban areas. I used a quote from Thomas Edison on the "Electric Divide" page of my website that predicted electric light would spark progress and it did.

"Electric Co-op Facts and Figures." NRECA: America's Electric Cooperatives. National Rural Electric Cooperative Association. Last modified April 28, 2022. Accessed February 28, 2023. <https://www.electric.coop/electric-cooperative-fact-sheet>.

This National Rural Electric Cooperative Association online article includes helpful facts and figures concerning rural electric cooperatives in the United States today, along with a summary of the direct impacts cooperatives have on energy innovation and alternative energy sources. This was extremely helpful in understanding the long-term impact rural electric cooperatives have on the vitality of rural communities, which is why I used graphics from this source on the "Powerful Impact" page of my website.

"Electrifying Africa Based on the U.S. Rural Electrification Model." Power Africa. Last modified September 20, 2017. Accessed November 29, 2022. <https://medium.com/power-africa/electrifying-africa-based-on-the-u-s-rural-electrification-model-47dfa671fa9d>.

This website explained how *Power Africa*, a modern U.S. led initiative, is using knowledge and processes gained from the establishment of American rural cooperatives to help bring power to sub-Saharan Africa where approximately 600 million people have never had access to electricity. This expanded my understanding regarding the impact of rural electrification principles and processes that lit up the American rural frontier and their applicability to other parts of the world today. Also, I used a photo from this website on the "Electric Divide" page of my website to show the labor-intensive nature of rural life before widespread electrification.

"FDR Biography." National Archives, Franklin D. Roosevelt Presidential Library and Museum. Last modified 2016. Accessed November 4, 2022. <https://www.fdrlibrary.org/fdr>.

FDR's Presidential Library and Museum's website provided excellent biographical information about President Franklin D. Roosevelt, the New Deal, and how Roosevelt's polio rehab experiences contributed to his interest in rural electricity. As a result, I utilized several quotes from FDR and a photo I obtained from his biographical collection on the "Sparking Change" and "Lighting the Way" pages of my website.

Ganzel, Bill, and Claudia Reinhardt. "Bringing Electricity." Wessels Living History Farm. Last modified 2003. Accessed October 30, 2022. <https://livinghistoryfarm.org/farminginthe30s/farm-life/bringing-electricity/>.

This page on the Wessels Living History Farm website contained a wealth of information about electricity, the REA, and how electricity changed the lifestyles of farmers and farmwives through electricity. The content spanned many topics, including the Great Depression, which helped me better understand rural American life and struggles during the first half of the 20th century. It also included many helpful statistics and a photograph, which I used on the "Electric Divide" page on my website.

"How 80 Years of Rural Electrification Will Help Bring Broadband to Rural America." *U.S. Department of Agriculture (blog)*. Last modified February 17, 2017. Accessed October 10, 2022. <https://www.usda.gov/media/blog/2015/05/13/how-80-years-rural-electrification-will-help-bring-broadband-rural-america>.

This USDA blog discussed how the United States Department of Agriculture, as a result of the REA, built the infrastructure that made the U.S. the breadbasket of the world. It also argued for taking a similar approach to broadband internet access in order to close the digital divide for rural economies. This was helpful in deepening my understanding about rural America's needs, the REA, and how cooperatives have contributed to progress on the rural frontier both past and present.

Kelly, Erin. "NRECA to Congress: Be Bold in Funding Broadband That Meets Future Demand." National Rural Electric Cooperative Association. Last modified June 30, 2021. Accessed March 3, 2023. <https://www.electric.coop/issues-and-policy/broadband>.

This article discussed a coalition headed by the National Rural Electric Cooperative Association that included 170 other advocacy groups, which urged Congress to fund infrastructure to improve rural broadband access. Thus, rural cooperatives continue to advocate and provide services for their members to ensure rural vitality by acting to eliminate the growing digital divide between rural and urban America. I used a photograph from this article on the "Powerful Impact" page of my website as it represents the relevance of rural electric cooperatives today and the continued importance of their goals to better the lives of rural Americans today and into the future.

National Rural Electric Cooperative Association. "History: The Story behind America's Electric Cooperatives and NRECA." NRECA America's Electric Cooperatives. Last modified 2023. Accessed March 5, 2023. <https://www.electric.coop/our-organization/history>.

This National Rural Electric Cooperative Association online article provided a detailed history about the formation of electric cooperatives, as well as in-depth information about the reasons why REC leaders banded together to create this association. After realizing cooperatives needed a unified voice, American cooperatives formed the NRECA in 1942, to provide them with representation in Washington D.C. This article supplied statistics I used on the "Powerful Impact" page of my website that highlight the lasting impact of rural electric cooperatives.

Wallace, Harold D. "Power From the People: Rural Electrification Brought More Than Lights." *National Museum of American History Behring Center (Blog)*. Last modified February 12, 2016. Accessed September 27, 2022. <https://americanhistory.si.edu/blog/rural-electrification>.

This blog explained the lack of electrification in rural areas of the United States and the difference in standards of living between farmers and those living in cities. It also contained useful statistics concerning rural electrification, which I used on the "Electric Divide" page of my website to highlight the severity of the electric disparity between rural and urban areas. This information was important in building an understanding about the dire situation that existed in rural America, which led to the establishment of the REA.

Video

"Co-op Growth Over Time." Video, 00:40. YouTube. Posted by Electriccoops, National Rural Electric Cooperative Association, June 28, 2016. Accessed November 26, 2022. https://www.youtube.com/watch?v=_VzT-StxGB8&t=4s&ab_channel=electriccoops.

This video provided a captivating, rapid-paced, visual summary of U.S. electric cooperative growth from the early 1900s until 2016. I used this video clip on the "Powerful Impact" page of my website because it shows how the creation of the REA accelerated the growth of rural cooperatives, which literally lit up the rural frontier just as they lit up the U.S. map in this video.