Kootenai Electric COOPERATIVE

PowerLines

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Eight Questions to Consider Before Installing Rooftop Solar

"Free energy from the sun and lower electric bills... Where do I sign up?" The benefits of installing rooftop solar panels may seem like a no-brainer but the reality is not every home (and homeowner's situation) is always right for solar. There are several factors to consider before pulling the trigger on a rooftop solar system, like determining if your home will receive enough sun to achieve your goals, finding the right contractor, negotiating contracts and more. Investing in solar for your home is a major decision. If you're considering rooftop solar, KEC can help. Here are eight questions to consider before installing rooftop solar panels.

1. **What are my goals?** If your main goal is to use renewable energy and help the environment, consider signing up for our community solar program. You can help power renewable energy, without having to invest and maintain a home system. KEC's Community Solar Project is located in Worley and members may purchase individual units for $361 each in 2024. Each unit is expected to generate about 234 kilowatt-hours (kWh) per year. Participating members receive bill credits for the energy created by their unit(s). Learn more at www.kec.com/kec-community-solar-project.
2. **Is my roof suitable for solar?** Your roof should be in good condition before installing solar panels. If your roof is old and in poor shape, it may need to be replaced before panels can be mounted. Additionally, your roof should receive a lot of sun to make the most of a rooftop system. Consider how much sun (and shade) the roof receives and if any trees will need to be removed. Solar panels perform best when facing south, so keep this in mind as you think about where the panels will be mounted. Visit https://pvwatts.nrel.gov/ for a free online calculator provided by the National Renewable Energy Laboratory that can help homeowners develop estimates of the performance of potential solar installations.
3. **How long will I own the home?** If you're considering rooftop solar, you're likely planning to stay in the home for several years. But if you plan to sell the home at some point down the road, consider that not all potential buyers will want to maintain a rooftop solar system. If you enter a contract to lease the system, carefully review the terms and what those mean if you decide to sell the property.
4. **Lease or purchase?** Purchasing a rooftop solar system outright is expensive, which is why many homeowners opt to lease their solar panels. However, federal tax credits can help cover some of the costs for a new system, up to 30%. Regardless of how you decide to finance the solar system, make sure you get several quotes from qualified contractors. Speaking of contractors, there are several factors you'll want to discuss with them up front.
5. **Can the contractor provide up-to-date documentation?** It may seem obvious but be sure to request proof and documentation of the contractor's licensing, permitting and other credentials. Comb through company reviews, check the contractor's status with the Better Business Bureau, etc.—do your homework on the front end before signing a contract.
6. **Does the contract seem reasonable and fair?** If you decide to hire a contractor to install rooftop solar,

Continued on the back page.

A Deep Dive Into the Electric Utility Industry

ELECTRIFICATION unplugged

Cooperative Finance 101


Doug Elliott

Over the past several months, I've been sharing how the power industry works. We have explored the way the grid works, the types of power generation necessary to power our lives and businesses, how utilities plan for growth, and the central role reliability and safety play in every business decision a utility makes. Early on (in April 2024), we also explored the different types of utilities that operate across the region and nation and how electric cooperatives such as KEC are uniquely poised to meet the needs of those it serves. In this article, we're going to dive more deeply into the unique qualities of an electric cooperative. Those qualities are particularly evident when considering how utilities, and cooperatives in specific, finance (or pay for) their operations. Explaining how that financing works is the focus of this article.

If you're not a Certified Public Accountant or CPA, fear not. While utility finance is a complex subject, having an accounting degree is not required to understand how a cooperative finances its operations. In fact, this article will probably be more interesting to those who don't have an accounting background. Let's dive in!

The things that a utility invests in are expensive and last a really long time. The transformer outside your home costs approximately $5,000 and will remain in service for 30 or more years. The truck used to install it costs $250,000 and will remain in use for 12 or more years. Other investments the cooperative routinely makes are shown in the table below. These costs reflect the amount paid for them. The cost of labor to install them (except for a substation) is incremental to that.

Total Utility Plant

The total cost of all those transformers, poles, wires, trucks, buildings, substations, computers and other equipment the cooperative has built over time to provide service to our members was $313 million at the close of last year. Accountants call this our 'Total Utility Plant.' This number is somewhat deceptive. Consider a transformer that was placed in service 25 years ago. The cost of purchasing and installing it was much less 25 years ago than a similar unit put into service today. Total utility plant is simply the sum of all of those costs, year over year, for all plant that remains in service today. It's an interesting number, but not all that useful for understanding cooperative financing. What is useful is considering that the amount the cooperative spends each year on new infrastructure must be paid for in cash that year. Where does that cash come from?

Investment	Current Purchase Cost	Expected Life (years)
Small Bucket Truck	$250,000	12
Digger Derrick Truck	$700,000	12
Underground Power Line (3 Phase)	$23 per foot	30
Power Pole & Crossarm, 40'	$1,500	30
Padmount Transformer, 25 kV	$5,000	30
Electrical Substation	$4,000,000+	40+

If you answered "rates," you would be correct. If you answered "current rates" or "the rates I pay," you would be wrong. How is that? Our current rates, those that our current members pay for electric service, must cover our current costs. But in determining what our current costs are, it would be unfair to expect current members to fully pay for a new transformer that will remain in service for the next 30 years. In fact, most of our members won't be members 30 years from now. Stated differently, the cooperative has equipment that was first placed in service years before many of our members first began taking service. To account for this, accountants use what's known as depreciation. If a transformer is

Continued on the next page.

expected to remain in service for 30 years, then 1/30th of the cost of installing it is considered a current cost each year it is in operation. If it lasts longer, we get additional value out of it without additional current costs. If it doesn't last that long, then we book a "loss" equal to the remaining years we expected out of it. In this manner, our costs are spread out (or recognized) more evenly over the useful life of our infrastructure.

The construction of our new Rathdrum headquarters offers an excellent example of this. Because it will be used to serve our members for decades to come, it would be unfair to recover its full cost of construction from current members in the year it was built! Rather, only the portion of its total value "used" or "expended" in a year of its expected life is considered a current cost each year.

Debt

So, what happens when the actual cost (the cash paid for) of facilities constructed in a year exceeds the revenues recovered through rates necessary to recover "current" costs? Utilities borrow the necessary money from banks. This is called "Long Term Debt." As of the close of last year, KEC had $159 million in long-term debt outstanding.

You might be wondering...isn't debt bad? Shouldn't our goal be to operate debt-free? I would argue no. Let me offer an analogy. Say you need to purchase a new car or truck. You can pay for it in cash now or with a loan repaid over time. If you pay in cash, that cash will no longer be available to work for you. It won't earn interest as it would if deposited in a bank account nor will it earn a return as it would if invested in stocks or bonds. Alternatively, the dealership may offer to finance the car or truck at a very low interest rate. If that rate is less than the interest you earn on cash held in a savings account, or the return you realize on investments in the market, you are better off with financing. This is the case for electric cooperatives who have access to low interest loans through the banks from which we borrow.

Equity

To take advantage of these low rates, banks expect cooperatives to maintain sufficient equity in their infrastructure. In other words, banks expect cooperatives to set their rates such that their past and current members have an equity ownership, or stake, in the cooperative's assets. KEC's members currently have a 32% equity ownership in the cooperative's assets. The banks we borrow from have funded the difference.

If that equity gets too low, the cooperative becomes unable to borrow additional money from them. If equity gets too high, then the rates being paid by current members are too high and deprive them of the opportunity to invest their money elsewhere. It turns out that the cooperative can calculate the ideal range of equity that falls in between these two outcomes. This is an exercise the cooperative performs each year given current interest rates and capital spending. Our rates are set to increase or decrease equity accordingly. This is why we believe that debt is not a bad thing for a cooperative. It is simply a tool to help ensure rates remain as low as they possibly can while evenly spreading out the costs of our long-term assets fairly to our members.

NEWS BRIEFS

KEC BOARD MEETINGS

Members are welcome to attend monthly board meetings. Meeting dates vary—call 208.292.3211 for details.

WIN A $50 ENERGY CREDIT

Below are 10 KEC account numbers. If you find yours contact us at 208.765.1200 to receive a $50 bill credit. **1861048, 1828165, 1817087, 1333133, 1861306, 1844239, 1864761, 1694213, 1777233, 1487192**

Capital Credits

If our members have an equity ownership in the infrastructure of the cooperative, you might be wondering how you get that investment back and when. Cooperatives operate on a not-for-profit basis. As such, any revenues we collect in rates which exceed our costs in a given year are considered net margins. Those net margins are what build equity. The portion of net margins contributed by each member is allocated to them in the form of "capital credits." Each year, you receive a statement from the cooperative informing you of the amount of capital credits allocated to you for your electric purchases made in the previous calendar year. Those capital credits are retained by the cooperative as an equity investment in the cooperative for a period of time approximately equal to the life of the facilities those investments were used to finance. When your board of directors determines those funds are no longer necessary to preserve the financial health of the cooperative, they are returned to members. Currently, this period of time is 28-30 years.

Continued on the next page.

COOPERATIVE FINANCE 101 CONTINUED

Stated differently, members of the cooperative who contributed to net margins 28-30 years ago will have their capital credits earned in that year fully returned to them this year.

Early Discounted Capital Credit Program

That's a long time to wait. This is especially true for older members who feel those capital credits will be paid to their estates after they are deceased. They would rather have them now. This is the purpose of our Early Discounted Capital Credit (EDCC) program. Earlier in this article, I mentioned that the cooperative can calculate the optimal range of equity to maintain healthy finances. As part of that calculation, we also determine the rate of return that equity must realize. The EDCC program gives participating members the option of receiving the current value of the capital credits they contributed in the year just ending as a bill credit in the year following. The value returned to participating members is the same amount the cooperative could instead borrow from the bank with financial indifference. Approximately half of all members participate in this popular program. In mid-September, eligible KEC members will receive an EDCC statement in the mail with details about the program and the option to participate. To learn more, please visit www.kec.com/capital-credits or call 208.765.1200.

Utility Rates

I'll close with one final comparison. The rates of all utilities are driven by their costs. As a not-for-profit cooperative, we have an incentive to make investments in a manner that keeps rates as low as possible. An investor-owned utility faces a different proposition. They have a profit motive and their rates must produce a return on investment that satisfies shareholders. To protect the interests of rate payers, the public utility commission is charged with approving those rates to ensure they fairly recover costs. The way this is done is as a percentage of what's known as the "rate base." The rate base is essentially the current value of all of the investments an investor-owned utility has made in its system. The more money that is reasonably invested in that system, the more revenue they can recover.

To be clear, I'm not saying that the rate-making process used by investor-owned utilities is unfair. I am saying it is different than the process used by cooperatives. I'm also saying that the process we use has only our members' or rate payers' interests in mind. An investor-owned utility must also consider the best interests of shareholders, which can be different than those of their rate payers.

QUESTIONS TO CONSIDER BEFORE INSTALLING ROOFTOP SOLAR CONTINUED

carefully read the fine print of the contract. Do the system performance calculations seem realistic? Does the project timeframe sound reasonable? Negotiate the contract terms to fit your goals and needs.

7. **Who will maintain the solar panels?** Determining who is responsible for maintaining the solar panels will depend on who owns the system. If you lease the system from a solar installer, it may be their responsibility. Periodically, solar panels need to be cleaned as dirt and debris can impact panel productivity. Also, when a solar panel is covered with snow, it cannot produce electricity. Parts may also need to be replaced, so it's important to know who will take on these responsibilities.
8. **How will I work with KEC?** Finally, but equally important, you must contact KEC if you decide to install solar panels. Since the system must be connected to the electric grid, you'll need to submit an application, pay a $250 non-refundable application fee, provide drawings and technical details of the array, sign an interconnection agreement and have an inspection completed by KEC prior to connection. When you contact us, we can walk you through these steps. At that time, we can also review how KEC billing works once installation is complete, including the required monthly service availability charge and how our kWh credits work for excess energy your system may generate. Visit www.kec.com/member-owned-generation for a general overview of how you can work with us on connecting your new rooftop solar system.

For many homeowners, solar panels are a great way to help the environment and save on electric bills—but there are many factors to consider before diving in and installing a system. As with any major home project, do plenty of research up front, and contact KEC at 208.765.1200 or kec@kec.com if you have questions or decide to move forward with installation.