## **COOPERATIVE** (ONNECTION

## Somerset Rural Electric Cooperative, Inc.

A Touchstone Energy® Cooperative 🔨



One of 14 electric cooperatives serving Pennsylvania and New Jersey

#### SOMERSET REC

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## A Strategic Plan to Reach Our Goals – Part Three



**AS I DISCUSSED IN LAST** month's column, strategic planning is an organization's process of defining its direction. This month's column focuses on the third and fourth of the five strategic goals for Somerset Rural Electric Cooperative (REC):

- Implement operational technology;
- Strengthen distribution system reliability;
- Broaden member and employee engagement;
- Update building and storage facilities; and

OGBURN

 Clarify Somerset REC's involvement in broadband initiatives. Throughout our 85-year history, this cooperative has

placed a commitment on serving our members as our highest priority. During last year's planning sessions, this concept continually entered our discussions and formed our third strategic goal.

The member engagement portion of our third goal focuses on our initial interactions with our members. The cooperative seeks to strengthen the ability of our employees to understand and discuss issues our members raise with us. These questions cover a broad range of topics, but have recently focused on grid reliability, solar and wind generation, electric vehicles, and the long-term affordability of electricity.

We recently updated the information packet we send to new members to help them understand how cooperatives are different than other utilities. We want to make sure new members know we focus our work to serve their interests. We want new members to understand they have a role in helping the cooperative serve their interests and those of other members. After all, that's why we are a *cooperative*.

The second part of goal three highlights the importance of our employees in serving our members. We know employees who understand the cooperative model and are engaged in service to our members will do what is right for our members. The key to this goal is understanding the unique role cooperatives play as a trusted source of information for our members. We know we stand on the shoulders of those who built this cooperative, but we are always one generation away from losing that culture. Therefore, we need to maintain that identity for our employees.

The fourth goal relates to the impact of time on our facilities. Our current office and storeroom were built about 45 years ago with only minor updates to the heating and air conditioning system. These buildings continue to serve us well, but require updates to modernize the offices, update communication facilities, and improve insulation and ventilation. We have outgrown our material and equipment facilities, so we plan to add approximately 12,750 square feet of storage space.

Our focus on these goals helps to ensure the most critical part of the cooperative — our employees — have the tools they need to serve our members. As always, if you have any questions about these goals or anything else, please call or stop by the office. <sup>(a)</sup>

RUSTON OGBURN GENERAL MANAGER

## Berlin Tech-Ed Students Inspired to Design and Fabricate Motorized Trikes

EMILY BAER, DIRECTOR OF MARKETING AND MEMBER SERVICES

WHAT STARTED AS A DREAM soon became a reality for juniors and seniors enrolled in engineering and technology systems at Berlin Brothersvalley High School (BBHS).

Dan Miller, Somerset Rural Electric Cooperative (REC) member and technology education teacher at BBHS, listened to his students' ideas and inspirations and developed a plan to fulfill them as a team. Through a technology education course offered at the school, students can apply problem-solving skills to scientific and engineering principles. The goal is to prepare students for collegiate and/ or advanced vocational-technical programs and equip them with universally transferable skills.

Students focused on applying current technology to real-life problems and situations. While studying a variety of manufacturing processes, they were challenged to investigate and evaluate outputs and impacts.

## **High-level learning**

At the beginning of the school year, students offered ideas and ultimately decided to design and fabricate motorized tricycles. With a big idea, the only thing standing in their way was a



**B-TECH TRIKE:** This is a representation of the students' final product.



**SUPPORTING EDUCATION:** Emily Baer, Somerset Rural Electric Cooperative's director of marketing and member services, presents a \$1,000 donation on behalf of the cooperative to support Berlin Brothersvalley High School (BBHS) students' trike project. Also shown, from left, are: students Andrew Chonko, junior; Nic Alveres, junior; Noah Gilmore, senior; Jacob Knopsnyder, junior; Jackson Will, senior; Caleb Stoltzfus, junior; and BBHS technical education teacher Dan Miller.

small budget. Miller saw the students' potential and decided to help them out. Working together, Miller and his students coordinated a sponsorship luncheon at Tailgatez Sports Grill in Somerset and invited local businesses to attend.

"Student interest should drive learning, and this project is of very high interest for our students," says Dr. David Reeder, school district superintendent. "The B-Tech trike project is a high-level learning activity, which encompasses a variety of academic and technical skills necessary to be successful.

"It also involves critical thinking, communication and the ability to work collaboratively. The additional bonus is the support our students and district receive from business partners who help fund the project," he adds. "This demonstrates to the students and community, in general, that the business community is a partner in preparing students for life after graduation."

I attended the sponsorship luncheon with coworker Jonathan Hillegas, the cooperative's director of finances. Both of us were impressed by the students' idea and their passion to complete their project.

"The kids are learning by doing. They are learning so many real-world aspects by thinking for themselves. This is such a great project for them, and they are taking so much pride in their work."

After researching motorized trike designs, the students agreed Honda three-wheelers from the 1980s stood out the most. It was then that they started brainstorming and formulating modifications for their own designs.

"The main difference, for example,

is the 1980s trikes have large knobby tires and high ground clearance," says Jacob Knopsnyder, a junior. "Our trikes are built lower to the ground, fitted with go-kart wheels and wheelie bars, and have a stretchedout seating position."

"The seat, handlebars, and overall design are alike," adds Jake Getty, a junior, "but basically '80s trikes are monster trucks, and our trikes are race cars."

## **Mastering new skills**

The students knew this wouldn't be an easy project, but they were eager to learn. They had to master computeraided drafting (CAD) software to draw certain parts of the trike, such as the rear hub frame plate, motor mount base plate and seat brackets. This software also taught students how to design blueprints. They used a secondary program, Inventor, to integrate professional 2D and 3D elements to verify what the model would look like as a finished product.

Along with learning new computer technology, students learned two methods of welding: tungsten inert gas (TIG) and metal inert gas (MIG). TIG welding requires the metalworker to feed a separate filler material onto the weld with one hand while operating the torch with the other. In MIG welding, a wire electrode is continuously fed through a spool gun to create the weld. With these welding techniques, the students were able to create more fluid shapes for the trike frame.

Specific parts required precise measurements, including those for the fork neck, seat angle and motormount positions. Students used a plasma table to cut the metal for material, which allowed them to create accurate and consistent cuts according to their CAD drawings. A computer-controlled pipe-bending machine was used to make curves



**TEAMWORK:** From left, Berlin Brothersvalley High School students Noah Gilmore, Jacob Knopsnyder, Caleb Stoltzfus and Jackson Will assemble trike frame parts. Learning to work together as a team has provided them with workplace skills and fostered an interest in drafting, welding, and machinist careers.

on the trike and, when the machine didn't work quite right, the bending became hands-on.

"The kids are learning by doing," Miller says. "They are learning so many real-world aspects by thinking for themselves. This is such a great project for them, and they are taking so much pride in their work."

The fabrication materials were purchased through vendors in Somerset County. When all was said and done, building a trike would cost roughly \$1,400. The student entrepreneurs are motivated to build 11 trikes and plan to debut them at the Jennerstown Speedway in May. Students also plan to participate in local parades and festivals.

"It's awesome to see the project come to life and know you planned *Continued on page 16D* 



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and built every piece along the way," says Andrew Chonko, a junior. "Usually, if you take a drafting class, that is what your entire time is spent doing: CAD drawings. Or if you are interested in welding, you can go to Somerset Vo-Tech. Here, it's not like we are learning one skill, but multiple skills."

"I'd like to say this course allowed us to broaden our knowledge not only in multiple hands-on skills," adds Nic Alveres, a junior, "but also in how to work as a team and enhance our communication skills so we are more well-rounded upon graduation. Some of us plan to go into this type of career, and some feel they have the confidence to open their own backyard machine shop."

State law allows rural electric cooperatives to use unclaimed capital credits to make local donations for energy assistance, and civic and educational purposes. Somerset REC is proud to sponsor this educational opportunity for these hard-working students.

"We cannot thank our sponsors enough for their generosity," Miller says.

Best of luck to these students in their future endeavors, and I look forward to seeing the finished product. I may even consider a quick lap around the track at Jennerstown Speedway in May. <sup>(2)</sup>



**COMPUTER-AIDED DRAFTING:** Berlin Brothersvalley High School technology students Nic Alveres, left, and Andrew Chonko, both juniors, design templates for their trike parts.

# ENERGY EFFICIENCY

Lengthen the life of your clothes dryer with regular cleaning. Clean the lint filter after every load, which improves air circulation and safety. Check the lint trap opening and use a vacuum to remove any lint that's fallen inside the opening.

If you use dryer sheets, check the lint filter for residue buildup. Remove any residue with hot water and a nylon brush or toothbrush. Over time, dryer sheets can leave a film on the filter, which can affect the performance of the motor.

