

Carpe Vigorem

"Seize the Energy"

in education and our communities

Fall 2013

Consumers Energy
Count on Us

Horse Power

Therapeutic riding offers hope to children and adults with disabilities



C.H.U.M

Consumers Energy employee Cindy Kezele with her son Stefan.

CINDY KEZELE STRUGGLED MIGHTILY with what to do for her autistic son on his special milestone of turning 16. Should she have a pizza party, go to the zoo or host a pool party? Good options she thought, but she wanted to come up with something that would be memorable for Stefan, now 22, and his friends.

It wasn't so much that Kezele found C.H.U.M. (Children & Horses United in Movement). The Technical Specialist at Consumers Energy, is convinced that the program, which offers therapeutic riding to children and adults with disabilities, found her. C.H.U.M. offers services for individuals who are 14 months old to 84 years old.

Continued inside >>

Solar Stock

Solar Energy Investment Pays Off for Blueberry Farmer

IF VISITORS HAPPEN to look up on the roof on the pole barn of Bruce Reenders' popular blueberry farms, they will see dozens of solar panels.

What Reenders sees is an investment that he will be able to collect on in about seven years.

Last spring, Reenders Blueberry Farms of West Olive was one of nine solar projects, planned by six businesses, selected in a lottery to participate in Consumers Energy's Experimental Advanced Renewable Program (EARP) for non-residential customers.

"I never win anything," said Reenders with a smile. "But I was lucky that day."

Reenders said once he crunched the numbers, it was a "no-brainer" to move forward with the plan to put 92 solar panels on top of the pole barn. He wrote a check for \$99,360 but once he received a federal grant and tax credit money, the total cost shrunk to \$47,000.

A long-term contract he signed with Consumers Energy provides buy back at a fixed rate of 22.9 cents per kilowatt hour – higher than the 10 or 11 cents per kwh that customers are currently charged.

Reenders said early projections show that Consumers Energy will pay him about \$7,000 annually for the solar energy he produces.

"It will pay for itself in seven years," said Reenders. "I guess you can say I have some stock in solar energy."

Consumers Energy's program currently has contracts in place to purchase

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WHAT'S INSIDE

- Sunsational Fun Facts
- What is Renewable Energy?



Reenders Blueberry Farms installed 92 solar panels on a barn roof and sells the electricity to Consumers Energy.

"Michigan's Big Battery" inside



Michigan's BIG BATTERY

SINCE 1973, the Ludington Pumped Storage Plant has sat on Lake Michigan's shoreline providing affordable, efficient and reliable electricity for millions of customers.

With a major \$800 million project underway, that legacy will continue well into the future.

Consumers Energy operates and owns 51 percent of the plant, and Detroit Edison owns 49 percent. Each company has pledged to invest \$40 million per year for 10 years, which will create 100 building trades jobs per year for six years and increase the plant's generating capacity by 16 percent.

The project will increase the generating capacity from 1,872 megawatts (MW) to about 2,172 MW.

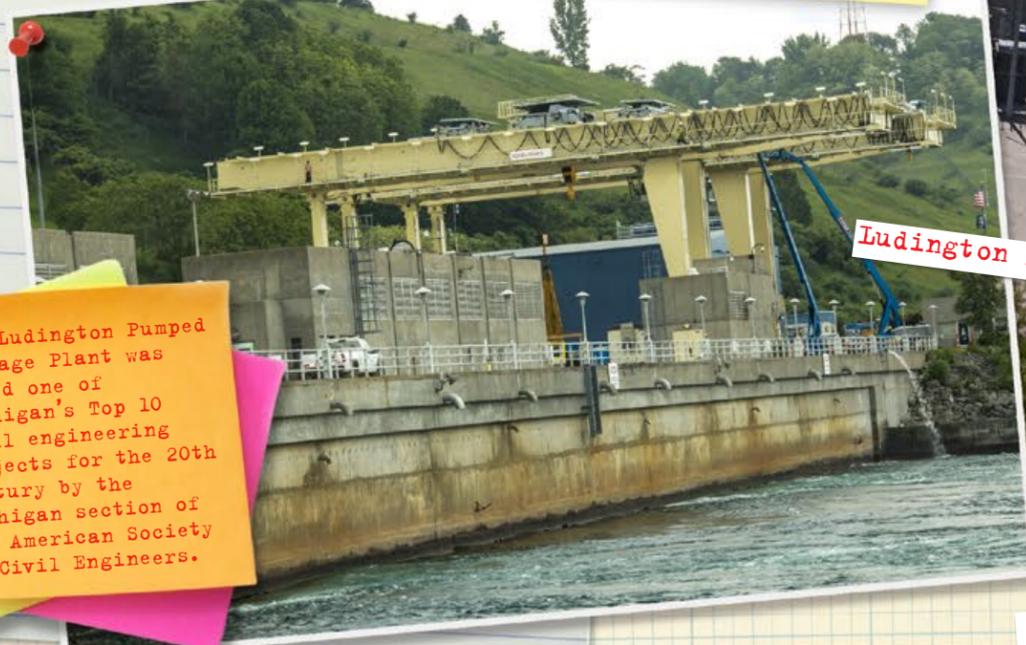
Known as Consumers Energy's "Big Battery," Ludington Pumped Storage pumps water uphill to its 27-billion gallon reservoir during the night and releases water through turbines to generate electricity during the day.

This design helps balance the demand for electricity when other renewables are not reliable, like when the wind doesn't blow. Ludington serves as a key player in providing reliable electricity to millions in Michigan.

The Ludington Pumped Storage Plant was named one of Michigan's Top 10 civil engineering projects for the 20th century by the Michigan section of the American Society of Civil Engineers.

- 4 Years it took to build Ludington Pumped Storage (1969-1973).
- 40 Area residents who work at the facility.
- 843 Surface acres for the upper reservoir.
- 2,172 Megawatts of electricity that six units will be able to produce after upgrades are completed.
- 1,650,000 city population that the plant will be able to power once upgrades are completed.

- \$800,000,000 will be spent to overhaul/upgrade all six units of plant.
- 17,000,000,000 gallons useable in reservoir for generating power.



Ludington Pumped Storage plant

Lake Michigan

What is Renewable Energy?

FROM THE SUN'S WARM RAYS to a fast-moving river to fossilized remains of plants and animals, our planet offers many sources of power.

As the world's engineers and scientists discover more ways to make electricity, the 6 billion people on Earth are using more power than ever before. There are many concerns as to whether or not the planet has the resources to keep up with this growing demand for more energy.

Some fuels used to make electricity are renewable or easily replenished. These include wind, solar, water and wood. Other fuels, such as coal, natural gas and oil, have been formed over many millions of years and aren't available again once they are used. Each fuel offers different benefits and impacts to our environment.

Knowing these facts, we have important choices to make. We can use less energy and conserve, or we can practice energy efficiency and use energy more wisely.



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Cindy Kezele volunteers at Children and Horses United in Movement (C.H.U.M.).

Horse Power from front page

"A higher power helped me find this place," said Kezele as she watched Stefan be chaperoned on a horse around C.H.U.M.'s indoor track in Dansville. "The improvement Stefan made since the first day he came is really remarkable. This place has been part of our lives for six years now. Hopefully, it always will be."

As an employee at Consumers Energy, Kezele earns a Volunteer Investment Program (VIP) grant — available to employees and retirees — every year for C.H.U.M. by volunteering as a chaperone. The Consumers Energy Foundation awards grants to organizations where employees have volunteered at least 50 hours over the course of a year.

This year, she gave C.H.U.M. \$650 to put toward building a new hay barn.

Classroom Learning Starts Career

WHEN IT COMES to making a difference in the workforce, classroom experience is a key factor.

Studying hard and finding your passion is something that can lend itself to success on the job, too.

As an intern this summer with Consumers Energy, I've worked in the Strategic Communications department, writing blog posts and company news stories.

Much of the work I did tied directly back to classroom experiences. I've studied journalism for three

years at Michigan State University, so writing and editing experience helped me a great deal.

Learning how to tell engaging stories in a concise manner also helped me to hone my skills.

And working with veteran department members at Consumers Energy encouraged me to develop my writing even more.

My opportunity at Consumers Energy wouldn't have been possible without classroom learning.

Through finding my passion, I was able to focus on classes I took an

interest in, and I was also able to become a better writer.

And, I learned even more valuable skills through courses outside of my area of interest.

Meeting deadlines, researching key topics, and making improvements while in school all helped me earn my internship at a great company.

I owe the work experience I had at Consumers Energy to the experiences I had in school.

Although classes might get difficult, learning opportunities can translate directly into work success.

So, the next time you sit down to study for that math test, keep your future in mind.



Beau Hayhoe, is gaining valuable writing experience as an intern at Consumers Energy.

Sunsational fun FACTS



- Fossil fuels are simply a form of stored solar energy through photosynthesis.
- Albert Einstein earned a Nobel Prize in physics for explaining photovoltaic effect (creation of electricity from the sun's rays).
- At any given time, the Earth receives 174 petawatts of energy from the sun. This is equivalent to 174 trillion kilowatts and is 6,000 times our worldwide energy usage.
- The largest solar electric plant in the world is located in Germany, who has half the solar resource of the United States.
- The total amount of fossil fuels used by humans since the beginning of civilization is equivalent to less than 30 days of sunshine.



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PROJECT

Make a Helpful Environmental Reminder

Conserve energy with a doorknob decoration that reminds you to turn off the lights when you leave the room.

What you'll need

- Scissors
- Glue
- Scrap cardboard example: cereal box
- Markers
- Ribbon

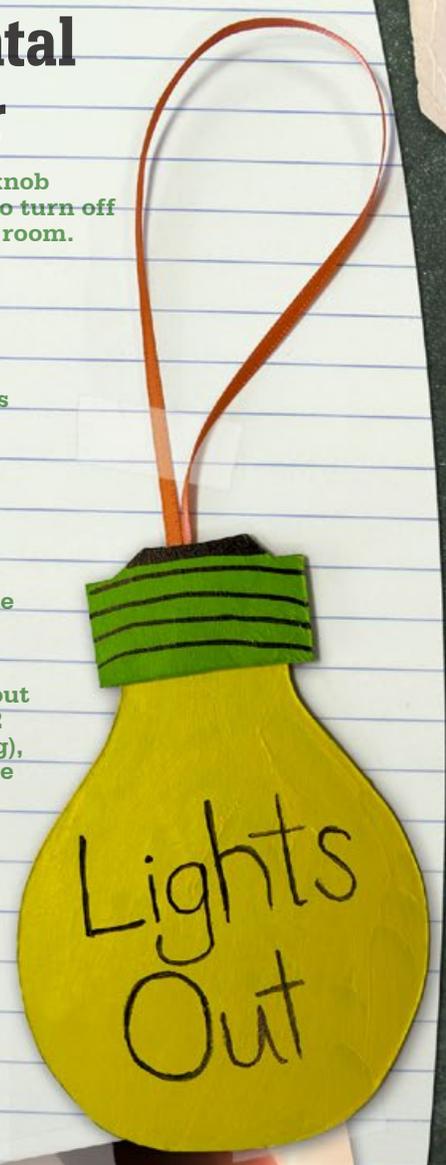
How to make it

Draw and cut out a light bulb shape (about 3 1/2 inches wide and 6 inches tall) from the cardboard.

For the base of the bulb, cut out a cardboard strip (about 1 1/2 inches wide and 3 inches long), wrap it around the neck of the bulb, and glue it in place.

Paint or color the light bulb and, once it dries, use a marker to draw threads on the bulb base and print your conservation message.

For the hanger, tape a loop of ribbon to the back of the bulb.



Remember to



Solar Stock from front page

renewable energy from 191 customer-owned solar generators as part of the utility's renewable energy plan.

EARP provides a small portion of the 650 megawatts of renewable capacity the utility plans to add to meet Michigan's 10 percent standard by 2015. The program's goal is to investigate solar energy's potential in Michigan's often cold and cloudy climate while contributing to the company's broader renewable energy goals.

About 5 percent of the electricity Consumers Energy supplies to customers already comes from renewable sources, making the utility the largest supplier of renewable energy in Michigan. The company plans to develop wind farms and buy wind-generated electricity for the vast majority of its renewable energy expansion.

The company plans to add 4 megawatts of solar electrical capacity by the end of 2014. Ultimately, EARP will total 6 megawatts of capacity.

Consumers Energy plans to continue adding capacity on a quarterly basis and, if qualified applications exceed available capacity, keep holding public drawings to select customers.

For more information, visit [Consumers Energy.com/EARP](http://ConsumersEnergy.com/EARP).

CONTACT US

ConsumersEnergy.com/teachers or email the education team at education@ConsumersEnergy.com



EARP provides a sliver of the 650 megawatts of renewable capacity the utility plans to add to meeting Michigan's 10 percent standard.

