

nuts & bolts

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Solar panels atop the Main Office/Plant 5 complex are pulling in enough electricity to power 20 homes. The project has been expanded to Plants 1, 2 and 4

Making electricity

...and making money as solar panels
atop four Tennsco plants
generate power being sold to TVA

When you listen to Tennsco's Troy Beasley talk about the power station on plant rooftops, you almost expect him to start singing the Beatles' hit song *Here Comes the Sun*.

A year ago, in May 2012, contractors completed installation of 854, 3-by-5-foot solar panels (each generating 235 watts of electricity) atop the Main Office/Plant 5 complex. At the time, it was the largest roof-mounted solar panel installation in Middle Tennessee. On average, the solar panels are covering 15% of the electric bill for the Main Office/Plant 5 complex.

In December, Tennsco started drawing power from 204 panels atop each of Plants 1, 2 and 4. Each of those installations are rated at 50kW.

Bryan Johnson, Solar Photovoltaic Technician instructor at the Tennessee Technology Center, explained how the solar panels convert sunshine to electricity.

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Before the re-seeding project, referees threatened to suspend games on the Hickman field

Tennsco supports dreams, builds youth futures

By day, Wendell Gordon labors on the foundation of Tennsco's production – the master dies and fixtures that the company uses to stamp out everything from shelving to upright supports. Every other waking hour, it seems, Gordon is creating foundations for youth to succeed in the business of life. And he's using soccer.

He currently serves as head coach of the girls' soccer team and as assistant boys' coach at East Hickman High School. He's also the head coach of boys and girls soccer at East Hickman Middle School, coaches in the local recreational league and serves as the league president.

"My wife's about to kill me," Gordon said, jokingly, because he's doing soccer year round. In one recent four-month stretch, Gordon coached 98 games.

Since Gordon began coaching almost a decade ago, he figures he's coached 600 players. He's had nine boys and girls receive college scholarships to play soccer. He's put kids on teams at Cumberland, Bethel and Lambuth universities. Out of the current 2013 class, another male player and two female players will be playing scholarship ball at area colleges. Others of his players go directly into military service.

Gordon's players aren't just jocks. A Cumberland

University student had a 28 ACT score and is getting "a free ride," Gordon said. "The girl we placed at Bethel had a 24 ACT. The coaches love these kids.

"Soccer is giving these kids a chance. The boy's parents said he wouldn't have gone to college without soccer," Gordon said.

"I love the game and I love helping teach these kids. I enjoy seeing kids be successful. I'm not an educator, but I look at it like this...I may be keeping some kids off the streets. I hope to make a bright spot in their day."

Any praise that comes to Gordon he turns it around to Tennsco. "That boy (going to college) wouldn't have had that chance if (Tennsco President) Stuart Speyer didn't give me permission to coach. He affects kids he's never seen. You can't describe how cool that is."

For the last eight to nine years, Gordon has been allowed to flex his Tennsco schedule to coach at the middle and high school levels. Because soccer is a minor sport, he doesn't have to be a full-time school faculty member to coach.

Tennsco actually helped keep the soccer program alive.

"We had referees saying the field was a health hazard," Gordon said. The refs were threatening to report the school to the Tennessee Secondary Schools Athletic Association and refuse to allow games to be played on the field unless it was upgraded.

Tennsco donated funds to re-sod the East Hickman field. Hickman County schools paid the water bills. Gordon and his family (wife, son and daughter) provided the labor.

From May to August last year, the Gordons seeded twice and weekly put 700 pounds of fertilizer on the field. They watered three times a week.

The schedule was punishing. They would set up the watering at 6 p.m., go back to the field at midnight and move the hoses, then return at 6 am to turn them off. That worked until the automatic watering mechanism broke and the watering had to be done by hand.

"I was determined to make the field green," Gordon said.

Gordon has created his own feeder system. "When you see potential in the sixth grade, you want to follow them on through."

Gordon keeps his sights set on the game beyond high school, pushing his mentees to seek success at the next level. He frequently has players participate in state Olympic trials. "I do

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Now the field is lush and supporting games

Made in U.S. makes sense for all

Anyone walking through Tennsco's warehouses will notice the proliferation of "Made in the USA" labels as shown in the photo. Given a choice, most Americans would prefer US made products and I feel it's important that we let people know that Tennsco proudly manufactures their storage products right here in Tennessee. Consumers recognize there often is a quality difference with US made goods.

Also it is important to recognize that by buying US made goods, you are supporting companies that give jobs to



Plant 2 assembly/packer Sandra Sanker affixes a "Made in USA" label

From the President *Stuart Speyer*

US citizens. These same firms are buying goods and services from other US companies who support our economy. All these companies are paying domestic taxes (income, sales, excise/franchise, property, FICA, etc.) which help pay for government services. Businesses also provide health insurance, retirement plans, vacation pay and other benefits to their employees. In addition, Tennsco and most companies are good corporate citizens that support their communities in various ways. By choosing to buy foreign made goods, these benefits are being exported to other countries.

The US trade deficit for 2012 was \$540 billion. As of June 2012, our cumulative trade deficit stood at \$5.292 trillion of which 25% is owed to China. This is a huge debt that we owe other countries. At some point this debt will need to be repaid,

either by us or future generations. The more foreign made products we buy, the larger this debt becomes. We all have choices on how we spend our hard earned money. I would suggest we consider where something is made in our buying decisions.

Unfortunately, it is not always easy to tell where a product is made, and sometimes it is necessary to heed the advice, "buyer beware." I can't speak for other industries, but in our field, there are some companies that take liberty with the "Made in the USA" designation. The Federal Trade Commission defines that in order to claim a product is "Made in the USA," the product should be "all or virtually all" US content. It is hard for our products to be 100% US content since many hardware items invariably will be sourced from elsewhere. However, we make every effort to source from US manufacturers. For example, we recently analyzed our lockers and we estimate that they have 99.5% US content. We understand some locker manufacturers claim to be US made when many of the major components are actually foreign made. I personally find this to be misleading to the consumer, unfair to companies trying to play by the rules, and damaging to the American brand.

Soccer

Continued from page 2

that to get them exposure and to challenge them to improve their skills," Gordon said. At the Olympic trials level, Gordon said the players get coached by college coaches. He's proud that his own son, now old enough, made a good showing in the most recent state trials.

"I try to prepare them for what's to come. Three hours isn't a long practice. When they get to college, they're looking at five hours a day, and then studying."

It's a legacy thing with Gordon.

His father Billy Gordon was a Tennsco Plant 1 supervisor before his death in 2009. He had started soccer in Hickman

County in 1984. The elder Gordon also helped start soccer leagues in Dickson and Lewis counties.

The younger Gordon played high school baseball and basketball, "but when soccer came along, I dropped everything else," he said. He played a couple of years of college soccer while at the University of Tennessee at Martin.

"I'm kinda carrying on my dad's legacy. That does drive me. He enjoyed helping the kids."

And it's a Tennsco legacy to support kids and education.

Gordon tells the story of how he was planning to drop out of college with one term remaining. Gordon was already

working at the company on his breaks from college, but he had run out of money. Somehow, word of Gordon's plight got to Tennsco founder Les Speyer. He called Gordon into his office, said it was his turn to talk and proceeded to lambast Gordon for making a poor choice to drop out. Gordon had never seen Speyer so angry.

"Mr. Speyer finished and then said, 'Ok, it's your turn to talk. What do you have to say for yourself?'" When I opened my mouth to speak, he got up and walked out of the office," Gordon said, breaking into loud laughter.

Speyer had gone to tell a staff member to cut Gordon a scholarship check on the spot so he could finish his schooling.

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“For solar cells, a thin semiconductor wafer, usually containing silicon, is specially treated to form an electric field - positive on one side and negative on the other. When light strikes the solar cell, electrons are knocked loose from the atoms in the semiconductor material. If electrical conductors are attached to the positive and negative sides in order to collect these electrons, it forms an electrical circuit; the electrons can then be captured in the form of an electric current and that electricity can then be used to power a load, such as a light or a tool,” Johnson said.

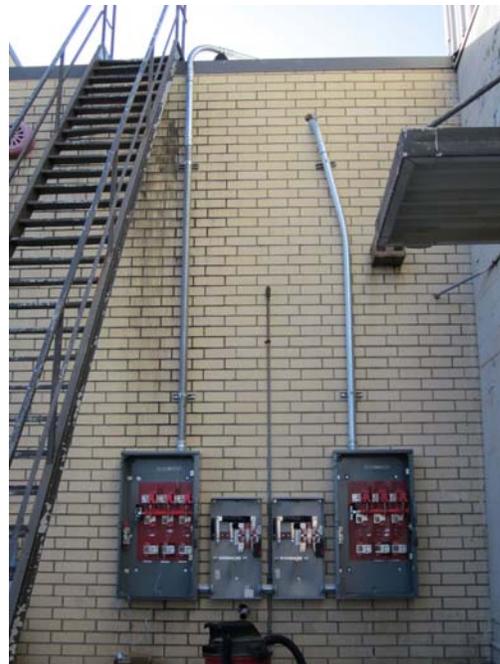
The electricity that’s created is DC or direct current. The energy is then sent into an inverter that converts the power from DC electricity to AC (Alternating Current) electricity.

Once converted to AC power, the electricity is then used in the building or sold to TVA.

“This system is literally sitting right on our roof with a structure called ballasted racking,” project manager Beasley said. “These racks angle the panels at 10 degrees facing due south and are weighted down by capstones to meet the wind load, dead load and snow load for the area as well as the structural integrity of the building. The benefit to this type of racking is there are no roof penetrations whatsoever.”

At Tennsco President Stuart Speyer’s urging, Beasley eyed the market for six years, waiting for the pay-back periods to drop below 10 years. The company was looking to lessen the amount

Some of the power is used directly in the plants and some is sold to TVA



of time it would take for the electricity savings to equal the initial investment. Tennsco moved on the projects when the initial cost return crept below that 10-year threshold. The Main Office/Plant 5 payback period is 6.5 years. The payback period for the other plants is 5.6 years.

Beasley said the payback period was based on projected numbers, “but now it’s turning out better than projected. The panels are yielding more electricity than projected.”

Beasley said the cost of solar panels is continuing to fall “pretty quickly.”

The Tennessee Valley Authority purchases green power (generated from wind power, solar panels, moving water and burning non-fossil fuels) and at a premium from its customers.

Even though these solar electric systems are Tennsco’s first, the company has been supporting the initiative since July of 2006. Since that time, Tennsco has contributed financially to TVA’s Green Power Switch Initiative which helps fund green energy in Tennessee.

This project was also able to capture the 2011 30% Federal



Inverters atop the roof convert the power from DC (direct current) to AC (alternating current)

Grant because the project started before the end of last year, and when it comes to tax time this project also qualifies for accelerated depreciation.

Tennsco has installed a blended system at the Main Office/Plant 5 complex. Some of the power is used directly and some is sold directly to TVA.

“TVA has guaranteed an 85% power factor. The solar inverters are putting out a 99% pure factor,” Beasley said.

This project will produce 256,000 kilowatt hours on average per year, enough to power more than 20 homes. This is based on the location of the installation and historical data indicating how much sunshine falls on the site.

Tennsco is also helping all interested parties seeking to learn from its experience. Tennsco initially sought advice from Interstate Packaging in White Bluff, then later returned the favor as Interstate Packaging decided to upgrade its system. Also, TVA has sent several representatives to study the system.

According to Inman Solar, which installed the solar arrays, this clean energy will reduce 186.7 tons of CO₂ from the air on average per year which is also equal to; 32.3 cars from the road, 151,680 gallons of water per year, 50.9 Acre of trees per year, 2,242 Lbs of Nitrogen Dioxide per year, or 521 Lbs of Sodium Oxide.

The utilization of Tennsco’s large amount of flat industrial roof space for the harvest of solar energy will reduce Tennsco’s consumption of carbon-based fuels like coal-generated electricity. It will also reduce Tennsco’s power bill each month and reduce the company’s exposure to future price increases from carbon-based fuel sources. Inman Solar said this project is another sign of businesses being environmentally conscious while meeting the bottom line.



Panels on Plant 5 looking toward Tennsco ballfields (above); Miles of conduit carry electrical lines from the solar panels to the inverters (below)



Employees get 4th quarter rewards

The following employees received an extra \$75 attendance bonus.

4th Quarter

Plant 1

Gerald Adcock
David Adams

Plant 2

Milton Harris
Eugene Sensing
Ilena Mae Morris
James Bruce
Robert Russell

Plant 3

Bennie Davidson
Steven Burgess
Roger Hollis
Betty Spann
Darrell Davis
Christopher Petty

Plant 5

Garry Sugg
Gerry Hinson
JW Swaw
Ronnie Myatt



January - June 2013

EMPLOYEE ANNIVERSARIES ■

This listing of employee anniversaries includes those celebrating a five-year interval.

Plant	Name	Years
2	Timothy Glenn	10
5	Travis Singleton	10
Off	Peter Shear	10
2	Donnie Dudley	15
2	Teresa Smith	15
4	Anthony Fizer	15
5	Gerry Hinson	15
5	Norman Gentry	15

Plant	Name	Years
5	Phillip Williford	15
Off	Crystal Proctor	15
Off	Lisa Wright	15
2	Michael Fleet	20
2	Billy Sensing	25
2	Terry Ferebee	25
5	David Styles	25
5	Keith Womble	25
Off	Kim Morris	25
Off	Steve Hamrick	25
1	Robert Donegan	35
1	Ricky Parchment	40
2	Ralph Martin	40



TOP SUPPLIER ■ For the second time, National Business Furniture has named the Tennsco Corp. as its Supplier of the Year. Tennsco President Stuart Speyer said winning the award a second time (the company first garnered the honor for the 2010 year) made it especially meaningful. NBF markets Tennsco products to corporate offices, government agencies, school, church and home office markets.

Fox Business News to broadcast Tennsco manufacturing segment

Tennsco is to be featured on a Fox Business News segment on Thursday, March 28. The two-minute segment will be narrated by John Criswell and is scheduled to be broadcast between 8:30 and 8:45 p.m., Central time. It will highlight Tennsco's engineering and manufacturing processes.

The segment on Tennsco is a part of Fox Business News' *Manufacturing Marvels*. Rachel Bradley, Tennsco's director of marketing, said the production company for Fox was interested in showcasing a steel manufacturing company and reached out to Tennsco.

A videographer spent an entire day March 7

filming operations at plants 1, 2, 3 and 5.

"This is an exciting opportunity to let the nation see our state-of-the-art manufacturing facilities," Bradley said. And there's an added bonus...Tennsco will own the footage and be able to use the professionally produced video for other purposes like marketing and trade shows.

The segment is to air during a highly rated hour for Fox Business News. Popular host/commentator Lou Dobbs is regularly on the air during the 8 to 9 p.m. (Central) time slot.

Tennsco plans to put the segment on its website at <http://www.tennsco.com/history.htm>.

COURT TRIMMINGS ■ To enhance the tennis experience at the Tennsco Park, the company recently contributed funds to add wind screens (pictured at left) and a practice board (at right).



Tennsco named biz of year

The Tennessee Career Center at Dickson County and the North Tennessee WorkForce Board has honored Tennsco with its Employer of the Year Award.

Tennsco was recognized at the Dickson County Customer and Partner Awards gathering. The annual event recognizes outstanding achievement among individuals and businesses who participate in WorkForce Essentials and Tennessee Career Center sponsored programs across Middle Tennessee. This year was additionally special as Workforce Essentials celebrated 20 years serving the citizens in Dickson County.

North Tennessee WorkForce Board is a state certified organization, which operates as the local WorkForce investment board for the area encompassing Cheatham, Dickson, Houston, Humphreys, Montgomery, Robertson, Stewart, Sumner and Williamson Counties.

WorkForce Essentials, Inc. is a private,



Tennsco Employer of the Year Award (Pictured L to R) Stuart Speyer and Phil Corbin, Tennsco; Peggy Stinson, Career Center Director WorkForce Essentials; Barbara Hamilton, TN Department of Labor and Workforce Development; and Bob Rial, Dickson County Mayor

non-profit corporation providing training programs to businesses and opportunities for job seekers through the Tennessee Career Center System. The Career Center at Dickson County is located at 250 Beasley Drive in Dickson.



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