



# BTES NEWS

## Bristol Tennessee Essential Services

Electric • Internet • Telephone • Cable

Winter 2018 - For Customers of Bristol Tennessee Essential Services

### What is Electricity?

**People use electricity every day — to heat and cool their homes, turn on lights, charge phones, heat water, cook dinner and brew that morning cup of coffee.**

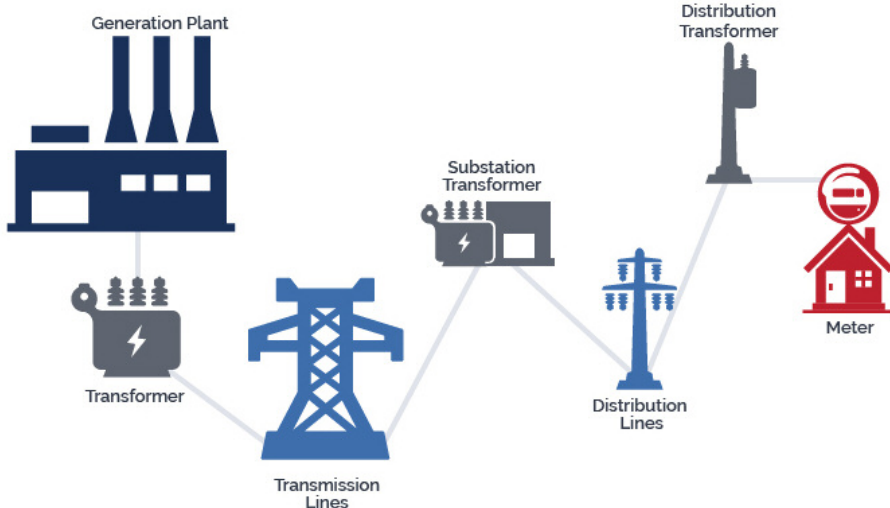
Electricity results from the flow of electrons. Homes, buildings and businesses obtain electric power through an interconnected system that generates, transmits and distributes electricity — also called the grid.

**GENERATION:** Electricity is produced when certain forces (mechanical, magnetic, heat or light) interact with energy resources, such as sunlight, wind, water, natural gas, coal, oil or nuclear. Various processes convert the potential energy from these resources to electric current, which is the movement of charged particles.

**TRANSMISSION:** After electricity is generated, the current travels to an interconnected group of power lines and other equipment. These lines move electricity from its source, often transmitting high-voltage electric current across great distances.

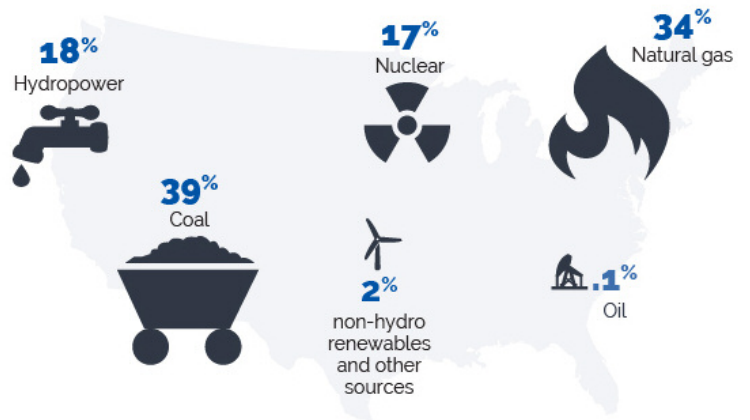
**DISTRIBUTION:** Transformers reduce the voltage of the electricity, and then move it to another set of lines and equipment that connect directly to the homes and businesses in your community.

#### The Electric Utility Network



As a local power company, BTES is part of the distribution grid that delivers electricity to your home.

#### Electricity used by public power (like BTES) is generated from:



Some sources of power can be ramped up and down fairly easily, while others must constantly run. Continuously operating plants are also called “base load resources,” while plants that are used only when energy use increases are called “intermediate” or “peaking” resources. Renewable power sources, such as wind or the sun, generate electricity only when there is sufficient energy. In the absence of associated storage capacity, they are considered “intermittent” or “variable” resources.

BTES receives its electricity from the Tennessee Valley Authority, a corporate agency of the United States that provides electricity to business customers and local power companies serving 9 million people.

Created in 1933, the purpose of TVA was “to improve the navigability and to provide for the flood control of the Tennessee River; to provide for reforestation and the

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## Animals and Seasons

Our cat, Charger, is an inside cat. He has never been outside since Linda and I have belonged to him. Yes, I said that right. A cat does not belong to you. A dog might belong to you, but not a cat. And, a cat may — and probably will — train you. That is okay. Cats are good at it. They may even make you think that you trained them! If you have a cat and don't believe me, observe him or her closely. I believe that, if you are honest, you will find that you are the trained one!



Last weekend, Charger was on my nightstand when it was just about daylight, peering out of a bedroom window. I have found him intensely looking at birds and other cats, and even deer. This time, he was watching two very dark-haired squirrels playing chase through the trees.

Later, Charger kept jumping up on a wall. He would stare at it and suddenly jump, then stare some more and jump again. I was thinking, "What is he doing?" As I walked toward him, trying to see the cause of his unusual behavior, I noticed a ladybug high up on the wall. Charger watched as I took the ladybug outside. Since he dislikes bugs almost as much as Linda, I purchased a gallon of fresh bug spray.

I have always enjoyed observing many types of animals. Several years ago, I saw the largest woodpecker I have ever seen — a pileated woodpecker — having dinner at one of my bird feeders. He made a lot of noise drilling holes in larger trees, then was gone as suddenly as he had arrived. Last month, Linda called me to the kitchen window, saying, "Come here, he's back!" I have heard his loud pecking and seen him twice since then. Maybe he will be with us for a while.

I also recently observed a flock of robins in our yard. That usually means that spring is not far behind. Don't forget that Daylight Savings Time arrives at 2 a.m. on Sunday, March 11.

Have a great spring, and ...

Good Luck!

*Mike Browder*

## BTES News

Owned and published by  
Bristol Tennessee Essential Services,  
serving more than 33,000 electric customers  
and more than 17,000 fiber customers.

**Dr. R. Michael Browder**  
Chief Executive Officer

**BTES News** is published four times a year.  
Address changes, news items and  
suggestions should be sent to:  
PO Box 549, Bristol, TN 37621  
BTES website: [www.btes.net](http://www.btes.net)

Editor: Leslie Blevins

### Our Mission

To provide service to our customers,  
employees and community that exceeds  
their expectations.

### Our Vision

To be the best electric, Internet,  
telephone and cable television provider.

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**OVER**  
for utility workers  
in Tennessee.  
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# Electricity, continued

proper use of marginal lands in the Tennessee Valley; to provide for the agricultural and industrial development of said valley ... and for other purposes.”

TVA generates electricity through:

- 8 fossil plants (35 active units)
- 3 nuclear plants (7 units)
- 29 hydro plants (109 units)
- 1 pumped storage hydroelectric plant (4 units)
- 9 natural gas combustion turbine plants (87 units)
- 7 natural gas combined-cycle plants (12 units)
- 1 diesel generator site (5 units)
- 14 solar energy sites
- 1 wind energy site

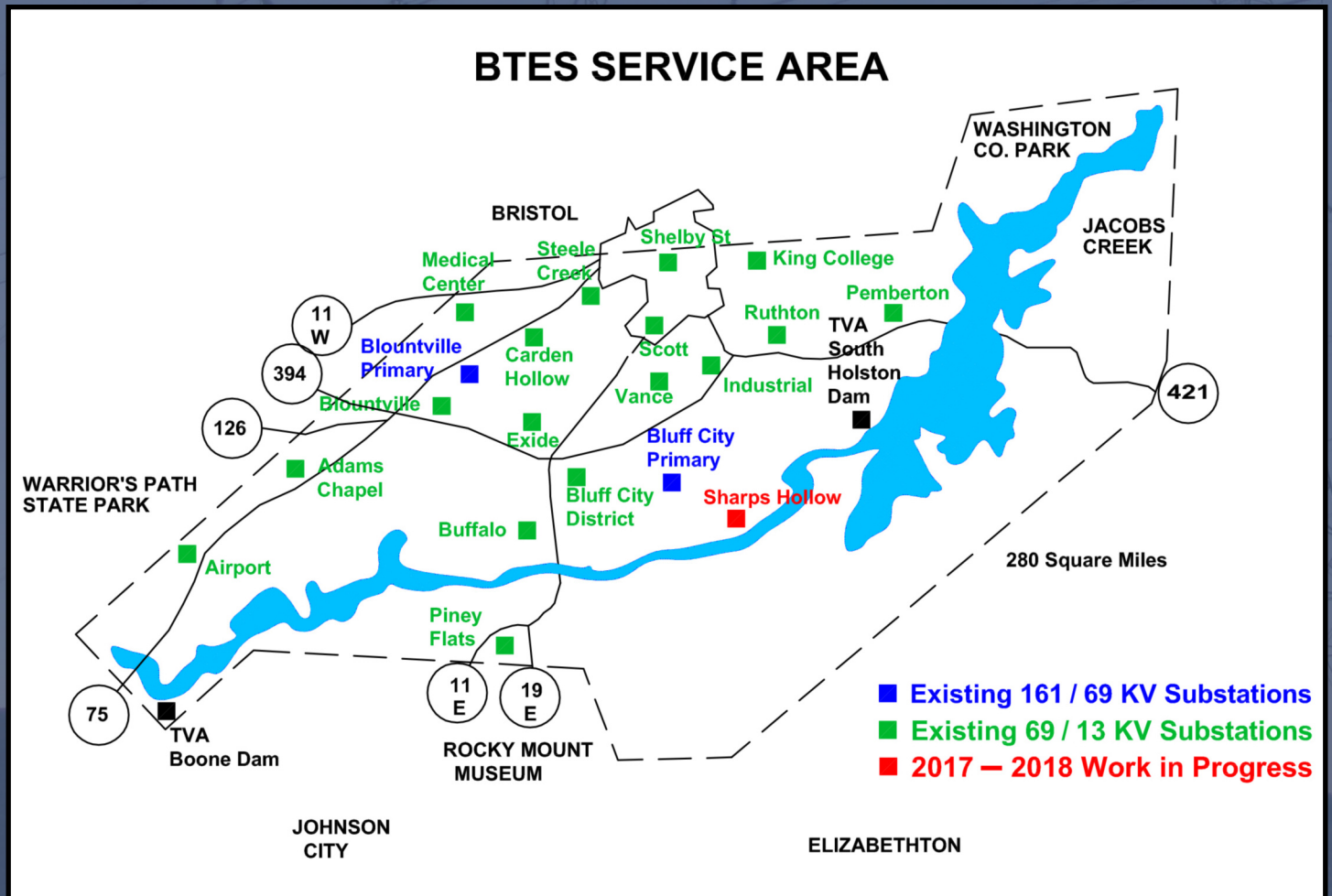
Power purchased from TVA is delivered at 161 KV to BTES at two substations: Bluff City Primary and Blountville Primary. From

there, electricity is distributed at 69 KV to an additional 17 substations, where it is transformed to 13.2 KV.

Electricity flows across power lines in our service area at 13.2 KV until it reaches the transformer at the customer location. At that point, it is “transformed” into the appropriate voltage for your home or business, which is most often 120 / 240 volts.

As long as your meter is turned on, you have electricity in your home! BTES customers receive a bill every month based on the amount of electric usage at their home or business. We determine the amount of usage when we read your meter each month. This data is either collected by an employee or a computer, depending on the type of meter that is on your home or business.

For more information about electricity basics, visit the American Public Power Association’s website at [www.publicpower.org](http://www.publicpower.org).



# Conserving Energy Helps Save You Money

**On Jan. 2, 2018, the Tennessee Valley Authority (TVA) experienced a peak demand of 31,740 megawatts — its highest level since 2015. Thanks to public conservation and partnerships with local power companies and industries, TVA saved 750 megawatts of demand on this frigid morning.**

TVA initiated the Emergency Load Curtailment Program (ELCP), which is a program used by its 154 local power companies to help conserve energy and manage potential emergency power situations. The program begins at Step 10, which asks each utility to conduct in-house power reductions within their facilities. The next step (Step 20) asks for a voluntary reduction of electricity from utility customers. TVA called for Step 10 and Step 20 during this extreme temperature event.

“When we get to the point of asking our customers to voluntarily conserve electricity, it’s because we want to provide the most cost-effective electricity possible to our customers,” said Mike Browder, CEO of BTES. “It’s important that we all work together to lower the demand that is on our system during those critical peak hours.

“Without us all working together during this last extreme cold event, TVA may have had to purchase electricity outside of its normal energy portfolio, which would have been extremely costly,” Browder said. “The more energy we can help TVA save during peak hours, the more money we all save in the long run.”

Preparing for a peak demand event is key for successfully ensuring supply during periods of extreme temperatures.

“Think of it this way — if your job is to carry several boxes of oranges every day of the week, a standard pickup truck would do the job,” said Clayton Dowell, director of engineering. “Let’s say that one day of each year, however, you are required to carry a tractor-trailer of oranges. You would need to have access to a truck big enough to carry that load.

“It’s the same with the electric system,” Dowell said. “We have to build and maintain a system that

can carry the electric load on our largest day. If we didn’t try to conserve energy on our largest peak days, we would need to spend additional money and resources to have the necessary equipment on our system that would only be needed a few days a year.”

During the event, TVA and BTES urged customers to conserve electricity by:

- Postponing the use of electric appliances, such as dishwashers, dryers and cooking equipment;
- Reducing the use of heating by adjusting thermostats two to three degrees below normal; and
- Turning off lights, appliances and other electrical equipment not needed.

“When it’s below freezing, each time the temperature drops one degree, another 400 megawatts of electricity are needed for the TVA system,” Browder said.

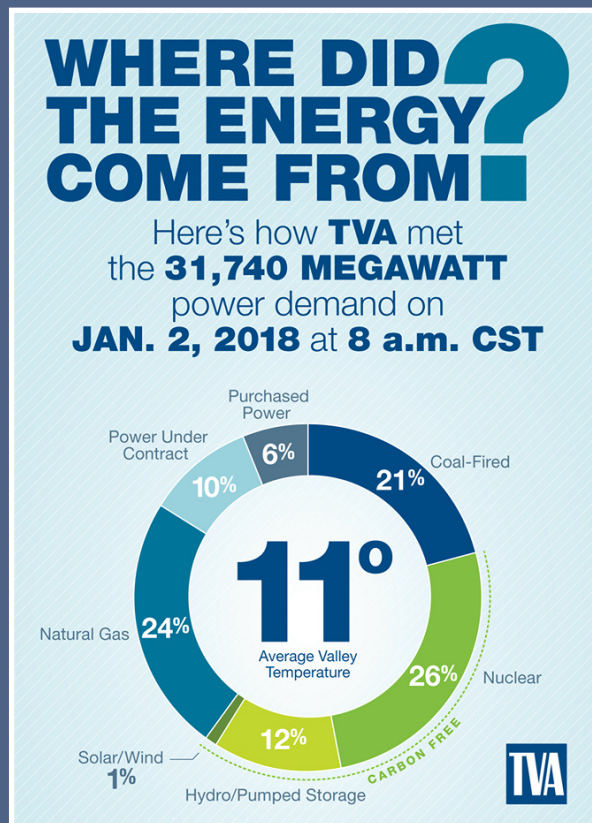
Lowering your thermostat during the winter peak hours of 6 a.m. to 9 a.m. makes a significant difference.

“We voluntarily ask people to turn down thermostats,” said TVA spokesman Jim Hopson. “We don’t want them to take any severe actions that could create a safety issue.”

The Load-Managed Water Heater Program is one example of the proactive measures BTES takes to help conserve energy all year long and prepare for peak energy events.

“BTES’ Load-Managed Water Heater Program helps move electric load off the system during peak hours,” Dowell said. “We use this program throughout the year to manage peak demand hours each and every day. The more electric load we can shift to lower cost times, the more money we save for every customer in our service area.”

To learn more about conserving electricity, visit [www.btes.net](http://www.btes.net).





## Where Did the Eagles Go?

**BTES has been privileged to work with East Tennessee State University's (ETSU) department of biological sciences to set up live stream cameras at an active bald eagle nest in Bluff City, which we air on channels 1001 and 1002. If you have been wondering where the eagles have been lately, however, so have we!**

Kevin Brooks, a teaching assistant at ETSU and an avid eagle watcher, recently spent time in Bluff City searching for the nesting pair, named Frances and Eugene.

"Bob Cheers (project volunteer) and I spent about three hours in the field where the nest is located, looking for Frances and Eugene," Brooks said. "After talking to locals, we realized that the eagles have abandoned their current nest and have started building another one. We were able to zero in on their new nest site, which is about a mile away from the cameras. We watched the eagles as they made nestorations on the new nest. Eugene was perched like a statue, while Frances was gliding from tree to tree, trying to break sticks and branches for the new nest. It was most entertaining!"

While the eagles are building a new nest, there is a small chance they could still return to the original site.

"We are staying optimistic for now," Brooks said. "If the eagles do not return to their abandoned nest, we could see a great horned owl or red-tailed hawk take over the nest, as these species are known to do."

If the abandoned nest remains unused this season, plans are in place to move the cameras to the new nest site.

"The landowner of the site where the new nest is located is more than willing to allow us rights to put cameras on the new nest tree," Brooks said. "It is too late in this season to move the cameras, but it will be a relatively easy thing to set up for next season."



Some bald eagles are known to have a second nest in their territory. They may use one nest for a few years, then move to the second nest for a period of time.

"We knew this was going to happen at some point, we just weren't expecting it to be so soon," Brooks said. "We are lucky in their choice of a new landowner. These birds haven't read our scripts and are just behaving normally!"

In addition to the Bluff City site, ETSU's department of biological sciences manages cameras at an additional site in Johnson City, where the eagles are still active in their current nest.

For more information about these projects, visit <http://www.etsu.edu/cas/biology/eagle-cam/> or visit the ETSU Eagle Cams on Facebook.



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## Wise Words for the New Year

There are plenty of ways to enter a pool.  
The stairs is not one of them.

Never cancel dinner plans by text message.

If a street performer makes you stop  
walking, you owe him a buck.

Don't underestimate free throws in a game  
of HORSE.

Just because you can doesn't mean you  
should.

You only get one chance to notice a new  
haircut.

Never lie to your doctor.

All guns are loaded.

Don't fill up on bread, no matter how good.

It's never too late for an apology.

Know when to ignore the camera.

Give credit. Take blame.

If you've made your point, stop talking.

Keep your word.

Buy the orange properties in Monopoly.

Make goals.



### Brown Sugar Italian Chicken

4 boneless, skinless chicken breasts  
1/2 cup brown sugar  
1 package Italian dressing mix (0.7 oz.)

Preheat oven to 425 degrees. Line a 9x13-inch baking pan with aluminum foil. Combine the brown sugar and Italian dressing mix. Coat both sides of the chicken with the brown sugar mixture. Place in prepared pan. Bake for 20 minutes. Turn broiler on high. Broil chicken until brown sugar caramelizes, about 1 to 2 minutes. Watch it carefully so it doesn't burn!

### Pan-Fried Cinnamon Bananas

2 slightly overripe bananas  
1 teaspoon cinnamon  
olive oil spray

2 tablespoons sugar  
1/4 teaspoon nutmeg

Slice bananas into rounds, approximately 1/3-inch thick. In a small bowl, combine the sugar, cinnamon and nutmeg. Spray a large skillet with olive oil spray. Warm over medium heat. Add the banana rounds, sprinkle about half of the cinnamon mixture on top, and cook for about 2-3 minutes. Flip the rounds, sprinkle with the remaining cinnamon mixture, and cook about 2-3 additional minutes, until bananas are soft and warmed through.

## The Lighter Side

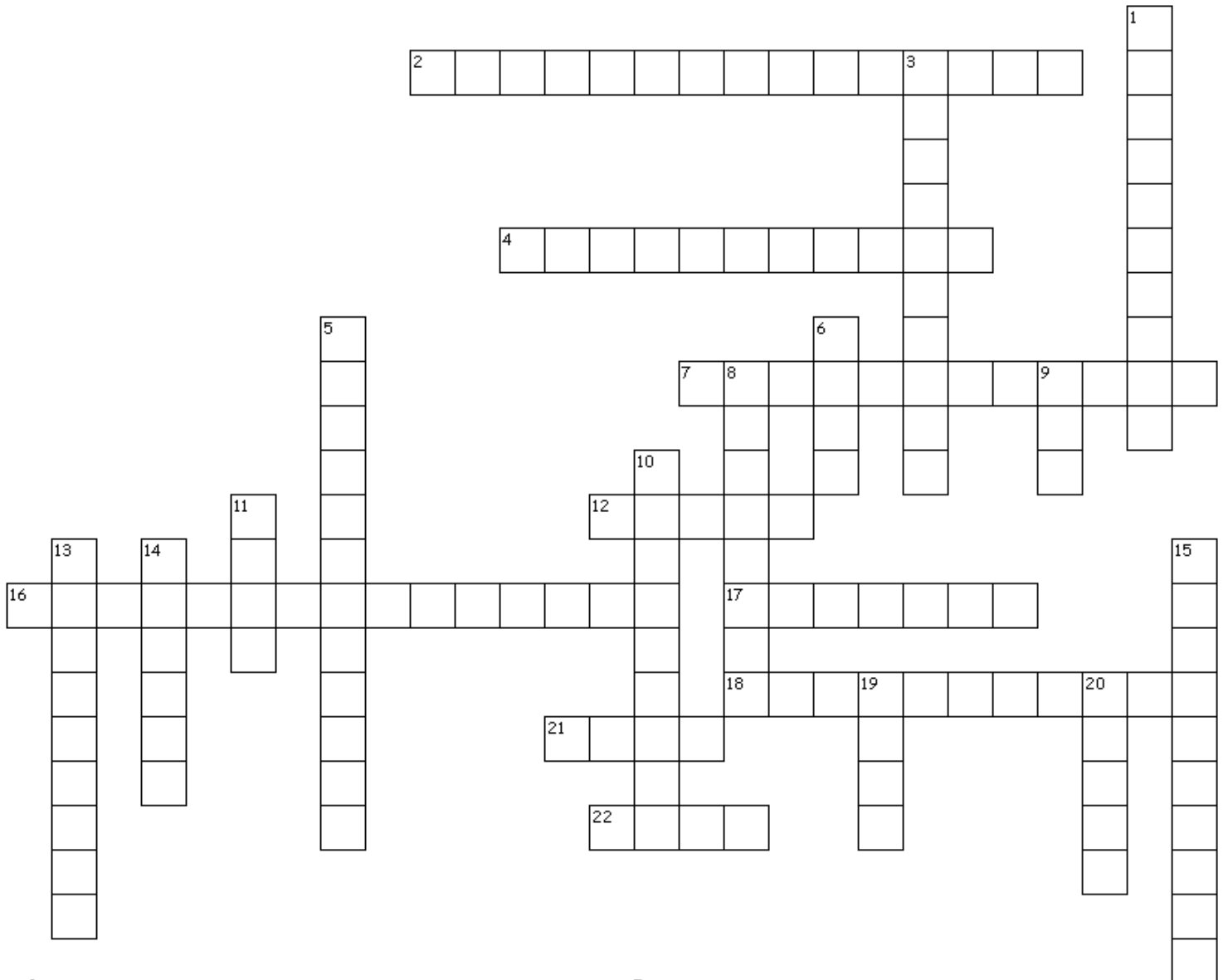
*What type of bee can't make up its mind?*

*A maybe!*





# Bristol Tennessee Essential Services Crossword Puzzle



## Across

2. Broadcast signals; view news, sports and other programming in your home
4. Flow of electrons
7. Set of lines connected directly to the home and business in your community
12. Another word for electricity
16. First step in the electric utility network
17. 17% of electricity used by public power is generated from this source
18. Piece of equipment that changes electricity into the appropriate voltage for your home or business
21. Interconnected system that generates, transmits and distributes electricity
22. The highest period of electric usage

## Down

1. How electricity is produced
3. BTES has 19 of these across the service area
5. Interconnected group of power lines, equipment; high voltage across great distances
6. Acronym for Bristol Tennessee Essential Services
8. Cyberspace
9. BTES receives its electricity from this organization
10. The year BTES began, 19\_\_; spelled out
11. 39% of electricity used by public power is generated from this source
13. U.S. patent in 1876, Alexander Graham Bell
14. The term for the peak amount of electrical energy being consumed
15. 18% of electricity used by public power is generated from this source
19. TVA serves \_\_ million people
20. Personnel read this every month; electricity data; dial or digital

Answer key available on our website at  
[www.btes.net/news](http://www.btes.net/news)



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