



TREEDC 2022 ANNUAL REPORT



TREEDC Hosts Annual Conference/ Awards Reception



From left to right: Former Cookeville Mayor Ricky Shelton, TREEDC President Dwain Land, University of Tennessee MTAS Executive Director Margaret Norris and TREEDC Chairman/ University of Tennessee Martin Chancellor Dr. Keith Carver at the 2022 TREEDC Annual Conference at Tennessee Tech University

On December 1, 2022, the Tennessee Renewable Energy & Economic Development Council (TREEDC) partnered with Tennessee Tech University (TTU) and the Energy Services Coalition (ESC) to host its annual conference and awards reception in Cookeville, Tennessee. The theme of the conference was “Creating New Energy and Economic Opportunities”. It brought together leadership from The University of Tennessee (UT) Municipal Technical Advisory Service (MTAS), United States Department of Agriculture (USDA) Rural Development, UT-Martin, Tennessee Tech University, and the Tennessee Valley Authority (TVA). Presentations were given regarding local government opportunities in clean energy resulting from the Inflation Reduction Act, and updates on Tennessee Flood Ready, the MTAS Tennessee Retail Alliance, and TVA’s economic development activities. CMTA discussed net zero energy schools. Wilmot reviewed its solar developmental activities in Nashville. Performance Services sponsored the reception.

Attendees introduced themselves and shared progress regarding their projects. TREEDC appreciated folks attending our conference and we enjoyed the comraderies among our stakeholders. After the presentations and networking session, TREEDC President Dwain Land and TREEDC Chairman Dr. Keith Carver presented the annual awards. The following individuals received awards for their hard work in 2022 and support of TREEDC during 2022:

- 1) TREEDC Environmental Legacy Award -- Ricky Shelton
- 2) TREEDC Excellence in Community Resiliency -- Woodland Mills Mayor Joseph Lewis
- 3) TREEDC Excellence in Innovation -- Billy Whittaker, Bronco Power Boost
- 4) TREEDC Champion -- John Werner, Cumberland Securities
- 5) TREEDC Champion -- Emily Bryan, Cooley Public Strategies
- 6) TREEDC Excellence in Community Development -- Dunlap Commissioner Becky Card



Dr. Dennis Tennant, Tennessee Tech University and Brian Stone, Performance Services review the Inflation Reduction Act

TREEDC President Land and 2022 TREEDC Environmental Legacy Award Winner Former Cookeville Mayor Ricky



Randy Johnson Named TREEDC Environmental Legacy Recipient



From left to right: Randy Johnson, Johnson Energy Solutions and TREEDC President Dwain Land

Randy Johnson, President of Johnson Energy Solutions was recently awarded the TREEDC 2021 Environmental Legacy award for his over 40 years of service to the clean energy industry and advocacy for comprehensive renewable energy planning and development. Randy served the Tennessee Valley Authority (TVA) for 27 years and was instrumental in TVA's Integrated Resource Planning and Renewable Energy advances. The TVA Integrated Resources Plan was developed to help guide the federal utility's policy in meeting the region's future electricity needs. Today, at Johnson Energy Solutions, Randy is leading sustainable efforts focusing on economic development, waste reduction, energy efficiency, and waste to renewable energy arenas. One of his primary focus areas is on waste to clean distributed energy project development.

The TREEDC Environmental Legacy Award established by TREEDC President/Dunlap Mayor Land honors an individual with at least 20 years of effective and significant service. Award winners automatically become lifetime members of TREEDC. Previous Environmental Legacy Award winner is Attorney Bill Penny with Burr and Forman.

Flood Ready Tennessee Statement on Flood Resilience Legislation

Flood Ready Tennessee applauds the filing of [Senate Bill 2525/House Bill 2516](#) to establish the Tennessee Flood Resilience and Community Preparedness Task Force. This bill, sponsored by Senator Kerry Roberts and Representative Jay Reedy, is a significant step toward a meaningful, statewide resiliency plan that will save the lives and properties of Tennesseans from Memphis to Mountain City.



“We are thankful for the sponsors of this bill, which aims to make mitigation and resilience solutions more accessible to our rural communities who regularly experience flooding,” said Dwain Land, Tennessee Renewable Energy & Economic Development Council President and member of the Flood Ready Tennessee coalition. “Floods are a costly disaster that our state experiences again and again, despite it being the most predictable natural disaster. Taxpayers bear the burden of paying to repair millions of dollars in damages to properties, homes, churches, and businesses every time it rains. Now, communities will have the chance to plan and fund projects that will save lives, properties, and money.”

Flood Ready TN is a coalition of elected officials, homeowners, small business owners, faith leaders, and community members across the state dedicated to making Tennessee resilient against the frequent flooding. Across Tennessee, flooding is widespread, destructive, and costs Tennessee taxpayers and individuals an average of \$243 million each year. Flood Ready TN believes Tennessee should take executive and legislative steps to better prepare for future floods by investing in statewide coordination efforts, green infrastructure solutions, and hazard mitigation.

TREEDC Hosts Philippine Department of Agriculture Officials



From left to right: Dr. April Alcazar, Undersecretary Roldan Gorgonio, UT President Randy Boyd, and Senior Advisor Dennis Layug

During the week of February 14th, TREEDC International Affairs Director Dr. April Alcazar, Philippines Undersecretary for Department of Agriculture Roldan Gorgonio and Philippines Senior Advisor to Secretary of Department of Agriculture Dennis Layug joined TREEDC member colleges: The University of Tennessee, Middle Tennessee State University, Tennessee Tech University and the University of Tennessee Martin and others for a week of promoting international agriculture and economic development. The delegation explored ways on how TREEDC member colleges can strategically align with international students and clean energy stakeholders. The Philippine delegation also toured Hico America's Manufacturing Plant and The University of Tennessee Extension Services.

The TREEDC International Exchange Program started in 2012 and includes 10 member cities and 18 member colleges in the Philippines. The mission of the TREEDC International Exchange Program is to create renewable energy marketing opportunities and jobs for both Philippines and Tennessee entities through educational forums, business networking and collaborative projects while increasing clean energy solutions in the Philippines.



From left to right: Dr. Alcazar, Undersecretary Gorgonio, Sequatchie County Executive Keith Cartwright, Senior Advisor Layug and MTAS Management Consultant Warren Nevad

Charlottesville, Virginia Hires TREEDC Member CMTA Energy Solutions



CMTA Energy Solutions, a TREEDC member energy auditing firm was selected by the City of Charlottesville, Virginia to check out its 40 buildings, including city schools, to find ways to cut power usage, reduce water use and lower its utility bills. In the process, it hopes to add some renewable energy systems as well.

The building audits are part of the first phase of the city's effort to fulfill its commitment to climate action and reducing its greenhouse gas emissions. The city is conducting the audits as part of its Energy Savings Performance Contract through a cooperative program offered by a state agency, Virginia Energy. The audits include data analysis and inspections of the city's buildings. The contractor will collect data on each building's existing systems and operation while looking for ways to decrease energy and water use and save money.

Strategies and upgrades under consideration include standardizing the controls, plumbing fixtures and heating and air-conditioning equipment in city facilities. Officials are considering upgrading to the latest cost-effective LED lights with occupancy sensors to reduce energy costs when spaces are not in use.

Membership Highlight: Perfection Group

The Perfection Group ([Government \(perfectiongroup.com\)](http://perfectiongroup.com)) is a facility solutions provider servicing Cincinnati, Dayton, Columbus, Indianapolis, Louisville, Lexington, Charleston, Knoxville, Chattanooga, and Nashville. Perfection Group not only operates in 5 states but runs 140 service vehicles and manages 250 associates. In 2009, Perfection officially launched its Green Building Solutions Business Unit. Today, Perfection has market leadership in their key business focus of County and Municipal Governments in Ohio, Kentucky, and Indiana.



Perfection designed an Energy Project for the City of Middletown, Ohio with a project investment of \$4.365 million to replace high voltage switchgear and motor control center equipment alleviating safety and operational concerns at both the Water Treatment and Wastewater Treatment plants. Additionally at the Water Treatment Plant, the plant-wide dehumidification systems were replaced not only to reduce operating costs and eliminate ongoing repair costs but to eliminate other safety concerns due to the failures of the existing systems. A new city distribution pump was implemented to supply fresh water to the city. The pump is operated on a variable speed drive which saves the city significant energy dollars while allowing for future system expansions.

Membership Highlight: Performance Services



Performance Services ([Design-Build Performance Contractors | Performance Services](#)) is an integrated design and delivery engineering company that specializes in constructing and renovating municipal, healthcare and education facilities, delivering optimal environments through design-build and guaranteed energy savings projects. Found in 1998 by President and CEO, Tim Thoman, Performance Services is built on a culture of excellence and the highest standards of quality.

Performance Services recently completed its energy services project with Arkansas Tech University. Essential components of the project included LED lighting retrofits and building automation systems upgrades across the campus. In addition to these energy improvements, the Energy Leadership program was implemented across the campus. An energy manager leads the behavioral-based student and staff energy awareness and cost reduction program, utilizing a web-based energy dashboard that provides real-time energy data to monitor and inform campus energy usage. Together, these improvements are expected to reduce annual utility costs by 13.8%

Energy Services Coalition Appoints Public Co-Chairs



The Energy Services Coalition and its Tennessee chapter's mission is to provide education and develop and disseminate information to increase the delivery of energy efficiency for the benefit of the general public. Educational activities include the development and dissemination of information about energy efficiency and how increased energy efficiency can be provided, encouraged, and acquired. The Coalition also serve as advocates for the widespread use of Guaranteed Energy Savings Performance Contracting by state and local governments. The Coalition made the following co-chair appointments for the Tennessee Chapter:

Rick Kumar-Rathor, TDEC, Energy Consultant

As an Energy Consultant with the Tennessee Department of Environment and Conservation's (TDEC) [Office of Energy Programs \(OEP\)](#), Rick guides the strategic efforts of the Office's State Facility Utility Management (SFUM) team and oversees SFUM's continued support and maintenance of the State's [Utility Data Management \(UDM\) platform](#), which centralizes utility consumption and cost data for all State-owned and managed facilities.

Prior to joining TDEC, Rick worked as a planner, mechanical engineering project manager, procurement executive, and consultant within the manufacturing, healthcare, automotive, rail, industrial, and construction sectors. Rick holds a B.Eng. (Hons) in Mechanical Engineering from the University of Westminster, London; an M.B.A. with Finance from Sheffield University, Sheffield; and an MSc in Building Services Engineering with Sustainable Energy from Brunel University, London.

Warren Nevad, TREEDC Director, Management Consultant, UT MTAS

Warren Nevad has served as a municipal management consultant for the University of Tennessee MTAS ([Home | MTAS \(tennessee.edu\)](#)) since 1999. He was co-founder of the Tennessee Renewable Energy & Economic Development Council ([Tennessee Renewable Energy and Economic Development Council \(treedc.us\)](#)) in 2008 and serves as Director. Nevad holds his bachelor's degree in business administration from the University of Georgia and master's degree in public administration from Florida Atlantic University.

Energy Efficiency in the Southeast



Each year, the Southern Alliance for Clean Energy (SACE) compiles efficiency data from nearly 500 electric utilities in the Southeast to present in its annual [Energy Efficiency in the Southeast](#) report. The latest report centers on utility efficiency savings from 2020, the most recent year with complete data, taken as a percent of annual electric retail sales.

This creates a standard metric to compare performance between utilities and states of different sizes. Data findings are presented with both historical context and the most recent policy trends to give a sense of how efficiency savings performance may develop in the coming years. [Click here](#) to access the report. [Click here](#) to view a recording of the report release webinar.

ACEEE State Energy Efficiency Scorecard: 2021 Progress Report

The American Council for an Energy Efficient Economy (ACEEE) recently published its State Energy Efficiency Scorecard: 2021 Progress Report. This year's iteration of the Scorecard does not provide a state ranking and instead serves as a progress report on state energy efficiency policies and programs that save energy while producing environmental and economic benefits. The report uses data vetted by state energy officials to assess states and the nation in five categories—transportation policies, utility and public benefits programs and policies, equity in state and utility planning and programs, building energy efficiency policies, and appliance standards. Find more information on the State Scorecard at <http://aceee.org/state-policy/scorecard>

Rural Energy Pilot Program Offered By the USDA

The Rural Energy Pilot Program (REPP) offers grant assistance to Rural Energy Community Partnerships (RECPs) to develop renewable energy that can meet the nation's energy needs and combat emissions while prioritizing environmental justice, racial equity, and economic opportunity. REPP partnerships may be comprised of, but are not limited to, non-profit entities, State and local entities, tribal entities, municipalities, and other public bodies. Funding may be used to support community energy planning, capacity building, and technical assistance; community efficiency and weatherization; and installation of community-scale renewable energy technologies and systems. Eligible rural areas include any area that is not:



- a city or town that has a population of greater than 50,000 inhabitants: or
- the urbanized area contiguous and adjacent to such a city or town, as defined by the U.S. Bureau of the Census using the latest decennial census of the U.S.

Selected projects will receive up to 80% of total eligible costs, not to exceed \$2 million for grant terms of three years. Applicants are encouraged to review all application materials found in the REPP Notice of Funding Opportunity.

Nashville Mayor Cooper Releases Sustainability Agenda

Nashville Mayor John Cooper announced his 2022 sustainability agenda, which includes a vision of sustainable policies and practices for Metro Nashville in the years to come. The agenda includes a bold pledge to cut Metro Nashville government’s greenhouse gas emissions by 80% by 2050 relative to 2014 levels, plans to conduct a solar feasibility assessment for 600 city-owned sites, and a city-wide effort in partnership with Root Nashville to plant half a million trees by 2050.



The city hopes to begin solar installations as early as 2023; funding for the feasibility research was already approved in January 2022. In December 2021, Metro Council approved legislation to invest about 1% of revenue from construction activities into restoring, caring for, and growing Nashville’s tree canopy, an effort that will allow the city to mitigate greenhouse gas emissions, reduce effects of heat in the urban core, and manage stormwater runoff.

National Community Solar Partnership Accepting Applications



The National Community Solar Partnership is a community of solar stakeholders working to expand access to affordable community solar for every American household by 2025. Partners leverage peer networks and technical assistance resources to set goals and to overcome persistent barriers to expanding community solar access to underserved communities.

National Community Solar Partners receive access to the full benefits of the Partnership, which includes technical assistance, networking opportunities, events tailored to community solar, resource databases, and peer information exchange. U.S. DOE is accepting applications to join the Partnership on a continuous basis. [Click here](#) to apply.

TREEDC President Land appointed to Flood Mitigation Task Force



*TREEDC Chairman/UT-Martin Chancellor Dr. Keith Carver and
TREEDC President Dwain Land.*

The Tennessee Emergency Management Agency (TEMA) and Tennessee Department of Environment and Conservation (TDEC) have created a *Waverly/Humphreys County Flood Recovery & Mitigation Task Force* to coordinate local, state and federal activities in support of communities impacted by the unprecedented flash flood of Aug. 21, 2021. TREEDC President Dwain Land was appointed by the state to involve local, state and federal officials with a focus on developing a road map to reduce flood risk and identifying ways to promote long-term recovery for the community. President Land is also leading TREEDC's efforts with the Statewide Tennessee Flood Ready Coalition ([Plan. Prepare. Protect. \(floodreadytn.com\)](https://www.floodreadytn.com))

TREEDC Member City of Knoxville Installing Solar Atop Cal Johnson Recreation Center



*Knoxville, Tennessee
Mayor
Indya Kincannon*

TREEDC member City of Knoxville will soon be able to offset a portion of power that runs Cal Johnson Recreation Center with a planned solar array. The new 20.5-kilowatt (kW) array to be installed by Solar Alliance Southeast (SASE) will help the city work toward its goal of improving sustainability throughout the community.

City of Knoxville Sustainability Director Brian Blackmon said, “Increasing renewable energy production was a priority of Mayor Kincannon’s Climate Council and is a core part of my team’s emission reduction strategy. This turnkey project is a cost-effective way for the city to generate its own carbon-free electricity and reduce our utility costs.

SASE has been chosen by the City of Knoxville to design and install a system of 48 photovoltaic modules atop the popular recreation center at 507 Hall of Fame Drive. Cal Johnson Recreation Center houses one of the city’s largest community gymnasiums. It also includes a large multipurpose room, fitness center and computer access for visitors. The facility underwent a major renovation in 2020.

TREEDC Member Woodland Mills Completes Installation of Emergency Battery Operated/Solar Generator for Civic Center

On June 17, 2022, the City of Woodland Mills installed 3 Bronco Power Boost Eco Solar Generators for the William R. Nanney Civic Center. Woodland Mills Mayor/TREEDC Member Joseph Lewis and the Board of Aldermen recently converted the civic center to serve also as the designated community emergency shelter during natural disasters. These battery-operated generators will provide automatic backup power for the emergency shelter’s refrigerator, lighting, receptacles for cellphones and laptops and heat for citizens staying in the shelter during emergencies.

Earlier in January 2022, Woodland Mills became the first local government in Tennessee to adopt by resolution a TREEDC/MTAS Community Resiliency Program. This innovative pilot program consists of a three-tier approach for the city to prepare for natural disasters. The resolution calls for 100 percent of electricity to be derived from renewable energy sources by the year 2035, calls for preparation of a climate action plan and sets a goal to equip all municipal, commercial and residential structures with a Bronco Power Boost Eco battery generator that does not emit emissions and works automatically during power outages.



From left to right: Woodland Mills Mayor Joseph Lewis, Billy Whittaker, Bronco Power Boost and Woodland Mills Alderman Todd Wade



Nanney Civic Center Back-up Power for 15,000 square foot facility

TREEDC Member Bolivar Receives Community-Wide Assessment Grant

Bolivar Mayor/TREEDC West Tennessee Coordinator Mayor Julian McTizic announced on May 27, 2022 that the City of Bolivar had been awarded a Community-Wide Assessment Grant in the amount of \$500K from the United States Environmental Protection Agency (EPA). The grant projects, commonly referred to as Brownfield projects, can range from cleaning up buildings with asbestos or lead contamination, to assessing and cleaning up abandoned properties that once contained or managed hazardous chemicals. Once assessed and cleaned up, these properties can be redeveloped with productive uses such as grocery stores, affordable housing, health centers, museums, and parks.

The purpose of this grant is to conduct community-wide environmental assessments of sites in and around Bolivar. The former Armira Corporation land, known as the tannery building, will be the first site in Bolivar to be assessed. Future development of the area will depend largely upon the results of these assessments, which will include water and soil samples.

Mayor McTizic was appointed last year to serve on the EPA's Local Government Advisory Committee and currently vice-chairs the EPA's Small Community Advisory Board and serves as TREEDC's West Tennessee Coordinator.



From left to right West Tennessee Coordinator/Bolivar Mayor Julian McTizic, Chattanooga Sustainability Director Erik Schmidt and University of Tennessee MTAS Management Consultant Warren Nevad at 2021 TML Conference

TREEDC Member Tennessee Tech University Planning New Wind Tunnel Research Facility



A new wind tunnel research facility will allow [Tennessee Tech University](#) researchers, students and industry partners to do hands-on, large-scale research that could shape developments in wind engineering, aerospace, electric vehicle research and other areas. “The tunnel and facilities will increase our ability and capacity in performance computing and will also enhance teaching,” said Tech President Phil Oldham. “We continue to increase our courses in this area. In addition to new opportunities for our students and faculty researchers, the wind tunnel is another of many efforts to focus on helping the Upper Cumberland. Rural areas and businesses can transform with Tech’s help.”

The Tennessee Tech Foundation plans to purchase approximately four acres of land in nearby Crossville along with existing structures that will provide teaching spaces and opportunities to work with physical models for which the campus does not otherwise have space.

Northeast State Community College Receives Funding to Integrate EV Technology Into Automotive Curriculum



The National Science Foundation (NSF) awarded Northeast State Community College a \$349,340 grant to integrate EV technology into the college’s current automotive programs. The project is funded by NSF’s Advanced Technological Education program that focuses on training in advanced technology fields that drive the nation’s economy. As envisioned, the College will work with industry partners to develop/adapt curriculum and train EV maintenance and repair technicians to meet employment needs statewide and beyond.

The College will also be a part of the National Electric Vehicle Consortium, a new diverse network of academic and industry experts funded through a separate NSF award to develop national standards for EV training across a variety of fields, including manufacturing, maintenance and repair, vehicle conversion, safety and standards, and emerging technological advances. According to NSF, there is an immediate shortage of skilled technical workers across almost every sector required to support the EV industry. Workforce projections estimate that the EV sector will add 250,000 to 500,000 high-paying jobs by 2030.

TREEDC Member University of Tennessee Center for Industrial Services Launches Connex

The University of Tennessee Center for Industrial Services (UT CIS) and the [Tennessee Manufacturing Extension Partnership](#) that it operates have launched a new resource named “[CONNEX™ Tennessee](#)” in collaboration with the Tennessee Chamber of Commerce and Industry. Described as “a powerful online manufacturer-supplier database and connectivity platform provided as a no-cost resource for Tennessee manufacturers and suppliers,” CONNEX™ Tennessee is the only supply chain tool specifically promoting the capabilities of Tennessee’s manufacturing industry.

The cloud-based platform is intended to connect manufacturers, suppliers, and buyers in a searchable database to quickly post and respond to needs, visualize supply chain risk, search for qualified manufacturers, and discover new business opportunities. “CONNEX™ Tennessee’ puts you deep into Tennessee’s supply chain network and seamlessly integrates with the highly respected CONNEX™ Marketplace, sponsored by the National Association of Manufacturers (NAM),” UT CIS writes. Access to CONNEX™ Tennessee is complimentary for Tennessee manufacturers. More details on the program that officially launched this year are available [here](#).



Tennessee Partners Launch ‘Second Life’ Battery Storage Project as Electric Vehicle Adoption Grows

Nissan, Middle Tennessee Electric, the University of Tennessee-Oak Ridge Innovation Institute, Tennessee State University and Seven States Power Corporation are teaming up to launch an innovative second-life battery storage project.

The rapid transition to electric vehicles and the escalating need for energy storage is driving demand for innovative approaches to repurposing used electric vehicle (EV) batteries to enhance the resilience of America’s electric grid. This partnership seeks to build a solution that can be helpful locally and modeled globally.

Used battery packs from [Nissan](#)’s all-electric LEAF – the first mass-produced EV in the U.S. - will be used to construct two Battery Energy Storage Systems (BESS) at Nissan America’s headquarters in Franklin, TN. The retrieved packs will undergo testing and be assembled in modular, scalable storage systems. The BESS systems will provide supplemental power supply and peak demand shaving* for Nissan’s facilities and support the Middle Tennessee electric grid.

This project will repurpose Nissan’s used EV batteries, giving them a “second life” as a BESS for the Nissan electrical system. The group will also research how to best reduce energy usage, improve battery life, optimize energy distribution within the system and into the grid, house and scale the packs and system, in addition, make it easy and safe for consumers to connect to the electric grid.

The project leverages a circular process model. Batteries lose capacity to fully charge over time. When EV batteries reach that point, the battery’s performance is no longer ideal for use in the vehicle and the battery is replaced. These used batteries have an opportunity to be repurposed in other long-life applications.

In addition to repurposing EV batteries, the partners will explore how best to package the battery cells to improve the ease of maintenance and to test the functionality and connectivity of control systems and building maintenance systems.

Tennessee Smart Mobility Expo

TennSMART held the inaugural Tennessee Smart Mobility Expo **August 4-6** at the Music City Center in Nashville. Attendees heard from industry leaders who are charting the future of smart mobility innovations. The three-day event featured roundtable discussions, panels, and on-site technology showcases from major automotive manufacturers, transportation and logistics companies, and research institutions. Additionally, those who attend will have dedicated time to network with industry colleagues. The day following the conference will feature a public showcase of transportation technologies being researched, developed, and deployed in Tennessee.

TenneSEIA Hosted Annual Solar and Energy Storage Conference

TREEDC was a proud partner of the TenneSEIA Tennessee Valley Solar and Energy Storage Conference held on October 26-27th at the Downtown Knoxville Hilton. The focus of the Tennessee Valley Solar Conference was to bring together people who are interested in growing solar business opportunities in the Tennessee Valley to discuss strategies, market trends, and policies that impact the solar industry. Attendees participated in in-depth and forward-looking discussions on TVA policy and processes and evolving technical opportunities facing the industry in the Tennessee Valley region.



U.S. DOT and DOE Propose New Standards for National EV Charging Network

The White House announced new steps to meet its goal to build the first-ever national network of 500,000 electric vehicle (EV) chargers along America’s highways and in communities, a key piece of the Bipartisan Infrastructure Law. U.S. DOT, in partnership with U.S. DOE, is proposing new standards to make charging EVs convenient, reliable, and affordable for all Americans, including when driving long distances. The new standards aim to ensure everyone can use the network – no matter the location or the car driven.

The proposed standards support federal priorities to lower costs for families, create good-paying jobs, and combat climate change. Actions to support this EV charging network will spur good-paying jobs with strong workforce requirements for America’s steelworkers, electrical workers, and laborers to build, install, and maintain the network. Additionally, making chargers and EVs more accessible will help tackle the climate crisis – reducing emissions, improving air quality, and advancing the Justice40 Initiative.

This news follows the announcement earlier this year of nearly \$5 billion that will be made available to states over the next five years under the new National Electric Vehicle Infrastructure (NEVI) Formula Program, established by President Biden’s Bipartisan Infrastructure Law, to build out a national EV charging network. Click here to access the full Notice of Proposed Rulemaking (NPRM).



TVA to Partner on All-Electric Rideshare Pilot Program

TVA has announced a partnership with Lyft, the Nashville Electric Service, and Middle Tennessee Electric to initiate an all-electric rideshare program in the Middle Tennessee market. This experiment is designed to support existing rideshare EV drivers in bringing new value, fun, and EV education to their electric rides, while letting riders (often in an EV for the first time) engage in a unique experience that they will want to repeat and share with others.

The project team is currently in the process of prototyping the in-car experiences with Lyft, after which the program will be rolled out in-market with the rideshare company’s EV drivers. The team will continually explore ways to improve the experience with no new effort on the part of the drivers. Click here to learn more about TVA’s efforts in the transportation electrification space.



IEA Global EV Outlook 2022

The International Energy Agency (IEA) recently released the [Global EV Outlook 2022 report](#). This report is an annual publication that identifies and discusses recent developments in electric mobility across the globe. Combining historical analysis with projections to 2030, the report examines key areas of interest such as EV and charging infrastructure deployment, energy use, CO2 emissions, battery demand, and related policy developments. The report includes policy recommendations that incorporate lessons learned from leading markets to inform policy makers and stakeholders with regard to policy frameworks and market systems for EV adoption.

This edition features an in-depth assessment of the EV battery supply chain and reviews government targets and strategies in this area. It assesses charging infrastructure development targets in key regions. A section on the integration of EVs into the distribution grid is also included. Finally, the report makes available two online tools: the Global EV Data Explorer and Global EV Policy Explorer, which allow users to interactively explore EV statistics and projections as well as policy measures worldwide.

The 2022 report found that nearly 10% of global car sales in 2021 were electric, a 400% increase from 2019 market share. It also detailed how EVs are set to play a key role for road transportation to reduce emissions in line with international climate goals.



MTAS and TREEDC Host Community Resilience Roundtable in East Tennessee



From left to right: TREEDC President Dwain Land, UT-MTAS Director Margaret Norris, State Senator Richard Briggs and Lt. Governor Randy McNally

The Flood Ready Tennessee Coalition Briefing hosted a successful roundtable joined by Lieutenant Governor Randy McNally, Senator Richard Briggs, Knoxville Mayor Indya Kincannon, TREEDC President Dwain Land, The University of Tennessee CTAS Environmental Consultant Kim Raia, MTAS Executive Director Margaret Norris, and local officials from Anderson and Knox Counties to discuss why regional flood preparedness is essential for community development. During the roundtable, attendees discussed how more intense and frequent rainfalls are straining infrastructure. Discussion also involved how we must target specific mitigation projects, secure funding, and then put those projects in place to provide additional resources to communities before disasters strike. MTAS Executive Director Margaret Norris facilitated the conversation among 21 stakeholders involved in the roundtable discussion. The major takeaways from the roundtable are listed below.

Major Takeaways

- More intense and frequent rainfalls are straining infrastructure, washing out roads, and prompting emergency rescues in both Anderson and Knox Counties.
- We need to view mitigation and resilience projects like we do rescue and recovery efforts - they are urgent and necessary.
- Once we identify resilience and mitigation projects, funding becomes the next question – dedicating funding sources need to be available for communities to successfully mitigate.
- Better maps and information that account for new development and changes in flood plains will help identify high risk areas and prioritize projects.
- The focus of our planning at the local, regional, and state levels should be: How do we get ahead of the next flood?
- A statewide plan and supportive infrastructure would facilitate collaboration between municipalities and counties and help draw down additional resources to communities before disasters.

Future similar roundtables will be held in Hamilton and Putnam counties. Click [Plan. Prepare. Protect. \(floodreadytn.com\)](https://www.floodreadytn.com) for more information.



From left to right: TREEDC President Land and Knoxville Mayor Indya Kincannon

TREEDC Member Woodland Mills Wins Statewide Green Leadership Award



From left to right: Tennessee Municipal League President Franklin Mayor Ken Moore, Woodland Mills Mayor Joseph Lewis and Woodland Mills City Recorder Norma Fowler

Congratulations to TREEDC Member Mayor Joseph Lewis of Woodland Mills for being awarded a statewide Excellence in Green Leadership by the Tennessee Municipal League. The city installed 3 Bronco Power Boost Eco Solar Generators for the William R. Nanney Civic Center. Woodland Mills Mayor/TREEDC Member Joseph Lewis and the Board of Aldermen recently converted the civic center to serve also as the designated community emergency shelter during natural disasters. The city used American Rescue Funds to install state – of-the-art generators at the Civic Center. These battery-operated generators will provide automatic backup power for the emergency shelter’s refrigerator, lighting, receptacles for cellphones and laptops and heat for citizens staying in the shelter.

Earlier in January 2022, Woodland Mills became the first local government in Tennessee to adopt by resolution a TREEDC/MTAS Community Resiliency Program. This innovative pilot program consists of a three-tier approach for the city to prepare for natural disasters. The resolution calls for 100 percent of electricity to be derived from renewable energy sources by the year 2035, calls for preparation of a climate action plan and sets a goal to equip all municipal, commercial and residential structures with a Bronco Power Boost Eco battery generation that does not emit emissions and works automatically during power outages.

Click here to see the award video created by the Tennessee Municipal League: [2022 TML Achievement Award -- Woodland Mills: Excellence in Green Leadership - YouTube](#)

TREEDC Member Cities McKenzie, McMinnville, and Sparta Win Tennessee Municipal League Statewide Awards



From left to right: TML President Moore and McMinnville City Administrator Nolan Ming

Congratulations to TREEDC member cities McKenzie, McMinnville and Sparta for winning TML Awards at the TML Annual Conference held in Chattanooga. McKenzie won a small city progress award for its work on parks and recreation and its renovation of a farmer's market. McMinnville was recognized for its innovative stormwater wetlands developmental project. Sparta was recognized for excellence in public works and utility infrastructure improvements.

UT Martin Program Receives Statewide Agricultural Education Award

The University of Tennessee at Martin's Department of Agriculture, Geosciences, and Natural Resources received the Tennessee Association of Agricultural Educators' award for the Outstanding Postsecondary Agriculture Program at the organization's annual conference held July 10-12 in Murfreesboro. This is the third time that UT Martin has received the award.

The award recognizes a post-secondary institution or program in which staff and faculty members devote at least 50% of their teaching time to provide exemplary agricultural education training. Recipients are chosen by a committee of agriculture teachers from across the state based on each program's curriculum, experiential learning and leadership-development opportunities, professional growth of faculty members, and program marketing.

By receiving the award on the state level, UT Martin is now eligible for the national award, which is given at the National Association of Agricultural Educators conference in December in Las Vegas. The selection process will be based on the same criteria, but the deciding committee will be made up of agriculture teachers from across the United States.



TAEBC to Host Opportunities in Energy Event



To showcase some of this year's innovations and developments, the Tennessee Advanced Energy Business Council hosted the annual Opportunities in Energy event at The Square Room in downtown Knoxville on **November 16, from 12:00 to 4:00 p.m. ET.**

The event included several panels on topics ranging from battery partnerships to corporate sustainability.

TREEDC Member AARP Hosts Livable Communities Housing Roundtable with TREEDC Knoxville Mayor Indya Kincannon

TREEDC Members Knoxville and American Association of Retired Persons (AARP) hosted a round table discussion regarding how senior adults face homelessness because of the lack of affordable housing, increasing energy costs and other rising costs. A total of 25 area stakeholders listened to a presentation about housing costs and shortages by AARP Government Relations Director Samar Jha. This program was a part of AARP's Livable Communities Project.



“Helping to reduce folks energy bills, helping folks with insurance payments. Those are major chunks of people's checks every month,” said Martin Penny, a Tennessee State director for AARP. The organization has held similar workshops in Nashville and Memphis. For more information about AARP's Livable Communities click [AARP Livable Communities - Information and Inspiration for Local Leaders - AARP.org/Livable](https://www.aarp.org/livable)

TREEDC Member Maryville, TVA, Silicon Ranch, and DENSO to Partner on Solar Project Portfolio

DENSO, a leading mobility supplier, will participate in a portfolio of solar projects that will help power operations at its Maryville facility. Through a collaboration with local utility City of Maryville Electric Department, TVA, and Nashville-based Silicon Ranch Corporation, DENSO will receive a portion of the renewable energy generated by four solar power plants, starting with one located on DENSO's Maryville campus.

The Maryville City Council approved three contracts between the City of Maryville Electric Department and independent power producer Silicon Ranch for a total of 10.5 MW of solar energy under TVA's Generation Flexibility program, a portion of which will serve DENSO's local operations. The program enables participating local power companies to generate up to 5% of their total energy load to meet the renewable energy goals of their customers, attract sustainability-focused businesses to their communities, and solve individual challenges for their distribution systems. In addition to its role in the three solar projects under TVA's Generation Flexibility program, DENSO will also participate in TVA's Green Invest program through a fourth Silicon Ranch facility.'

New Inflation Reduction Act Website and Updated Homeowner's Guide to Federal Tax Credit for Solar PV

The White House created a website on the Inflation Reduction Act where consumers can find out more information on key provisions, including tax credits and rebates. Sign up here for updates as more programs come online.

Additionally, U.S. DOE has updated the Homeowner's Guide to the Federal Tax Credit for Solar PV to reflect changes from the Inflation Reduction Act. The Act expands the federal tax credit for solar energy, also known as the Investment Tax Credit (ITC), to 30% of the solar energy system's value through 2033. Learn more here.

The State of Clean Energy- 2022

The Clean Energy Business Network recently released the 2022 State of Clean Energy report. The website provides an interactive map depicting state CO2 emission rates for the electricity sector. Explore the map to view state-level data on power sector emissions and key statistics for clean energy deployment, efficiency, and jobs. Also available are top 10 lists for states in various clean energy categories. Read more from the report on Tennessee here.

TREEDC Launches 2023 Membership Campaign



*TREEDC Chairman/UT-Martin Chancellor Dr. Keith Carver and
MTAS Consultant/TREEDC Director Warren Nevad*

TREEDC Chairman/University of Tennessee at Martin Chancellor Dr. Keith Carver and TREEDC President/Dunlap Mayor Dwain Land have officially launched the 2023 membership campaign. The TREEDC board has kept the 2023 membership dues levels unchanged from prior years. Memberships help pay for expenses related to TREEDC's outreach, educational and project facilitation for our member local governments. Being a TREEDC member, affords networking and developmental opportunities, sponsorships of various events and participation in our business matchmaking program.

During 2022, TREEDC embarked on a new strategic partnership with the Energy Services Coalition (ESC) to help match local community energy needs with appropriate renewable energy technologies to reduce costs and emissions. TREEDC and ESC promoted Commercial Property Assessed Clean Energy (C-PACE) as a financing mechanism used by local governments to advance renewable energy. In 2023, TREEDC is poised to assist our members with the implementation of funding opportunities generated from the recent passage of the Bipartisan Infrastructure and Inflation Reduction Acts of 2022. This year marks the 15th anniversary of TREEDC's mission to connect economic development with clean energy across Tennessee.

TREEDC is a 501 C 3 charitable organization. For more information regarding 2023 membership opportunities click <http://treedc.us/membership/index.html>

TREEDC and TN Flood Ready Hosts Community Resilience Roundtables in Hamilton and Putnam Counties



Hamilton County Roundtable hosted by State Senator Bo Watson and Representative Greg Vital

TREEDC partnered with TN Flood Ready to host two roundtables in Chattanooga and Cookeville. TREEDC is grateful for the leadership of State Senator Bo Watson and State Representatives Ryan Williams and Greg Vital for their leadership in moderating these roundtables. These state leaders gathered local and regional leaders from across their districts and the surrounding region to discuss the challenges we face from flooding in our communities. The goal of the TN Flood Ready Coalition is to improve flood resilience across Tennessee. During these roundtables, attendees discussed how more intense and frequent rainfalls are straining infrastructure.

Discussion also involved how we must target specific mitigation projects, secure funding, and then put those projects in place to provide additional resources to communities before disasters strike.

Key Takeaways

- Flooding is a regional issue and finding solutions will require a watershed-based approach.
- While flooding is a universal problem, the causes and solutions vary. We should avoid a one-size-fits-all solution and instead leverage local knowledge to inform regional solutions.
- Public infrastructure, businesses, and homes are all at risk across the region. It is urgent that we work to protect flood-prone areas before the next big flood.
- Smaller communities lack the staff capacity and expertise to work through grant applications, deal with regulations and red tape, coordinate with other jurisdictions, and complete project implementation. Support is needed to empower these communities to solve their flooding problems.
- Smaller communities struggle to find the funding and resources necessary to access grants or fund projects on their own. This is a question of staffing as well as insufficient funds for the local match many grants require.
- Other states have found ways to support communities through statewide planning, revolving loan funds, and clearing houses for grant opportunities.
- A “Tennessee Solution” to flood resilience is needed to protect our communities and save millions of taxpayer dollars in recovery.

If there is a point you would like to add to the takeaways, please let me know. We will be in touch about next steps as we work toward improved flood resilience for Tennessee. If you'd like to learn more about Flood Ready Tennessee and join the coalition, you can do so at [FloodReadyTN.com](https://www.floodreadytn.com).



Putnam County Roundtable hosted by Representative Ryan Williams

Woodland Mills Wins Inaugural Excellence in Community Resiliency Award

Congratulations to TREEDC Member Mayor Joseph Lewis of Woodland Mills for being awarded the TREEDC Inaugural Award in Community Resiliency at Woodland Mills Board meeting on January 9, 2023. The town installed 3 Bronco Power Boost Eco Solar Generators for the William R. Nanney Civic Center. Woodland Mills Mayor/TREEDC Member Joseph Lewis and the Board of Alderman recently converted the civic center to serve also as the designated community emergency shelter during natural disasters. The city used American Rescue Funds to install state – of- the-art generators at the Civic Center.



From left to right: MTAS Consultant Warren Nevad presents Woodland Mills Mayor Joseph Lewis

In January 2022, Woodland Mills became the first local government in Tennessee to adopt by resolution a TREEDC/MTAS Community Resiliency Program. This innovative pilot program consists of a three-tier approach for the city to prepare for natural disasters. The resolution calls for 100 percent of electricity to be derived from renewable energy sources by the year 2035, calls for preparation of a climate action plan and sets a goal to equip all municipal, commercial and residential structures with a Bronco Power Boost Eco battery generation that does not emit emissions and works automatically during power outages.

TREEDC Member City of Chattanooga Recognized for Energy Efficiency Achievements

The Federal Government recently recognized Better Buildings Challenge partner City of Chattanooga for energy efficiency leadership across more than 200 of its municipal facilities.

Over a period of several decades, the City of Chattanooga has made significant progress in reversing the negative environmental impacts of local industry. As part of this work, the city joined the Better Buildings Challenge in 2015, committing to reduce energy intensity by 20%. After reaching this goal five years ahead of schedule in 2019, Chattanooga has since achieved 36% energy intensity savings across two million square feet of building space from a 2013 baseline.

The City's Moccasin Bend Environmental Campus exemplifies this ongoing commitment to efficiency. The campus manages and treats wastewater for six counties and is the largest energy consumer of the city's owned and operated buildings. Beginning in 2018, the Moccasin Bend Environmental Campus underwent several structural improvements to ensure long-term effective wastewater treatment for its growing population and increase resilience in times of extreme events.

To improve the facility's efficiency and performance, the City of Chattanooga installed a 10-acre solar array, upgraded the facility's equalization blower, retrofitted the building with LED lighting, improved water systems, and installed variable frequency drive controls. Chattanooga's holistic approach has resulted in 27% energy and 24% water savings annually at the campus, ultimately saving \$1.4 million per year. Congratulations, Chattanooga.



TREEDC Member Maryville College Receives EPA Grant to Provide Environmental Sustainability Kits to Schools



Maryville College will use a \$100,000 grant from U.S. EPA to provide reusable kits for fourth graders in area schools to learn about the environment and sustainability in the region. The college expects to reach about 960 students, with boxes going to local elementary and middle schools.

The “Out of the Box Community Sustainability” packages will focus primarily on air and water quality issues specific to East Tennessee. Expected to be about the size of a file box, each unit is designed to be ready to use, with a lesson plan and instructions for engaging activities. Within the larger topics of air and water quality, the kits will delve into subjects such as the impacts of increased sedimentation into water systems, human health impacts from air quality, food security, and climate change. The activities also are designed to develop students’ critical thinking skills, such as looking at the sustainable ways of doing things that have disappeared because of convenience, such as clothes dryers replacing clotheslines in the mid-20th century, or the impact of buying groceries that are shipped long distances.

U.S. DOE Announces Funding for Clean Energy Improvements to Lower Energy Costs for K-12 Schools



U.S. DOE recently announced first-of-its-kind investments to make clean energy improvements at K-12 public schools. Funds will position school districts to make upgrades that will lower facilities’ energy costs and foster healthier learning environments for students. Schools can now apply for the first round of the Renew America’s Schools grant, up to \$80 million of the \$500 million program, to make energy improvements in the highest-need districts across the country. Eligible uses of funding include energy efficiency upgrades (envelope, HVAC, lighting, controls, etc.), ventilation, renewable energy, alternative fuel vehicles, and alternative fuel vehicle infrastructure improvements. Full applications are due **April 21, 2023**. [Click here](#) to begin the application process.

The Energy Champions Leading the Advancement of Sustainable Schools Prize (Energy CLASS Prize) program is also accepting applications for up to 25 local education agencies to receive \$100,000 to staff and train select administration and facilities personnel as energy managers.

U.S. DOE Announces \$45 Million to Support Resilient and Efficient Building Energy Codes

U.S. DOE recently announced \$45 million in competitive grants to help states and partnering organizations implement updated building energy codes and lower energy bills for American families and businesses. This funding is the first installment of a 5-year, \$225 million program established by the Bipartisan Infrastructure Law to support building energy code adoption, training, and technical assistance at the state and local level.

Applicants may now apply for the Resilient and Efficient Codes Implementation Program's first \$45 million disbursement, which was announced earlier this year in a Notice of Intent and shaped by responses to a Request for Information. Applicants must include a state agency to be eligible, and they may apply in strategic partnership with other organizations, such as state or local building departments, builders, contractors, architects, engineers, other design and construction professionals, academia, research, trade organizations, consumer advocates, regional energy efficiency organizations, and other stakeholder interests who play an important role supporting the successful implementation of building codes. To apply for this Funding Opportunity Announcement, applicants must register with and submit application materials through EERE Exchange here. Applicants must submit a concept paper by **January 31, 2023 at 5:00 PM Eastern**, and full applications are due **March 27, 2023**.

Benefit 2022/2023 Funding

The Office of Energy Efficiency and Renewable Energy (EERE) is issuing, on behalf of the Building Technologies Office (BTO), a Funding Opportunity Announcement (FOA) titled "Buildings Energy Efficiency Frontiers & Innovation Technologies (BENEFIT) – 2022/2023"

The 2022/2023 BENEFIT FOA will invest up to \$15.35M - \$45.2M across 5 topic areas to allow all interested parties to research and develop high-impact, cost-effective technologies and practices that will reduce carbon emissions, improve flexibility and resilience, as well as lower energy costs.

- **Topic 1:** Heating, Ventilation, and Air Conditioning and Water Heating: Technologies with improved materials, components, equipment design and engineering, lower cost manufacturing processes, and easier installation.
- **Topic 2:** Thermal Energy Storage (TES): Development and validation of next generation plug-and-play TES products with improved cost and performance and ease of installation to accelerate adoption of TES in HVAC applications.
- **Topic 3:** Battery Energy Storage Systems (BESS): Development, validation, and demonstration of product innovations that reduce the cost of BESS integration, improve the coordination between distributed BESS and the electrical grid, as well as help meet building decarbonization targets.
- **Topic 4:** Plug Loads/Lighting: Integration of plug load controls with connected lighting systems in commercial buildings with minimal cost and complexity to support building electrification.
- **Topic 5:** Opaque Building Envelope: Development, validation, and demonstration of high-impact, affordable, opaque building envelope retrofit and diagnostic technologies.

BTO has compiled a [teaming partner list](#) to facilitate widespread participation in this FOA. This list allows organizations with expertise in the topics to express their interest to potential applicants and to explore potential partnerships. Concept papers are due **February 7, 2023 by 5:00 PM Eastern**, and full applications are due **April 5, 2023**. [Click here](#) to access the full FOA.

2022 Energy Efficiency Impact Report



Over the decades, energy efficiency has transformed the way we use energy and has helped build a cleaner economy that is more secure, more affordable, and more productive. After several years of slowed progress, recent federal funding provides the opportunity for states, local governments, businesses, and households to further investments in energy efficiency. Given the accelerating urgency of climate change and the race to improve U.S. productivity and competitiveness in a quickly evolving international market, we need to fully capitalize on the expansive, diverse, affordable, and innovative energy efficiency toolkit.

Using 59 indicators, the [Energy Efficiency Impact Report](#) tracks progress in a variety of sectors, including utilities, buildings, industry, and transportation and examines how policy and other tools are used to incentivize energy efficiency.