Regional Energy Resource Council

Dec 11-12, 2019

Knoxville, Tennessee

welcome

Term 4 RERC Members

Michael Butler
Tennessee Wildlife Federation

Dr. Bill Carswell
University of Alabama, Huntsville (ret'd)

Erin Gill
City of Knoxville

Rodney Goodman
Habitat for Humanity

Dana Jeanes
Memphis Light, Gas, and Water

Matt Largen
Williamson, Inc.

Jonathan Levenshus
Sierra Club

Peter J. Mattheis
Tennessee Valley Industrial Committee

Jennifer Mundt*
State of North Carolina

Alice Perry
State of Mississippi

Doug Peters
Tennessee Valley Public Power Association

Dr. Kari Babski-Reeves
Mississippi State University

Patrice Robinson
Memphis City Council

Charles Snavely
Commonwealth of Kentucky

Clay Walker
NETWORKS Sullivan Partnership

John Warren
Commonwealth of Virginia

Lloyd Webb
Olin Chlor Alkali

*RERC Chair

Introductions

- Name
- Organization and Role
- Something you hope to learn more about, or contribute, as a member of the RERC

Safety Moment

Building Emergency Plan

RERC Overview

Welcome to Term 4 of the RERC

- **Term 4: August 1, 2019 – July 31, 2021**
- **Typically Meet 2-4 times a year**
- **Tentative topics:**
  - **Implementation of the 2019 Integrated Resource Plan**
  - **Energy Resource Activities and Priorities**
  - **Coal Ash Outreach and Management**

Recap Prior RERC Terms

- **Term 1 (2013 – 2015)**
  - **8 Meetings**
    - > **2015 Integrated Resource Plan; Priorities in Energy Decisions**
- **Term 2 (2015 – 2017)**
  - **4 Meetings**
    - > **Rates; Research and Development; Coal Ash Management**
- **Term 3: (2017 – 2019)**
  - **8 Meetings**
    - > **2019 Integrated Resource Plan**

Today's Meeting Purpose

- **Provide an introduction to TVA**
  - Mission and Region Served
  - Public Power Model
  - Large Initiatives: Grid 2023 and Coal Ash Management
- **Host a Public Listening Session**
- **Hear RERC views:**
  - On efforts to achieve transparency and engagement
  - On outreach efforts related to coal ash management

Agenda and Meeting Protocols

Agenda – Dec 11, 2019

8:30	**Welcome,** Safety Moment, Term 4 Overview
9:15	**RERC Overview and Meeting Protocols**
9:20	**FACA Training** Khurshid Mehta
9:30	**Break**
9:45	**Introduction to TVA** **Energy**
10:45	Break
11:00	**Economic Development** **Environment**
12:00	**Meeting Adjourned and Lunch**
4:30 – 5:30	**Public Listening Session (4:30 – 5:30)**

Agenda – Dec 12, 2019

8:30	**Welcome** / Recap and Observations
9:00	**TVA Challenges and Opportunities: Coal Ash Management – Introduction and Overview**
10:15	Break
10:30	**RERC Discussion**
11:15	Break
11:30	**Form Advisory Statement / Vote**
12:00	**Wrap Up / Adjourn RERC Meeting**

RERC Meeting Protocols

Agenda

- Prepared and approved by the Designated Federal Officer (DFO) in consultation with Council Chair
- Distributed to Council and published in the Federal Register prior to each meeting
- Topics may be submitted to the DFO by any member of the Council, or non-members, including members of the public

Meeting Minutes

- DFO will ensure that minutes are prepared for each meeting, approved by the Chair, and made available to Council members

Voting

- Any member of the Council may make a motion for a vote
- Recommendations to TVA Board shall require an affirmative vote of at least a simple majority of the total Council members present on that date
- Council members may include minority or dissenting views

Discussion

- DFO (or his designee) will facilitate and ensure good order during all open discussions
- Only one speaker or attendee is permitted to comment at a time
- To be recognized by the Chair (or meeting facilitator) in order to provide comment, please turn your name card on its side

FACA Training

Khurshid Mehta, Office of the General Counsel

Historical Background on Advisory Committees

- Growth in advisory committees occurred after WWII
- Congressional concerns:
  - Proliferation of committees
  - Domination by special interest groups
  - Lack of transparency and accountability
  - Waste of federal funds

Federal Advisory Committee Act of 1972

- U.S. Congress formally recognized the merits of seeking advice and assistance
- The Act assures that advisory committees provide advice that is relevant, objective and open to the public, and comply with record keeping requirements

Key Elements of the Federal Advisory Committee Act

Public access and transparency

- Meetings (reasonably accessible and timely notice required—generally open to the public)
- Records (available for public inspection, subject to limitations)

Structured management

- Filed charters
- Expiration after two years
- Attendance of a federal officer

Advisory Committees Today

- Play an important role in shaping programs and policies of the federal government
- Approximately 1000 committees with more than 60,000 members
- Advise the President of the United States and the executive branch
- Subject to FACA and General Services Administration (GSA) Regulations

TVA's Regional Energy Resource Council

- Created by TVA in 2013 "to provide advice on its energy resource activities and the priorities among competing objectives and values"
- TVA's energy resource activities include:
  - Constructing and operating various supply-side resources, including fossil-fueled power plants, nuclear plants, hydroelectric dams, and renewable resources
  - The development and management of demand-side resources, including energy efficiency
  - The design, construction, and operation of power delivery systems
  - The integration of all of these energy resources into plans for meeting future demands for electricity in the TVA region

Key Provisions of RERC Charter

- Council provides advice only
  - Advice reported to the TVA Board's External Relations Committee
- Term of Council is two years
  - Fourth term expires July 31, 2021
- Approximately two meetings per year
- Designated Federal Officer (DFO): Joe Hoagland, Vice President, Innovation and Research
- Balanced Membership

TVA

Introduction to TVA

Joe Hoagland, Vice President
Innovation and Research

What We Are

- Provider of low-cost, reliable power
- Steward of the Valley's natural resources
- Partner for economic growth

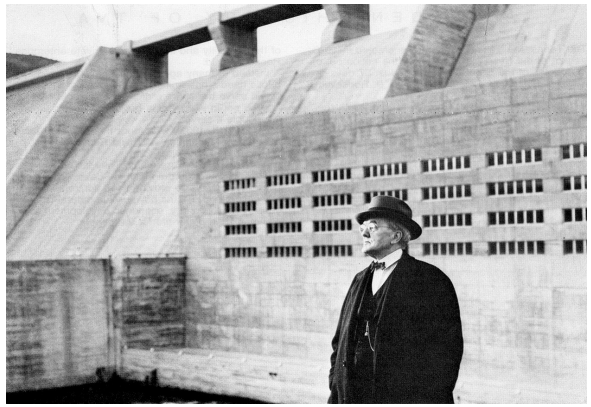
"Power is really a secondary matter…. TVA is primarily intended to change and to improve the standards of living of the people of that valley. Power is, as I said, a secondary consideration. Of course, it is an important one because, if you can get cheap power to those people, you hasten the process of raising the standard of living."

President Franklin D. Roosevelt

What We Do

- Serve 7 states, 154 local power companies, 58 directly served customers and 80,000 square miles
- Generate $10.9 billion annual revenue
- Manage the Valley's river systems and environmental resources.

First power pole erected in 1934 in Pontotoc, Miss.



"Father of TVA," Senator George Norris

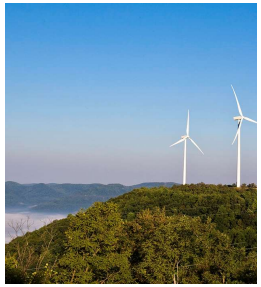
Our Mission and Strategic Imperatives

Why We Are Here

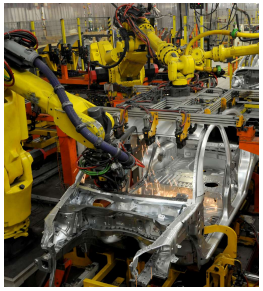
How We Achieve Sustainability

TVA Mission

Energy



Environment



Economic Development

Strategic Imperatives

TVA Governance

- Corporate Agency of the United States, receives no tax dollars / self financing
- Nine-member Board of Directors, nominated by the President, confirmed by the Senate
- CEO, appointed by the TVA Board
- RERC provides advice to the TVA Board

The Value of Public Power

- People are first – Accountable to stakeholders, not stockholders
- Rates are set to recover costs and reinvest in facilities – Not maximize profits
- Low-cost, reliable service are the focus – Not shareholders
- Collaborative regulatory process with a clear focus on serving energy consumers

More than 25% of our nation's electricity consumers receive their energy from public power

Partnering to Serve You & Your Community

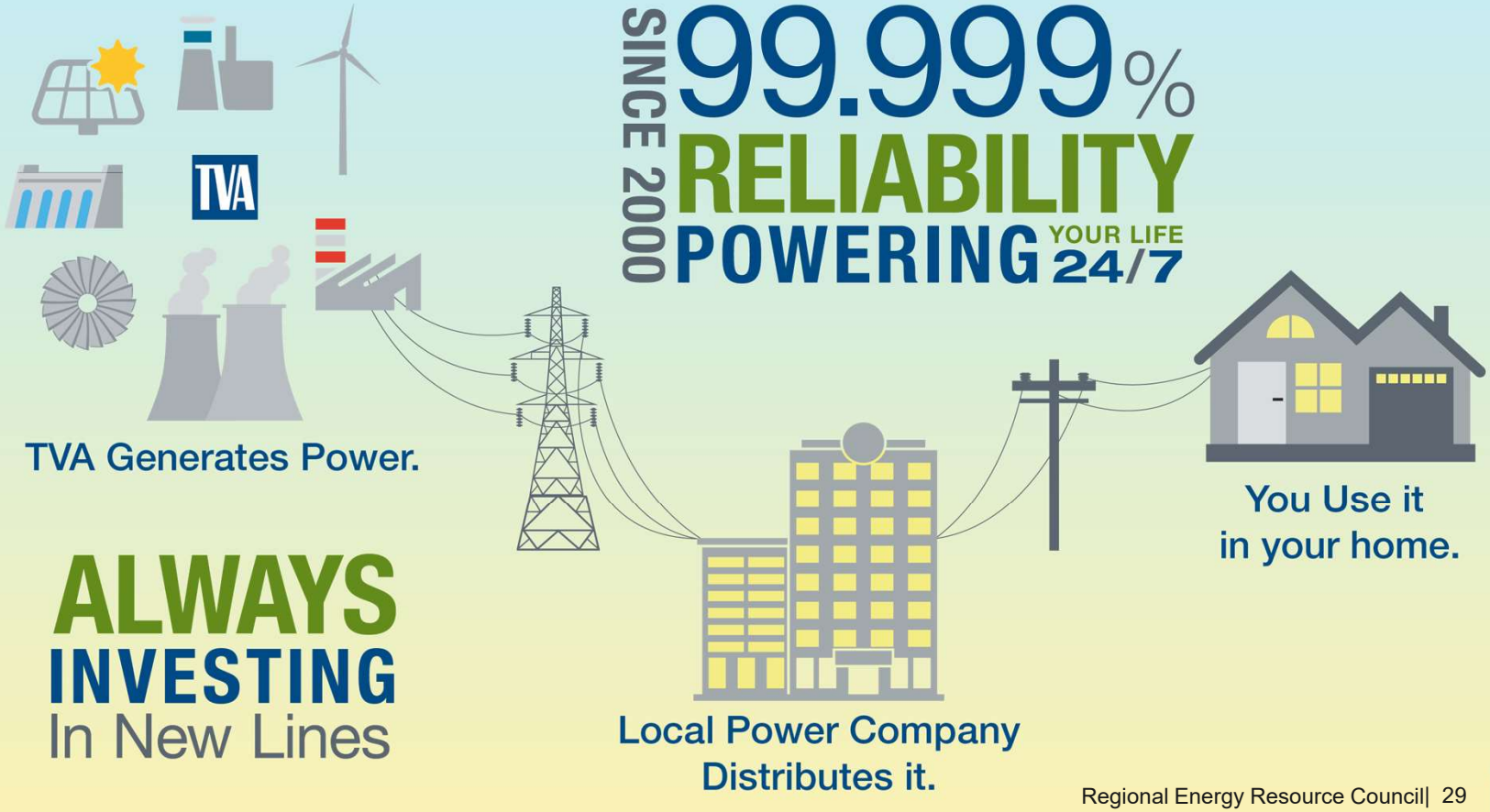
PARTNERING with 154 Local Power COMPANIES

TO SERVE 10 MILLION PEOPLE

700,000 Businesses IN PARTS OF 7 STATES

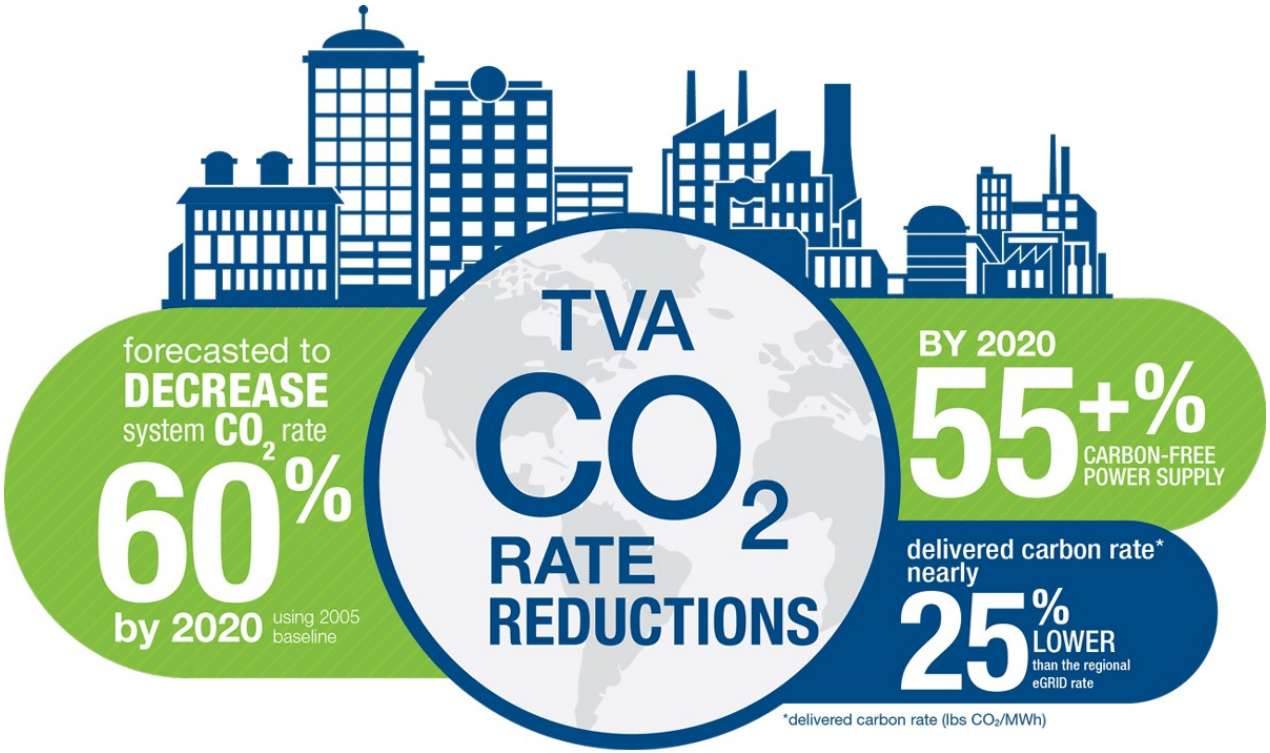
Directly Serve 58 LARGE industries & federal installations

Delivering Reliable Energy that Powers Your Life



ALWAYS INVESTING
In New Lines

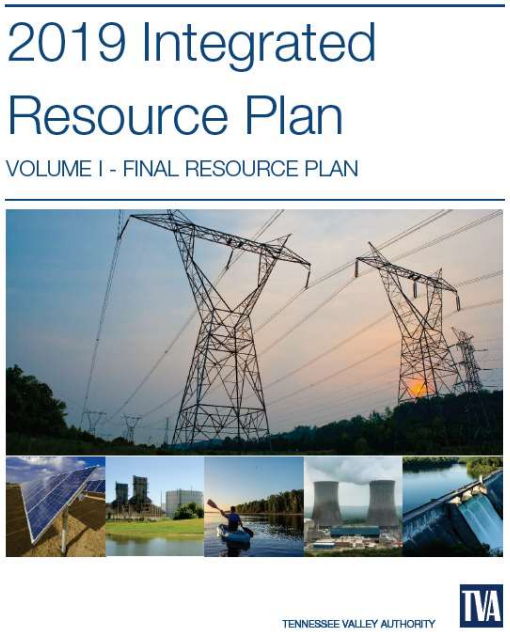
Cleaner and Greener Energy



TVA's Integrated Resource Plan

The IRP is a comprehensive study that provides direction on how to best meet future electricity demand.

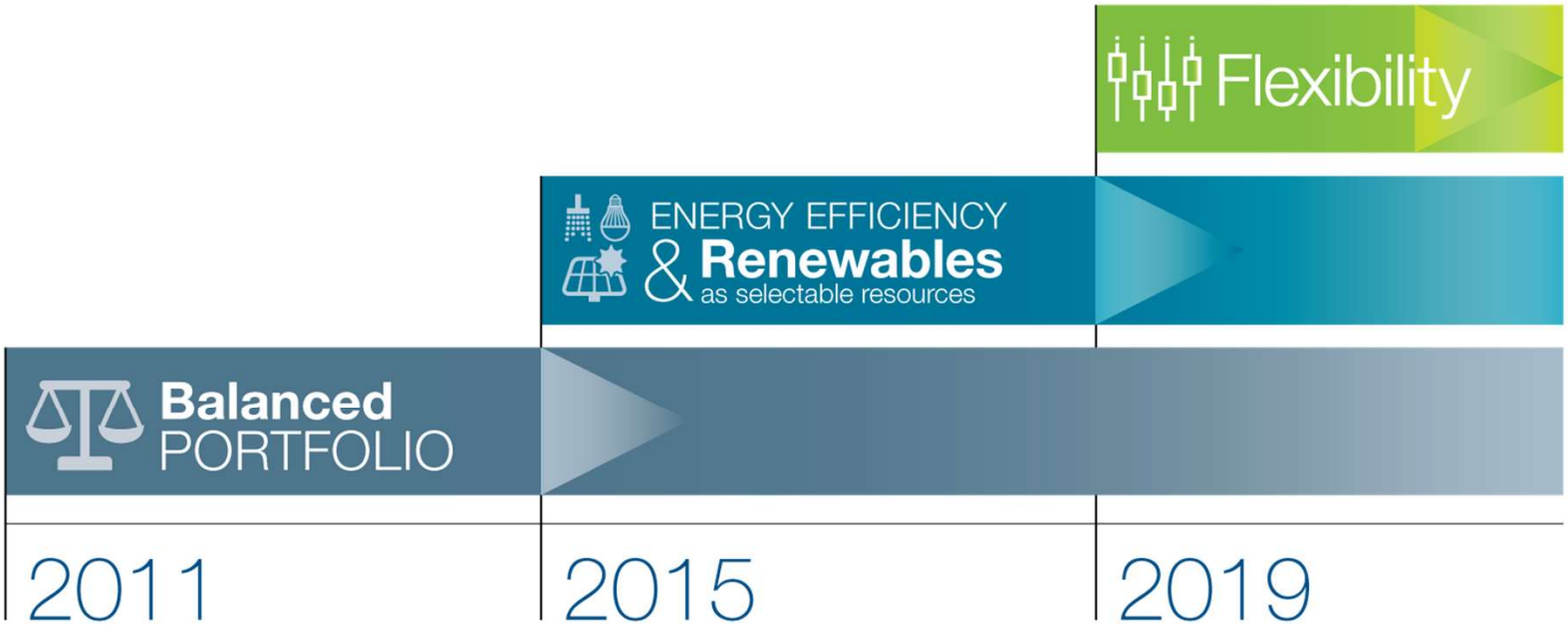
A programmatic Environmental Impact Statement (EIS) accompanies the IRP to analyze the impacts associated with an updated IRP to the Valley.



INTEGRATED Resource Plan 2019

Focus Areas:

- *Distributed Energy Resources*
- *System Flexibility*
- *Portfolio Diversity*



2019 IRP Results Indicate:

Over the next **20** years

1.5 to **14** GW solar additions (nameplate)

Up to **5** GW storage additions

All portfolios point to a TVA power system that will be LOW-COST, RELIABLE, and CLEAN

2 to **17** GW Natural Gas Additions

Evaluation of additional coal and gas retirements

Projected **70%** reduction in CO_2 Intensity (lbs/MWh)

Average results from 2005 baseline

Signposts to Guide Long-Term Actions

Portfolio shifts will be driven by:

- Changing market conditions,
- More stringent regulations, and
- Technology advancements.

TVA Mission: Energy

Generation

Kris Edmondson, Vice President
Power Operations

Generation

Kris Edmondson, Vice President
Power Operations

The TVA
Power System

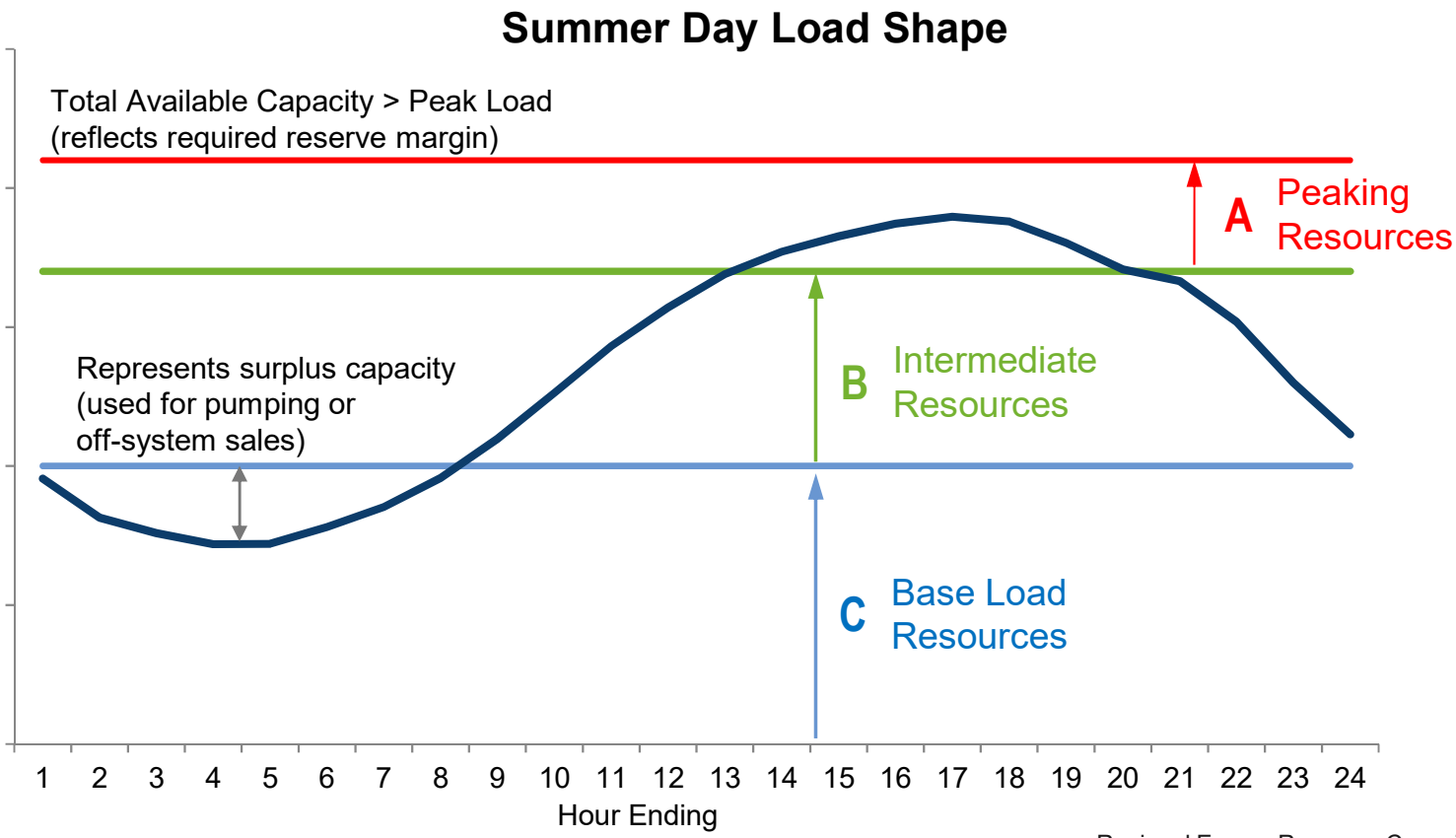
Current Portfolio Mix to Meet Operational Needs

Hydro	Nuclear	Renewables	EEDR	Gas	Coal
4,100 MW conventional 1,600 MW pumped storage	8,400 MW	1,200 MW wind 130 MW utility-scale solar 400 MW programmatic solar/biomass	1,700 MW interruptible load	5,900 MW CT and diesels 8,100 MW CC	7,400 MW

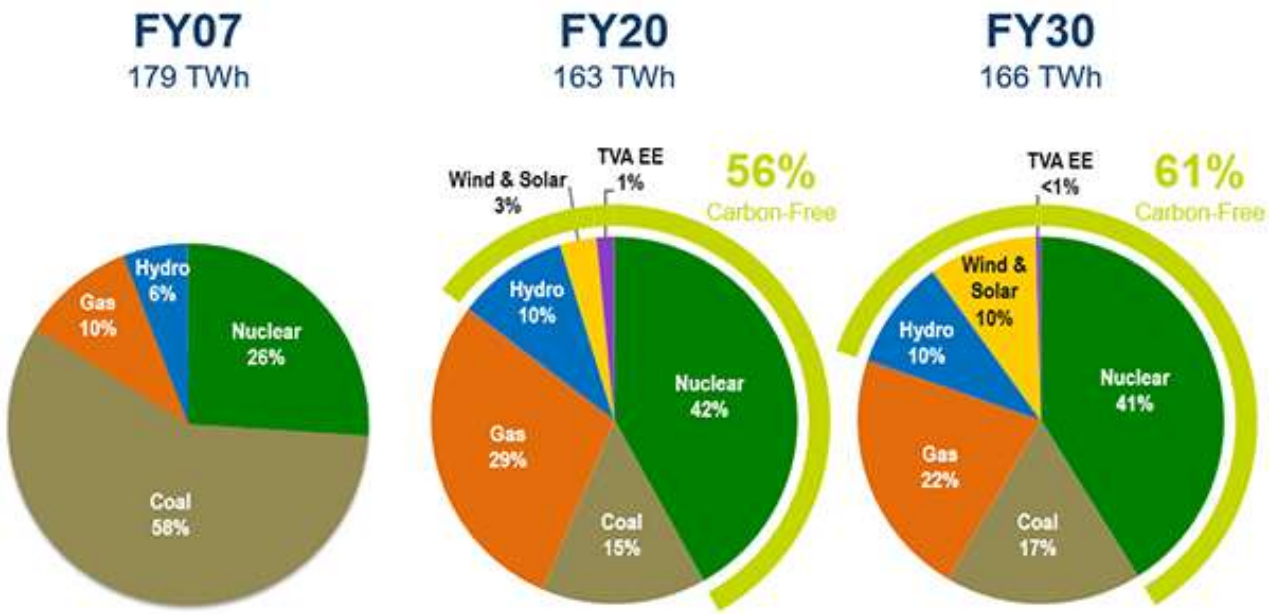
Approximately 45 percent of TVA's capacity is carbon-free

Capacity values are consistent with the 2019 10-K report, rounded to nearest 100 MW, with updates for Browns Ferry uprates and Paradise 3 retirement (January 2020)

Understanding Resource Needs

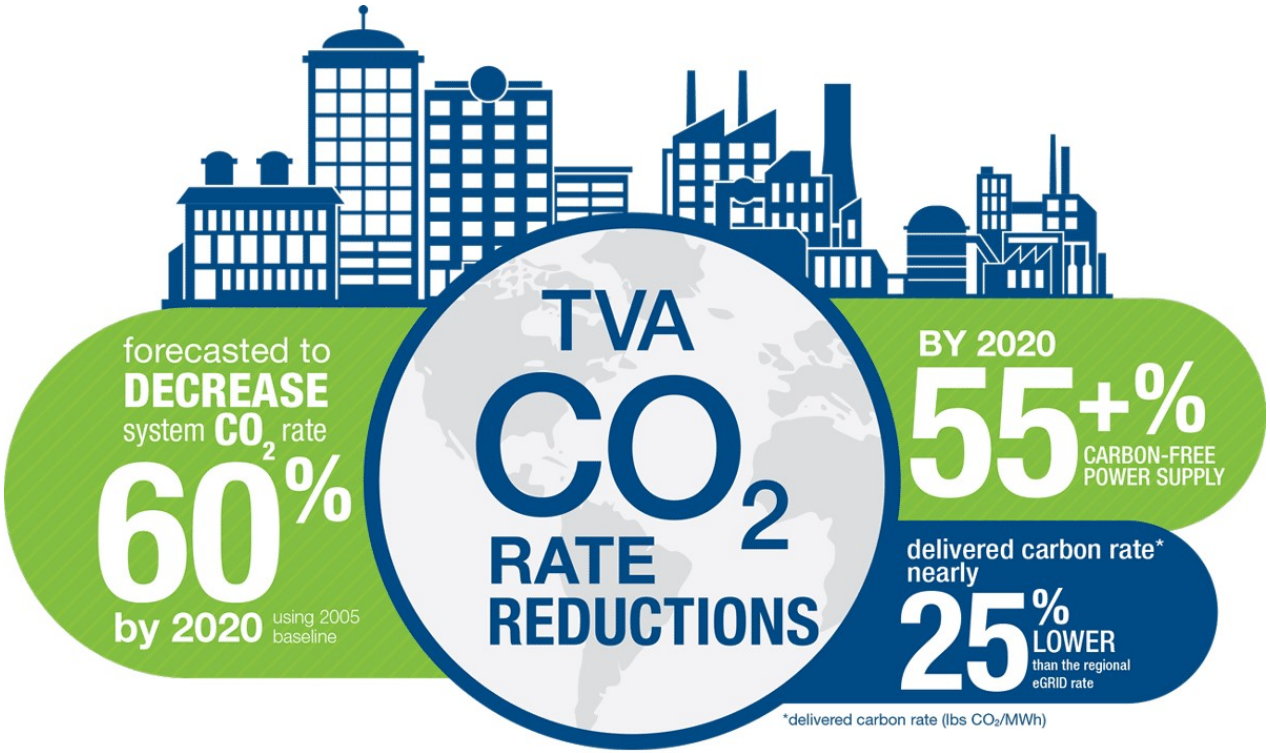


TVA's Changing Portfolio



NOTE: 2018 and 2027 figures are based on FY18 budget.

Cleaner and Greener Energy



Operational Excellence

Operational Imperatives

- Safety
- Reliability
- Cost
- Compliance

TVA Transmission Overview

Mark Smith, Director,
Transmission Planning & Asset Management

Transmission Strategic Alignment

Integrate planning and asset replacement strategies to create optimized solutions and meet the challenges of tomorrow

TVA Mission

Energy

Environment

Economic Development

Transmission Focus Areas

Safety

Reliability

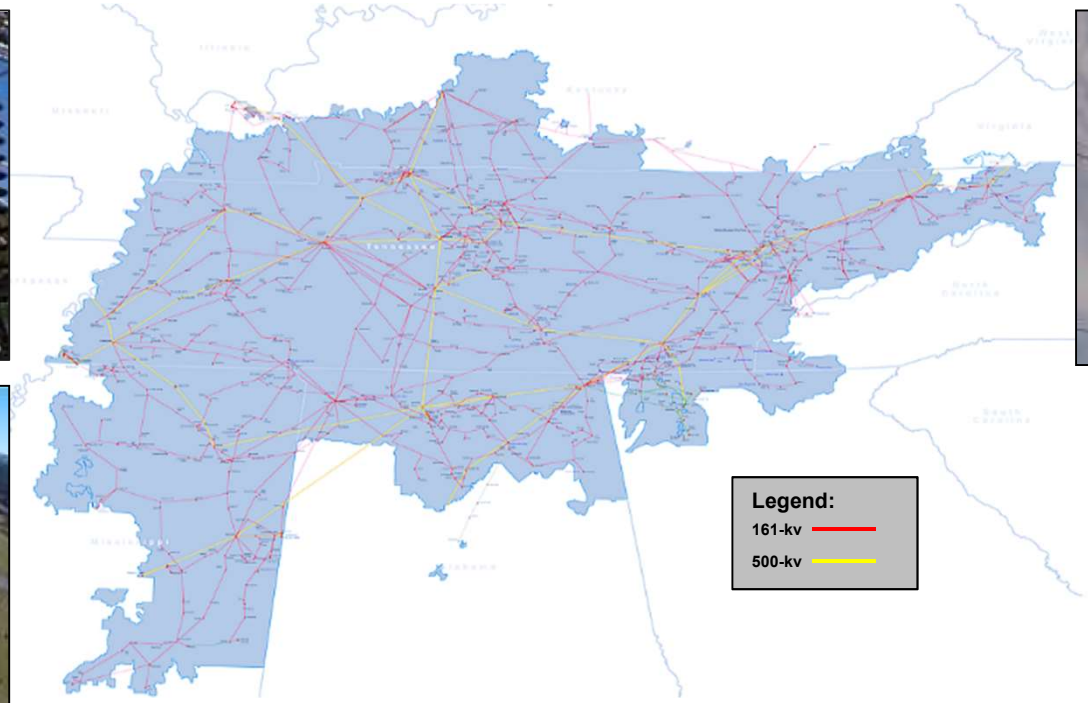
Cost Effectiveness

Transmission Overview

Balance Interrelated Demands:

Bulk System Capacity | Generation | Regulation | Asset Performance | Customer Delivery | Economic Development | Interregional Impacts

16,239 Circuit Miles | 104,864 Structures | 510 Substations | 1,314 Customer Connection Points | 239,633 Acres ROW | 3,900 miles Backbone Telecom Fiber



Transmission Strategy

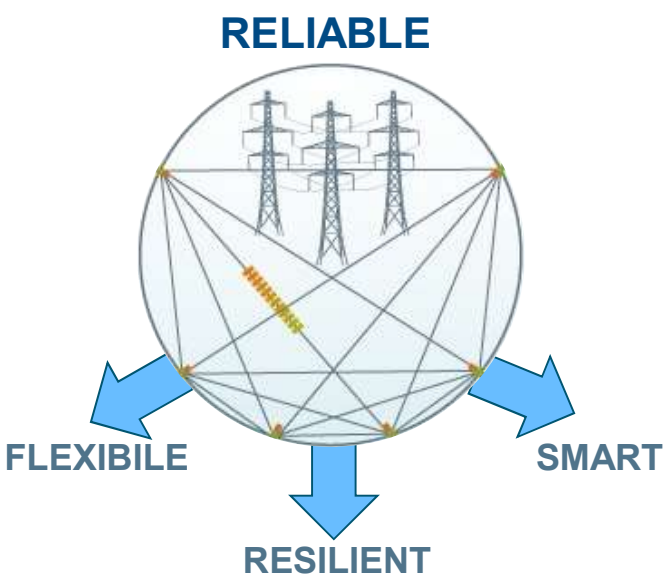
TVA's Grid of the Future

Reliable
- Keep the Lights On! – Core responsibility to our customers

Flexible
- Maintain reliability by responding to events in real-time

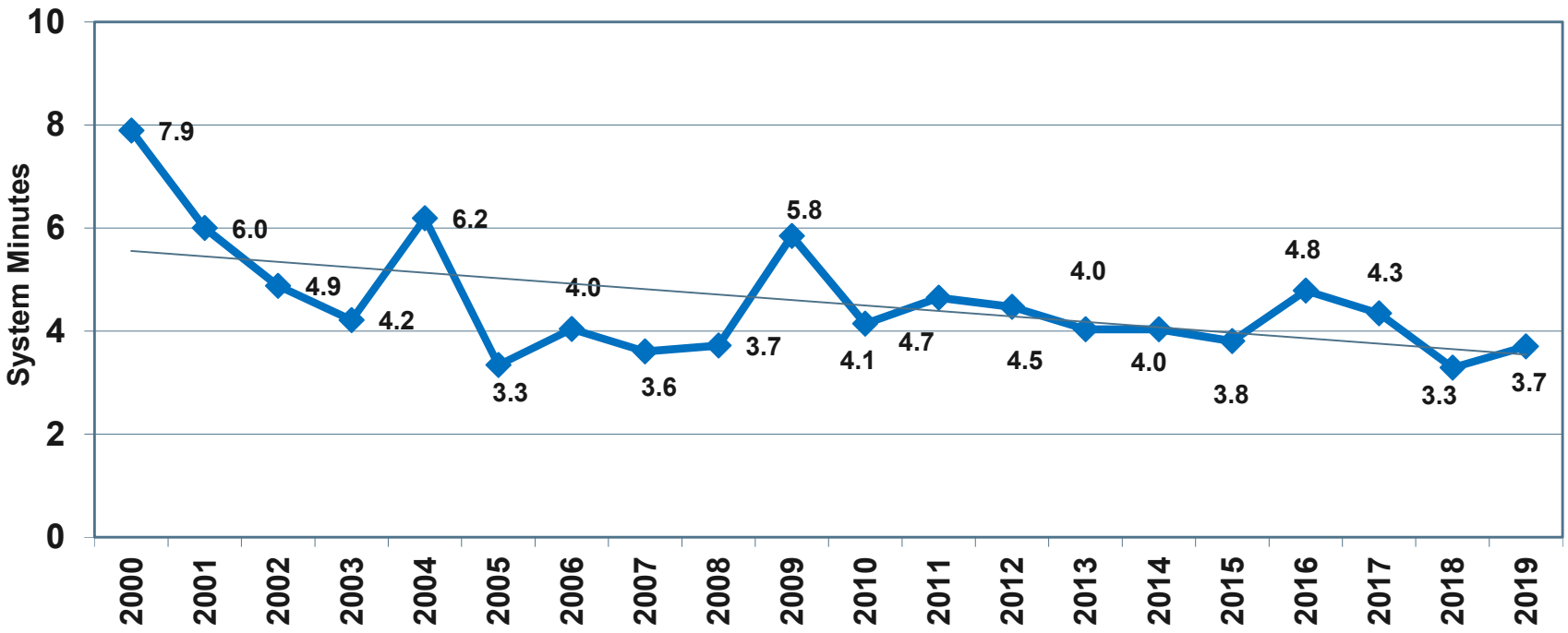
Resilient
- Minimize Impacts & Recover Quickly

Smart
- Integration & Automation of New Technology



Supporting the 3E Mission

Load Not Served (LNS)



Note: Excludes Major events and Variances

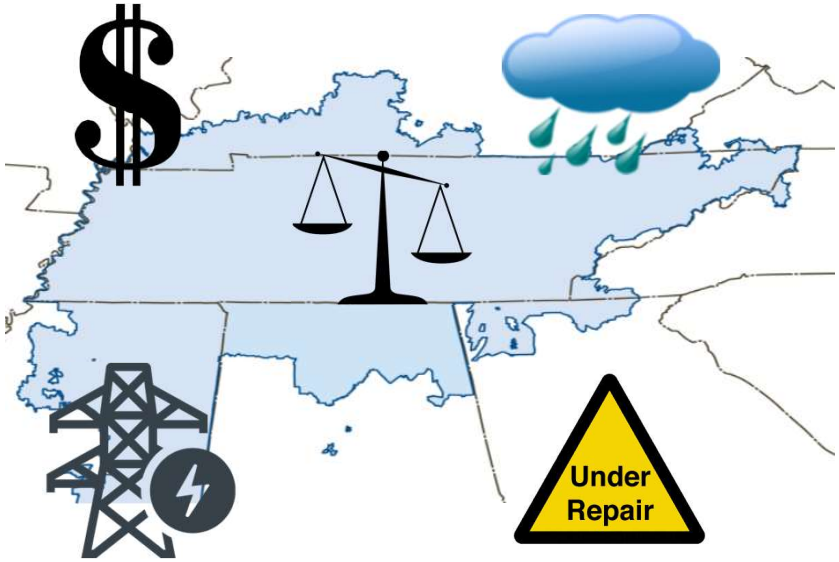
TVA System Operations

"Keep the Lights On"

- Real-time system monitoring, analysis, and response
- Balance generation, load, and interchanges
- Purchase of economical and reliable power

Dynamically adjust to system changes:

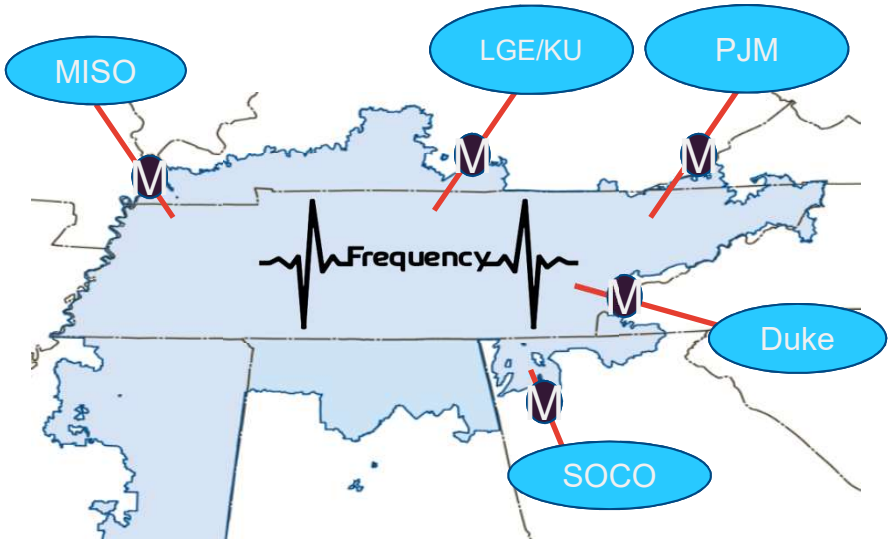
- Respond to system events
- Evaluate and correct safety issues
- Last line of defense before blackout



TVA Balancing Authority

Balances generation, load, and interchanges to help maintain Eastern Interconnect frequency

- Follow the projected plan
- Dispatch generation to meet the changing demand
- Make hourly purchase decisions
- Respond to emergencies

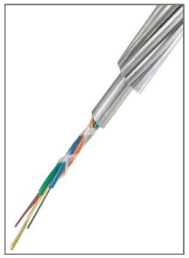


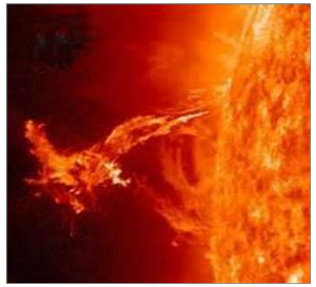
Resiliency

Robust | Responsive | Rapid Recovery

- Weather Events
- Cybersecurity Events
- Geomagnetic Disturbance (GMD)
- Electromagnetic Pulses (EMP)
- Improved Inventory Strategy
- Telecom Resiliency

Evaluating Risks & Planning Responses





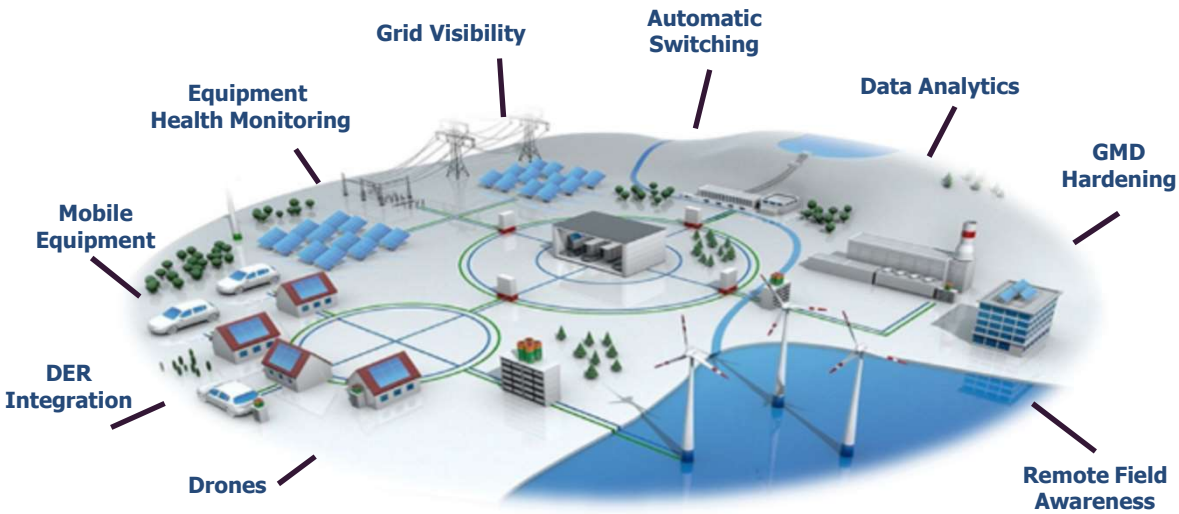
Minimize Impacts & Accelerate Recovery

Building the Grid of the Future – Grid 2023

New SOC

Strategic Fiber

New EMS

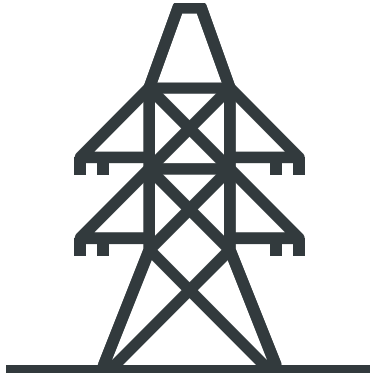


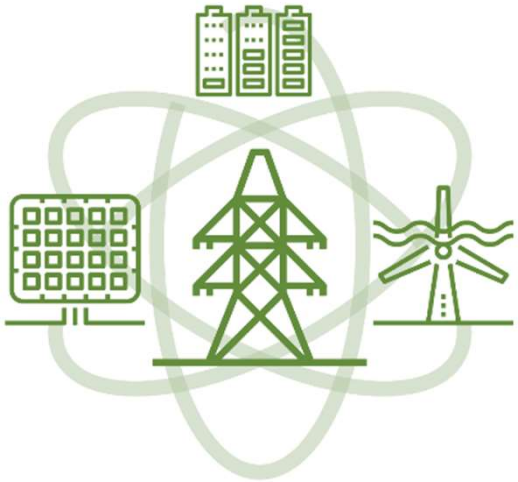
Investing in a Dynamic, Multi-Directional Grid

Transmission Focus Areas

Continue providing reliable power to the Valley

Embrace ownership of safety for employees, contractors, and the public





Prepare for the grid of the future

TVA

Commercial Energy Solutions

Chris Hansen, Director
Origination and Renewables

TVA Commercial Focus Areas

ATTRACT | RETAIN | GROW

MAKE THE TENNESSEE VALLEY THE PLACE TO DO BUSINESS

National Trends

Value Propositions are Changing

Sustainability & Resiliency

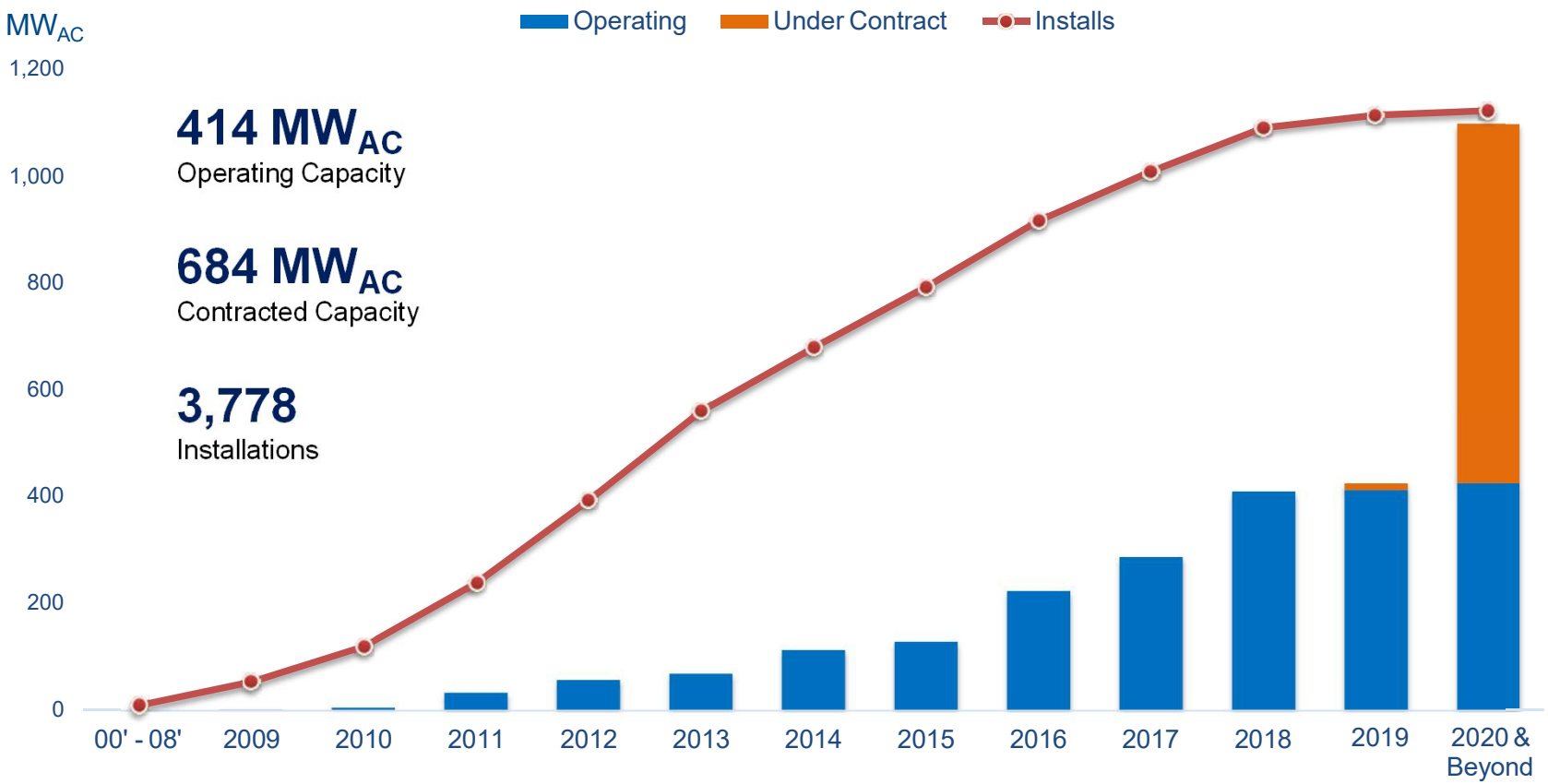
More Competition

Traditional utility competitive landscape is evolving

More & Cheaper Technology

Greater choice & technology cost declining

Tennessee Valley Solar Growth



414 MW$_{AC}$
Operating Capacity

684 MW$_{AC}$
Contracted Capacity

3,778
Installations

* Data updated December 2019

Tennessee Valley Solar

1,099 MW_{AC}

Total Capacity

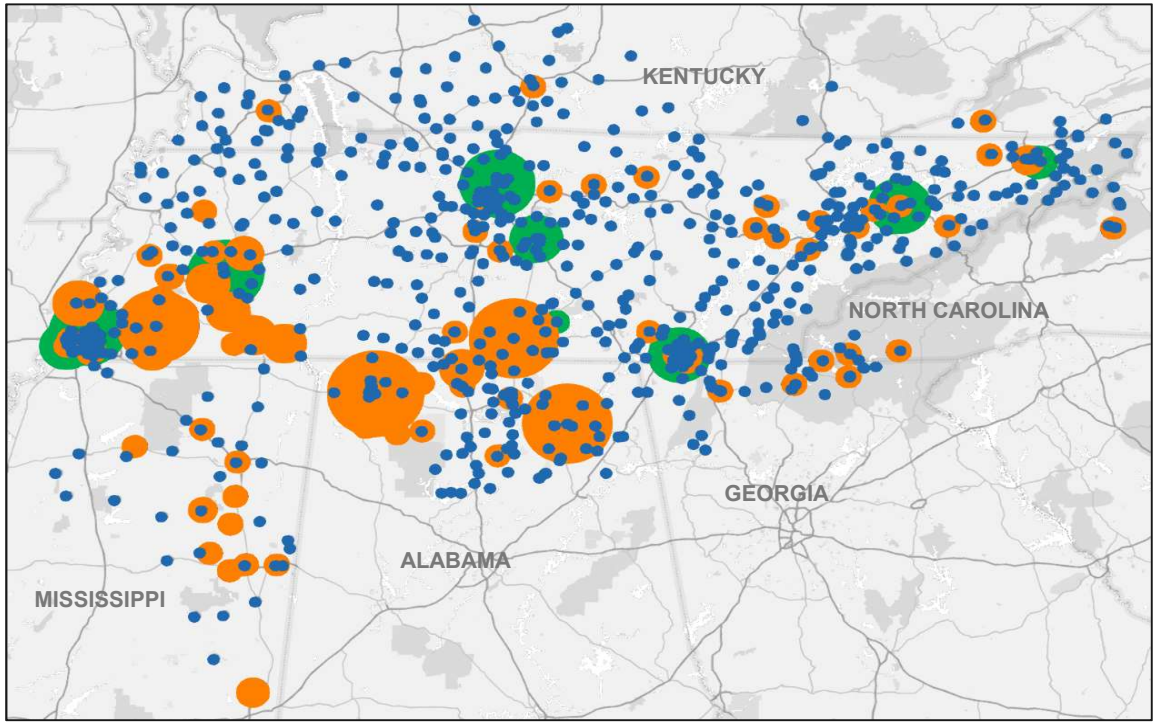
3,778

Total Installs

Small Scale Solar

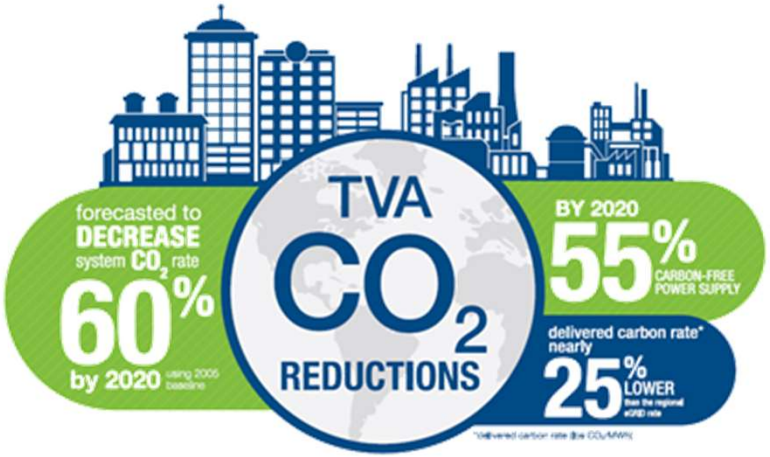
Mid & Utility Scale Solar

Community Solar



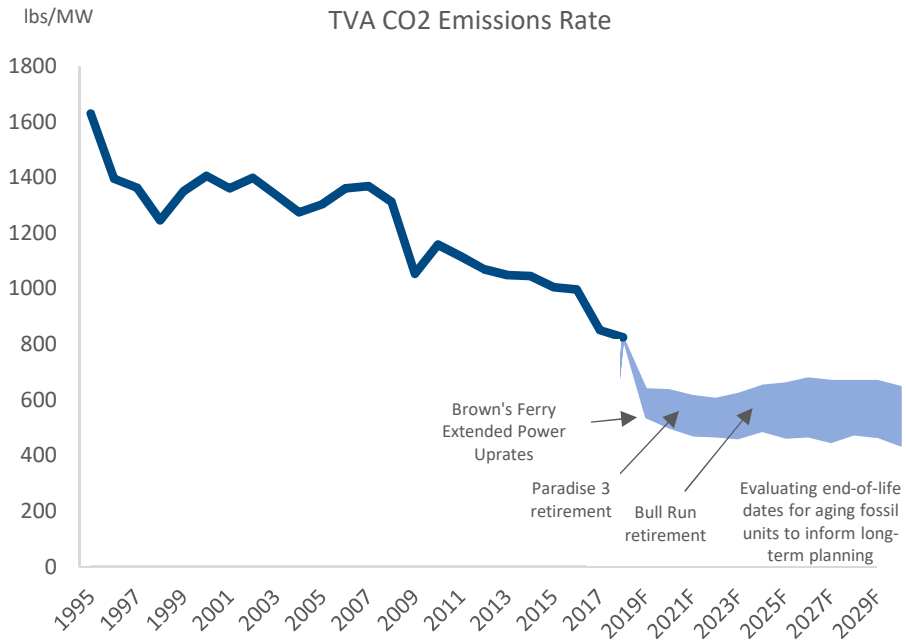
* Data updated December 2019
* Includes both operating and contacted sites

TVA & LPC – Delivering a Cleaner Energy Grid



As of 2018, **TVA has reduced its carbon dioxide emissions by over 50%.**

TVA system carbon emissions rate is forecasted to approach **a 60% reduction by 2020** and a **70% reduction by 2030** from a 2005 baseline.



CO_2 Emissions Rate Forecast is based on the 5th and 95th stochastic ranges of the

Onsite Renewable Generation Solutions

GREEN POWER PROVIDERS (GPP)*

FY19 OVERVIEW

- 134 LPC's Enrolled
- 3,700+ Participants

*Available through December 31, 2019

DISPERSED POWER PRODUCTION (DPP)

FY19 OVERVIEW

- 63 LPC Customer Participants

ONSITE | NEW TO THE WORLD | IN-VALLEY | AVAILABLE IMMEDIATELY

Offsite Renewable Generation Solutions

GREEN POWER SWITCH (GPS)

FY19 OVERVIEW

- 118 LPCs Enrolled
- 9,000+ Residential Participants
- 400+ Business Participants

SOUTHEASTERN RECS (SE RECS)

FY19 OVERVIEW

- 10 LPCs Enrolled
- 1 Direct-Served Participant
- 11 LPC Customer Participants

RENEWABLE INVESTMENT AGREEMENT (RIA)

FY19 OVERVIEW

- 2 Direct-Served Participants

EnergyRight Portfolio

DEMAND RESPONSE

FY19 OVERVIEW

- 21 Directly-Served Participants
- 1,160 LPC Customer Participants
- 127 LPC's Served

ELECTRIFICATION

FY19 OVERVIEW

- 19,911 Residential Participants
- 185 Business and Industry Participants
- 13 Direct-Served Customer Participants
- 137 LPC's Served

ENERGY EFFICIENCY

FY19 OVERVIEW

- 83,169 Residential Participants
- 82 Business and Industry Participants
- 9 Direct-Served Participants
- 149 LPC's Served

Break

TVA Mission: Economic Development

Heidi Smith
General Manager, Economic Development

Google

Why & How

Why

- Jobs
- Investment
- Prosperity
- Pride
- Security

How

- Quantifiable, lengthy, difficult process
- Competitive
- Challenging
- Complicated
- Often unreasonable
- Rewarding

What We Do

site selection

community livability

young talent & workforce development

training and facilitation

rural development

technical services

Measuring Success

	Jobs	Capital Investment
FY 2015	76,200	$7.8 billion
FY 2016	72,100	$8.3 billion
FY 2017	70,000	$8.3 billion
FY 2018	65,400	$11.3 billion
FY 2019	66,500	$8.9 billion
TOTAL	**350,200**	**$44.6 billion**

Strategies to Win

InvestPrep

Clear market-driven need
Matching financial participation
High potential for ROI

Megasites

Toyota | Blue Springs, MS
PACCAR | Columbus, MS
Steel Dynamics | Columbus, MS
Google | Clarksville, TN
Mazda – Toyota | Huntsville, AL
Volkswagen | Chattanooga, TN

Legacy Sites

Google | Jackson County, AL

InvestReady

Engage

Valley Sustainable Communities

Assists communities in identifying and cataloging their sustainable assets and increasing their sustainability commitments.

The economic development focus is to increase the community's competitiveness when companies are looking to invest in new or expanded locations in the Valley.

Photo: City of Oak Ridge, Tennessee

Serve

Teamwork with Partners

- Local Power Companies
- Regional Partners
- Federal Partners
- State Agencies
- Local Economic Development Agencies

TVA

TVA Mission: Environment

Rebecca Tolene
Vice President, Environmental

TVA's Mission of Service - Improving Quality of Life in the Valley

Energy

Environment

Economic Development

In our DNA… history of integrated resource planning

Environment- Today

Scientists and Technicians	Policy Planners and Thinkers	Clean Energy
Project Support	River Management	Recreation
Water Quality	Biodiversity	Cultural Resources

TVA Environmental Policy

Environmental Policy Areas

- Climate Change Mitigation
- Air Quality Improvement
- Water Resource Protection and Improvement
- Waste Minimization
- Sustainable Land Use
- Natural Resource Management

TVA's Environmental Policy Statement

TVA's overarching Environmental Policy objective is to provide cleaner, reliable, and still-affordable energy, support sustainable economic growth in the Tennessee Valley, and engage in proactive environmental stewardship in a balanced and ecologically sound manner.

Environmental Performance Under Policy Areas

Climate Change

- Carbon dioxide emissions are down 51 percent and are on track to be about 60 percent below 2005 levels before 2020.
- The TVA system, which has an as-delivered carbon dioxide rate for calendar year 2018 of 825.09 pounds per MWh, will improve to less than 600 pounds per MWh by the end of 2020.

Air Quality Improvement

- Through Calendar Year 2018, TVA-reduced sulfur-dioxide (SO2) emissions are 99 percent below peak 1977 levels, and nitrogen-oxide (NOx) emissions are 96 percent below peak 1995 levels.
- Mercury emissions have been reduced approximately 97 percent since 2005.

Water Resource

- 11,898 million gallons of water were withdrawn daily from the Tennessee River Watershed in CY 2018. 99 percent of that water is returned back to the river system.
- In an average year, TVA prevents about $272 million in flood damage in the TVA region and along the Ohio and Mississippi rivers through the operation of its dams.

Environmental Performance Under Policy Areas

Waste Minimization

- 38 percent of TVA's coal combustion products in 2018 were repurposed. Currently on path to reach 43 percent in FY19.
- TVA reduced its hazardous waste disposal from 117 metric tons/year in 2017 to 52 metric/tons in 2018. FY19 is on path for 66 metric/tons.

Sustainable Land Use

- TVA manages over 245,000 acres of land for natural habitat and biodiversity.
- Recreational opportunities provided by Valley lakes bring approximately $20 billion to our local communities each year.

Natural Resource Management

- Each year, TVA develops a stewardship plan that includes biodiversity, cultural, recreation, and education projects and programs In FY18, 99 percent of projects were completed.
- Many of TVA's public lands include sites once inhabited by Native American tribes. TVA plays an active role in protecting more than 9,000 archaeological sites.

Environment – Why?

- Safety and health of the public
- Ensure environment is protected as we make decisions and changes in our business
- Cleaner air, land water
  - Affordable power
  - Better jobs
  - Stewardship
  - Quality of life

River System Management

Flood Damage Reduction

Power Generation

Water Supply

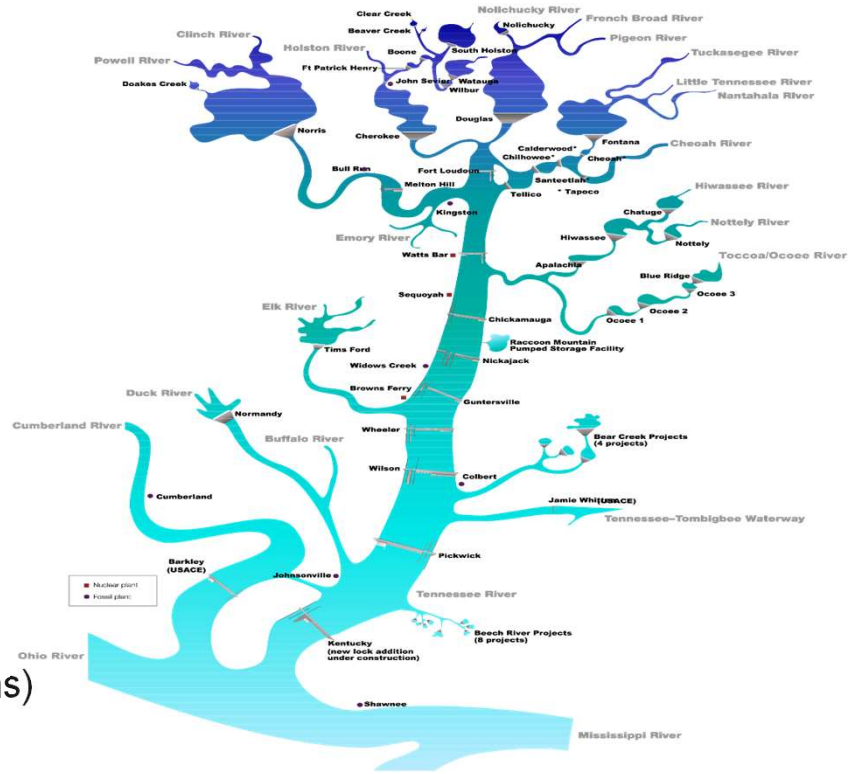
Navigation

Water Quality

Recreation

TVA Dam Safety Program

Protect lives and property by ensuring that TVA-owned dams are designed, constructed, operated, and maintained as safely and as reliably as is practicable.



121 TVA dams and impoundments (87 river dams)

Natural Resources Stewardship

TVA Mission

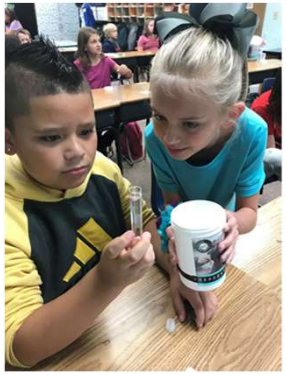
The Natural Resources organization is central to meeting one of the primary missions of TVA: acting as a steward of the Valley's natural resources.

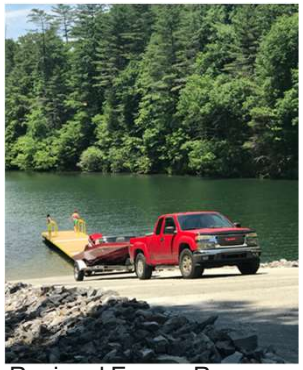
Natural Resources Strategy

We will continue to execute our strategy of serving the people of the TVA region by remaining agile, balancing competing demands, and being a catalyst for collaboration in resource stewardship.

How We Get There

We make real improvements each year, set and meet higher goals, and make progress toward the desired future state.

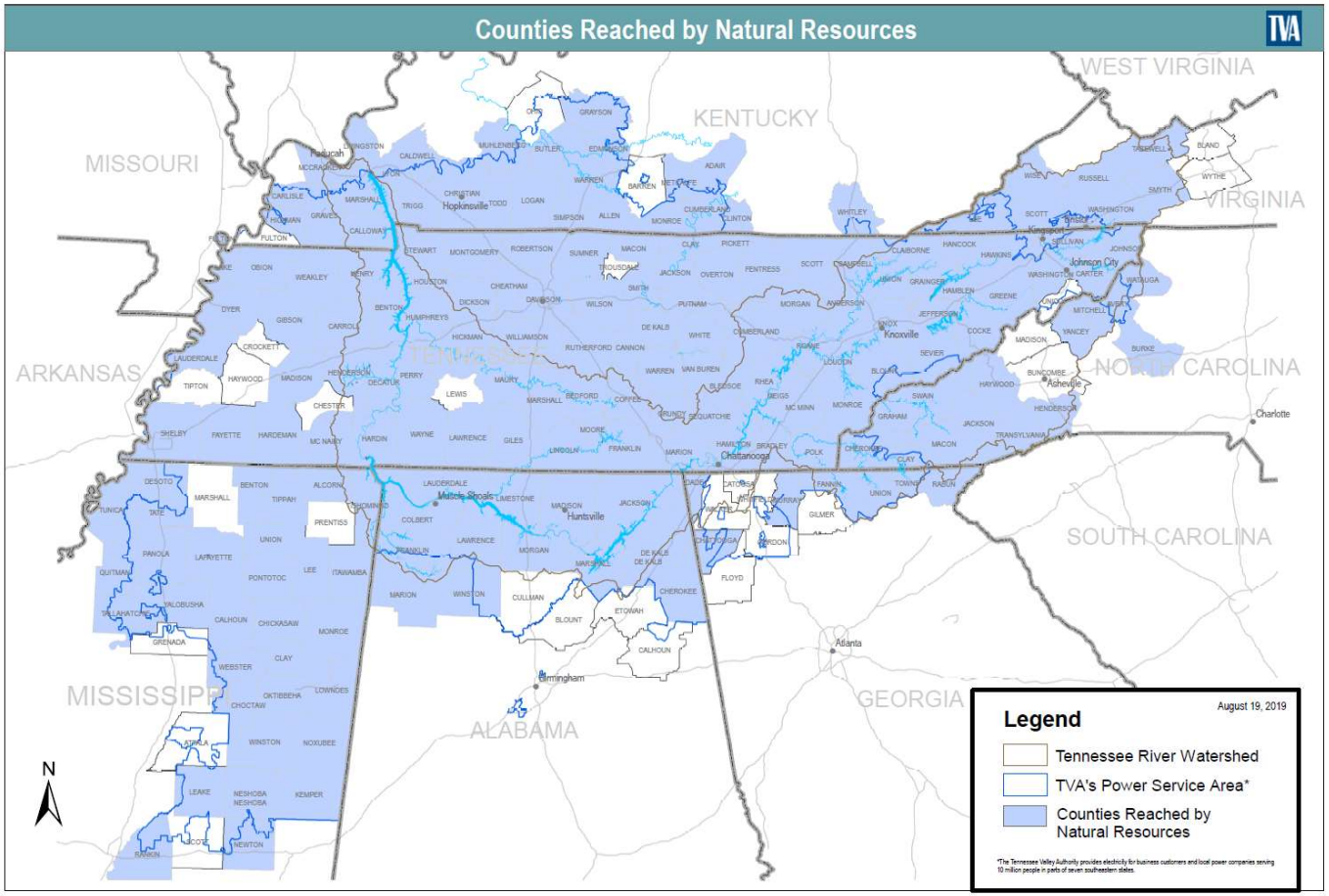




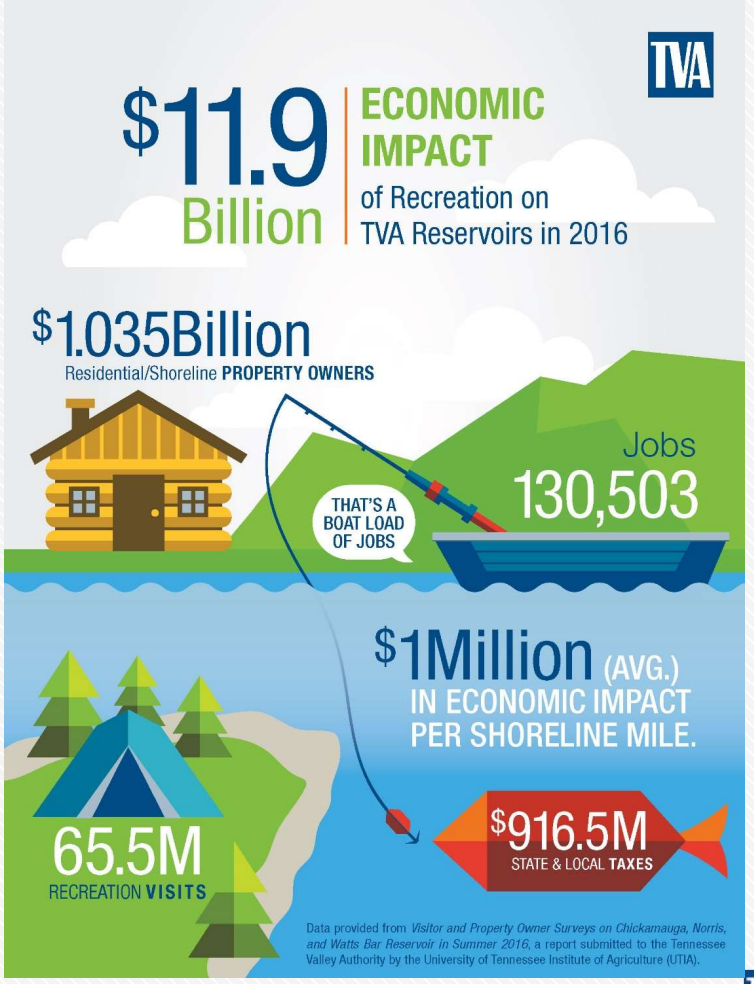
TVA Natural Resources Focus Areas

- Reservoir Lands Planning
- Section 26a Permitting & Land Use Agreements
- Public Land Protection
- Land & Habitat Stewardship
- Nuisance & Invasive Species Mgmt.
- Cultural Resource Management
- Water Resources Stewardship
- Commercial & Public Recreation
- Ecotourism
- Public Outreach & Information

Counties Reached Through Stewardship Efforts



Environmental Stewardship



Corporate Responsibility/Sustainability

Sustainability for TVA means ensuring our ability to provide the people of the Tennessee Valley with low-cost and reliable electricity, a healthy environment and a prosperous economy—without compromising the ability of future generations to do the same.

Sustainability

A growing topic of discussion

- Businesses, customers, investors, community activists
- Environmental performance is a large part of sustainability for a utility, but not the only part
- Always been a part of our mission to improve quality of life

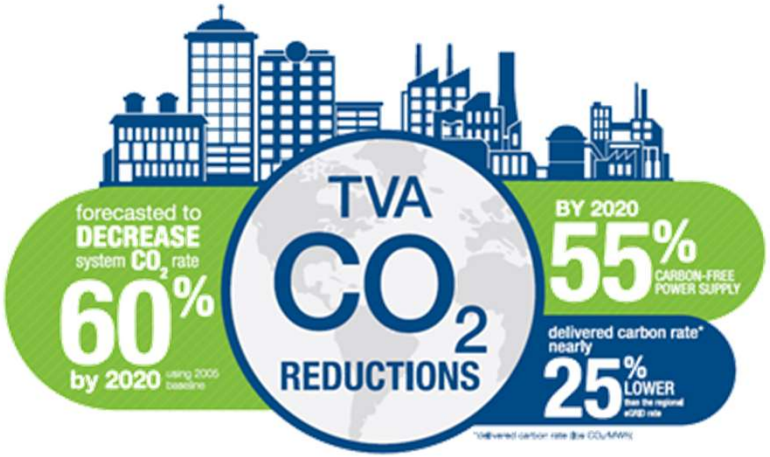
Strengthens Economic Development retention and recruitment

- Example: Amazon requested TVA sustainability information to assist with feasibility study (5000 new jobs in Nashville)

Increases Valley competitiveness

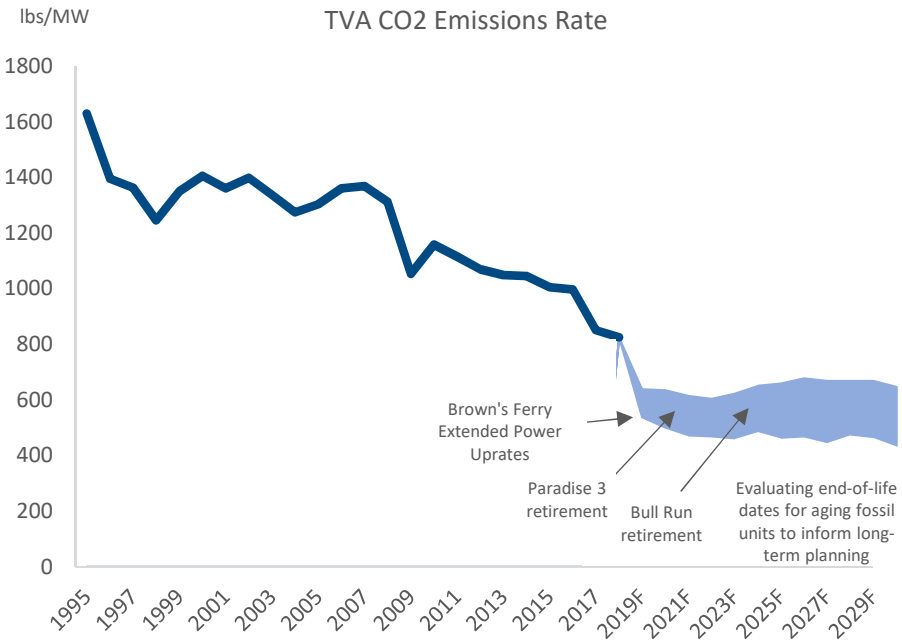
- TVA sustainability information drives retention or expansion decisions for local power company customers. Examples: Resolute, Steel Dynamics, and Naval Air Station Meridian

TVA & LPC – Delivering a Cleaner Energy Grid



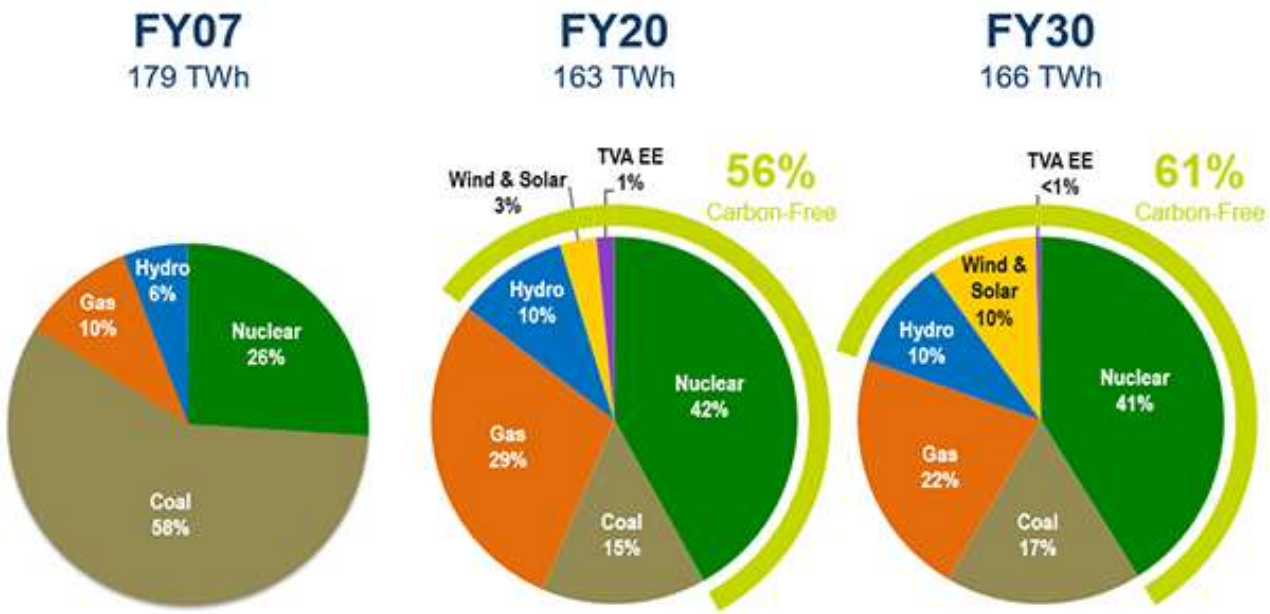
As of 2018, **TVA has reduced its carbon dioxide emissions by over 50%.**

TVA system carbon emissions rate is forecasted to approach **a 60% reduction by 2020** and a **70% reduction by 2030** from a 2005 baseline.



CO_2 Emissions Rate Forecast is based on the 5th and 95th stochastic ranges of the

A Cleaner Portfolio



NOTE: 2018 and 2027 figures are based on FY18 budget.

TVA: Serving to make life better for those who live, work and recreate in the Tennessee Valley

Energy

Manage the river and the lands along it for multiple benefits

Environment

Protect, enhance and preserve cultural and natural resources

Economic Development

Invest in communities to create and sustain the valley as a destination for tourism and outdoor recreation

Partnering for Progress in the Valley

TVA

Meeting Adjourned

Meeting will reconvene
at 4:30 PM EST
for a public listening session

Public Listening Session

- RERC Public Listening Session begins at 4:30 PM

Public Listening Session

- **Public participation is appreciated**
- **This is a listening session; responses are typically not provided**

Regional Energy Resource Council

Dec 11-12, 2019

Knoxville, Tennessee

welcome

Recap and RERC Observations from Day 1

Recap RERC Meeting Day 1

What We Are

- Provider of low-cost, reliable power
- Steward of the Valley's natural resources
- Partner for economic growth

"Power is really a secondary matter.... TVA is primarily intended to change and to improve the standards of living of the people of that valley. Power is, as I said, a secondary consideration. Of course, it is an important one because, if you can get cheap power to those people, you hasten the process of raising the standard of living."

President Franklin D. Roosevelt

Public Listening Session

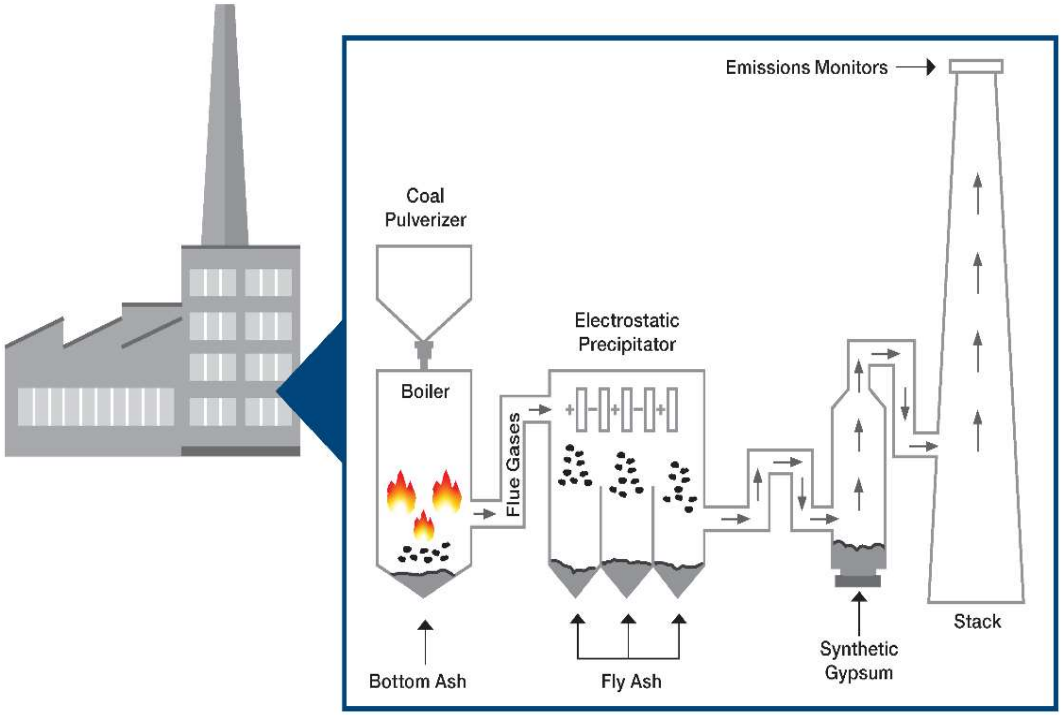
- **Public participation is appreciated**
- **This is a listening session; responses are typically not provided**

Coal Ash Management Overview

Scott Turnbow, Vice President

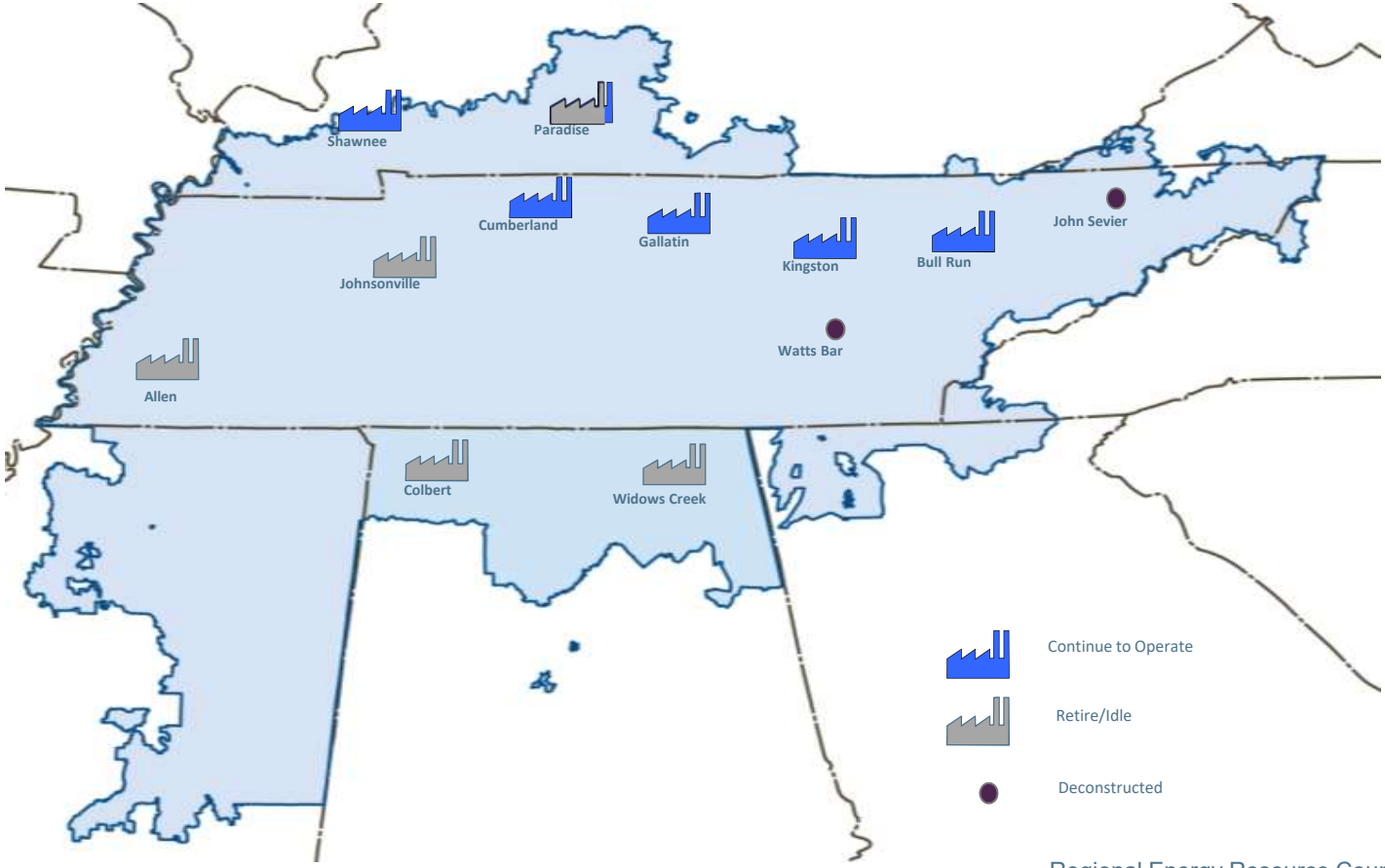
What are Coal Combustion Residuals?

- **Fly** or **flue ash** – Fine particle ash that rises up with the flue gases.
- **Bottom ash** – Heavier particles that remain at the bottom of the furnace.
- **Synthetic gypsum** – Created through a slurry of limestone and calcium carbonate used to remove sulfur from flue gases.

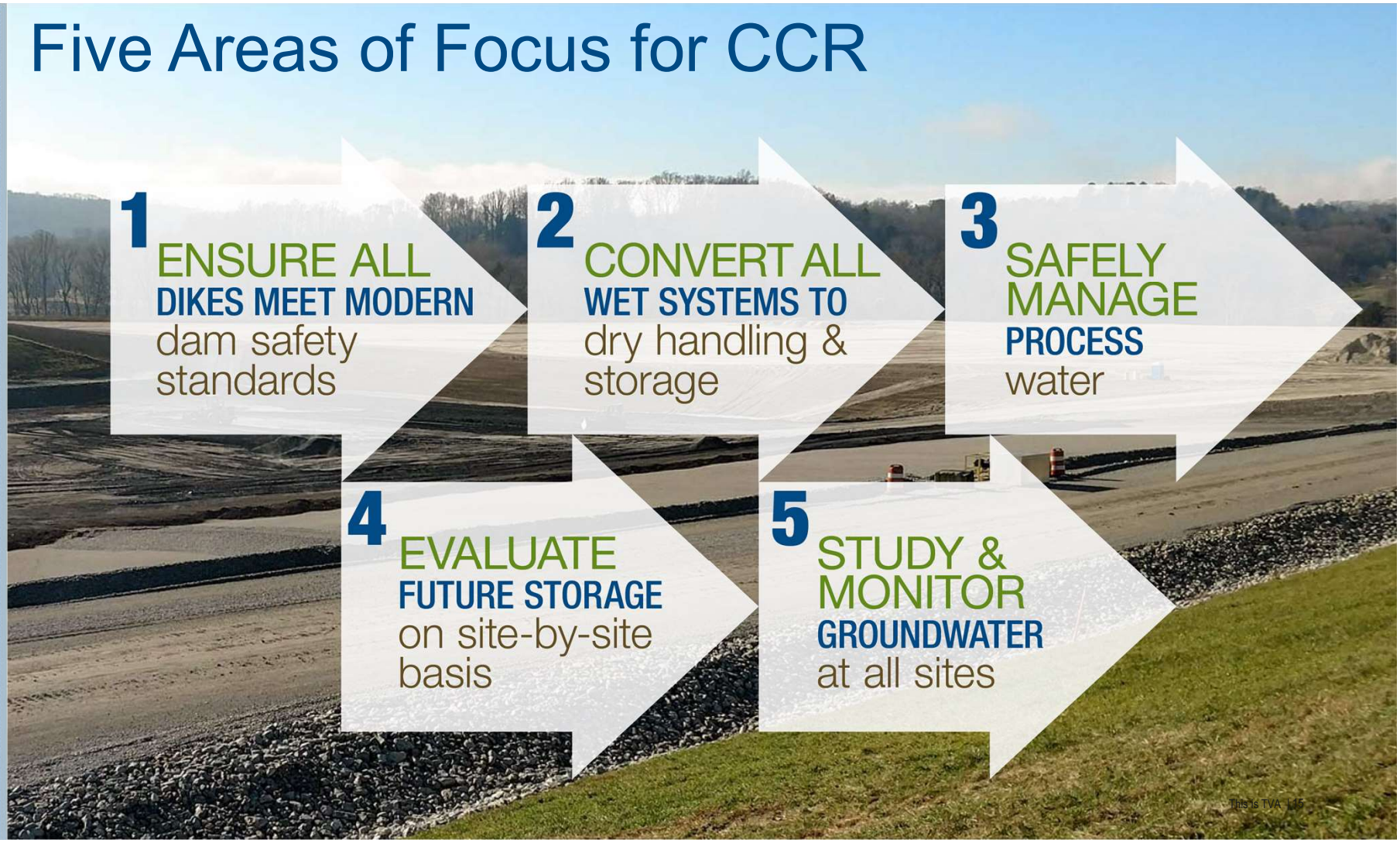


What are Coal Combustion Residuals?

Historic CCR Production



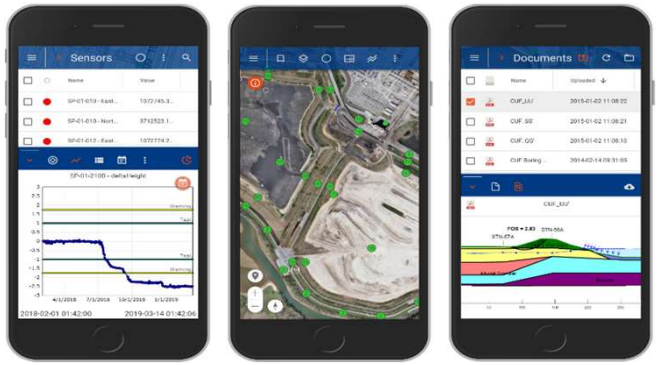
Five Areas of Focus for CCR



World Class CCR Program

TVA has closed all CCR impoundments at 5 of the 12 coal plants

TVA has completed wet to dry CCR conversion at 4 out of 5 operating coal plants



Over 16,000 sensors, monitored real time to ensure stability of TVA's CCR facilities

Robust groundwater monitoring and Quality Assurance program

Current Marketing Mix

Harsco Black Beauty Blasting Abrasive
Utilized Paradise Boiler Slag

Georgia Pacific ToughRock Wallboard
Manufactured with Cumberland Gypsum

TDOT Smartfix Project
Utilized Bull Run and Kingston Fly Ash in concrete mix designs

Hankook Tires
Concrete designed with Cumberland Fly Ash

UT Student Union
Concrete designed with Kingston Fly Ash

CCR Environmental Management and Compliance

Anna Fisher, Manager
Waste Permits, Compliance, and Monitoring

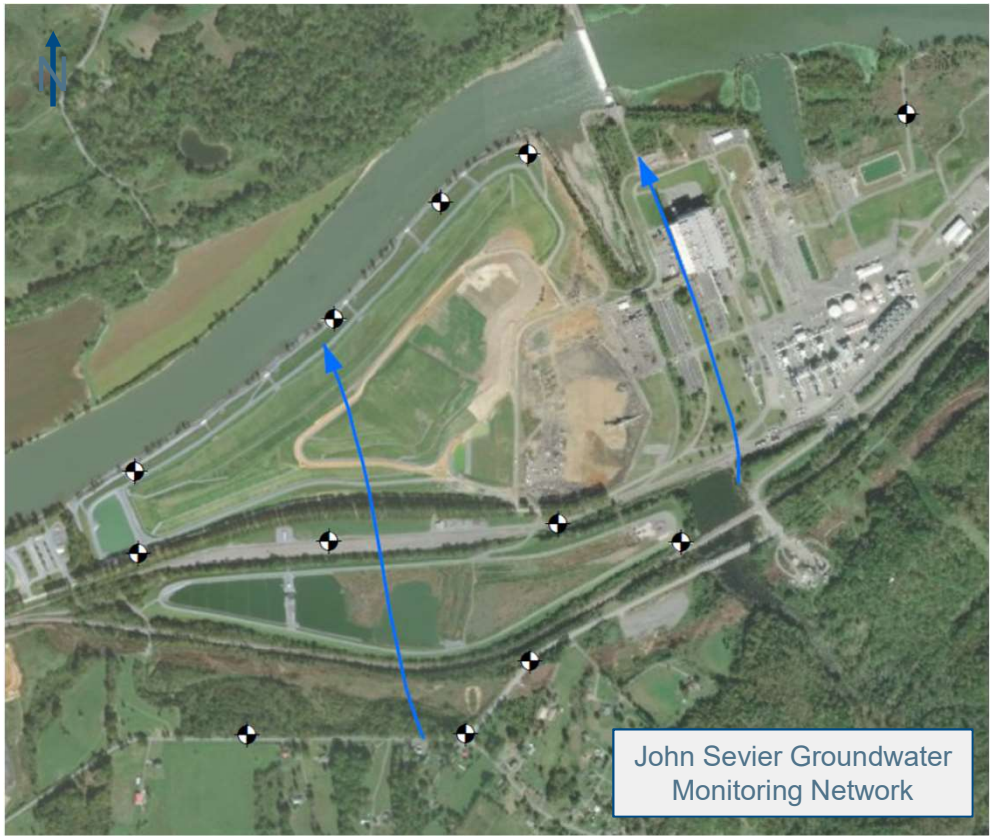
Overview

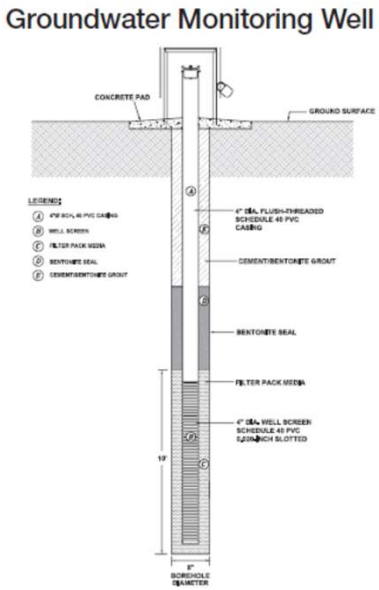
- Key Considerations for Protection of Human Health and the Environment
  - Unit stability
  - Groundwater quality
  - Surface water quality
- How Coal Combustion Residuals (CCR) are regulated by Federal and State Regulations

How is TVA CCR regulated?

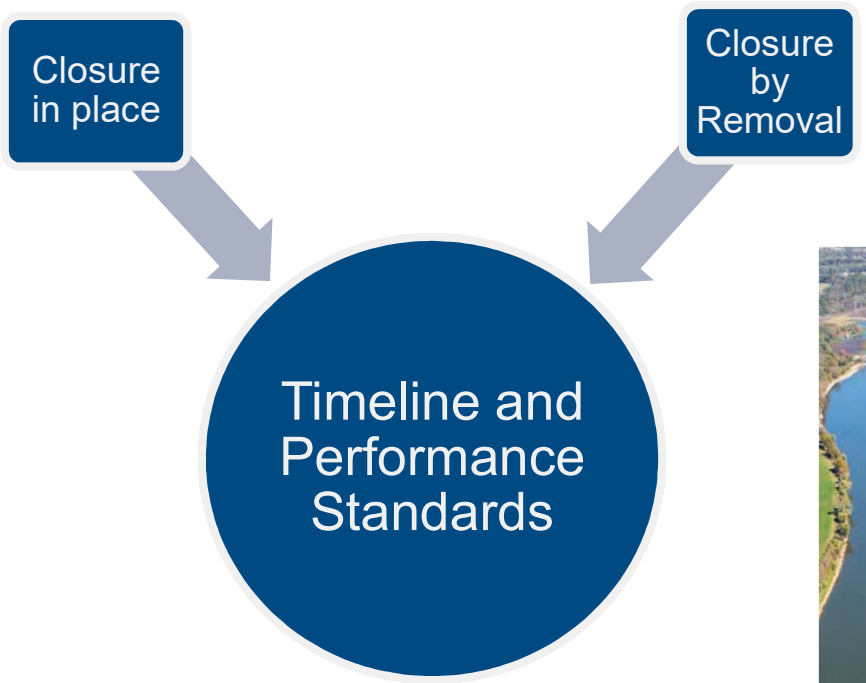
https://www.tva.gov/Environment/Environmental-Stewardship/Coal-Combustion-Residuals

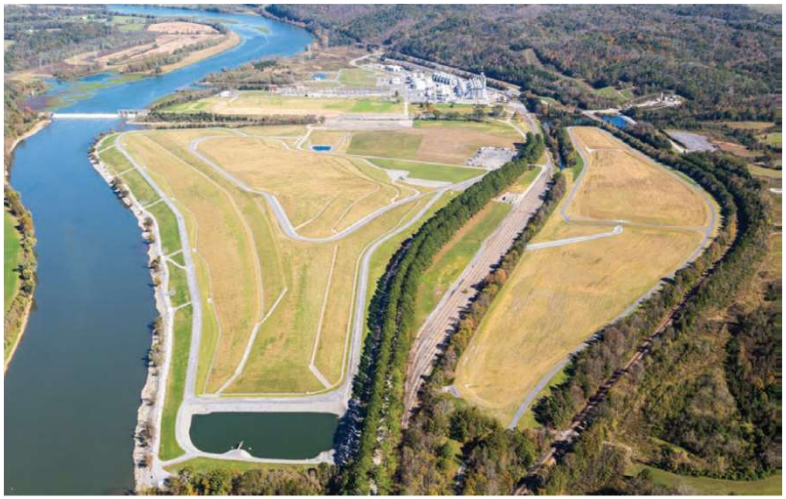
Groundwater monitoring





Closure of CCR Impoundments





Permitting for New Landfills

Landfill Permits

- States issue solid waste landfill permits
- Application process includes numerous regulatory specifications

Ancillary Permits

- Construction storm water
- Water resource alterations

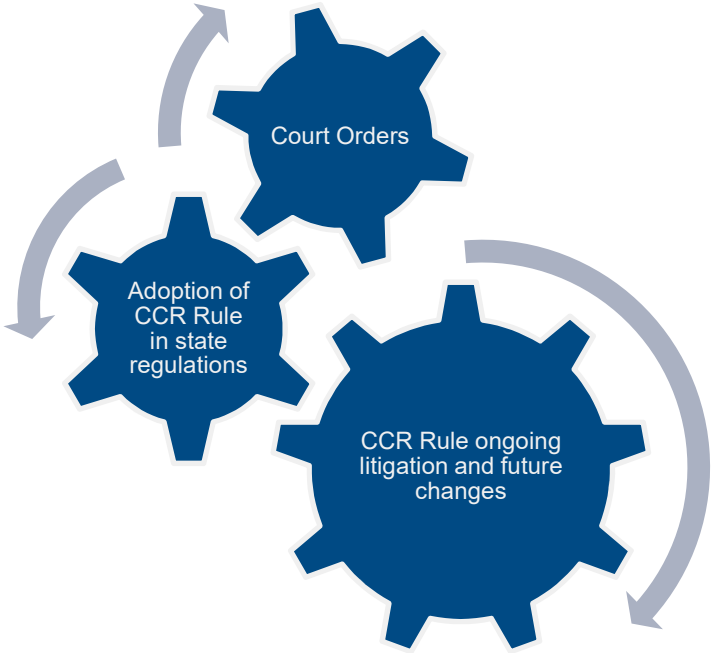
Landfill Permit Public Involvement

- Permitting processes includes public notice, opportunity for public comment, and public hearing

Landfill Reporting Requirements

- Construction quality assurance
- Groundwater reporting
- Stability monitoring
- Operations and maintenance records
- Other

Regulatory Environment



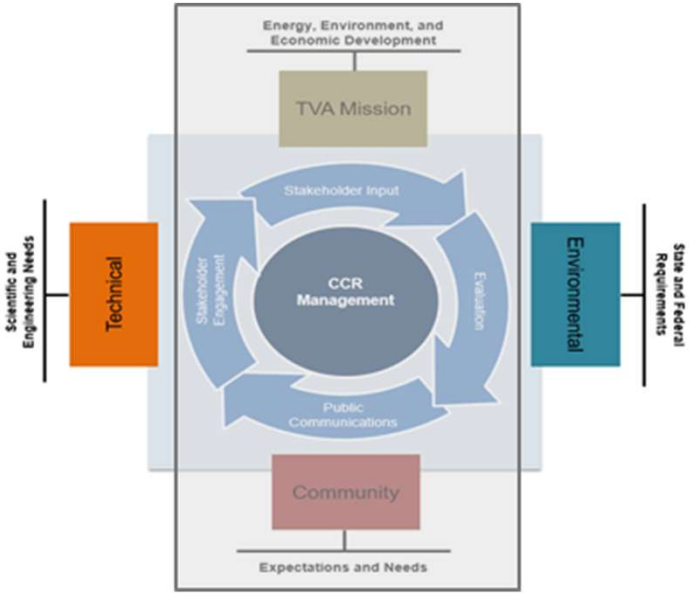
TVA

Outreach and Engagement

Liz Upchurch, Senior Program Manager
Enterprise Relations and Strategic Partnerships

Goals for Stakeholder Engagement

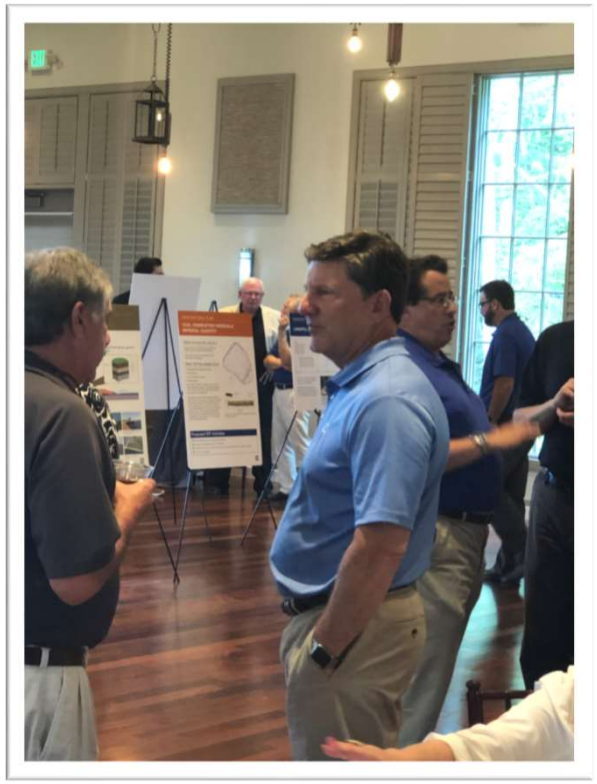
- **Educate** various audiences with facts about Coal Ash Management at TVA
- **Engage** communities throughout the process to build trust
- **Explain** technical concepts in a way that people understand
- **Gather** input and gain buy-in from stakeholders



Community Outreach and Engagement

Educate

- Kick-Off Event
  - Elected Officials / Local Leaders
  - Media Information and Availability
  - Open House for General Public
  - Attend Neighborhood Meetings
- Phased approach to conduct at all sites
- Builds on prior technical outreach



Engage

- Community Action Group (CAG)
  - Interested local citizens apply
  - Phased approach to all sites
  - Allows sustained engagement
  - Info tailored to CAG interests

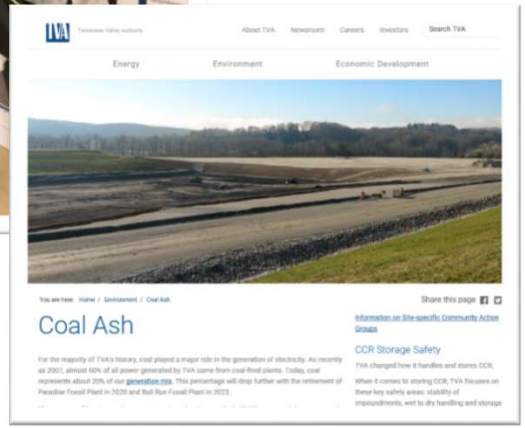
- TVA Speakers Bureau
  - Present to community groups in plant communities

CAG website: https://tvacommittees.mpf.com/

Explain

- Information provided:
  - Open houses
  - Community Action Groups
  - TVA website

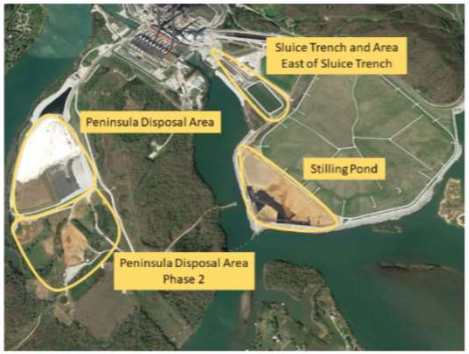
- TVA.com/coalash
  - Fact Sheets
  - Clear descriptions
  - Full technical data still available
  - Videos



Explain: Data and Fact Sheets Online

Kingston Coal Combustion Residuals

Kingston has nine coal-fired generating units with a summer net capacity of 1,398 megawatts.



Unit boundaries shown are approximate and may vary in the technical demonstrations.

CCR Rule Plant-specific Data

CCR landfills and surface impoundments on the Kingston site include:

Kingston CCR Groundwater Monitoring Documents

Kingston Groundwater Monitoring Fact Sheet

2018 Kingston Groundwater Monitoring Report

2017 Kingston Peninsula Disposal Area Groundwater Monitoring Report

For more information on EPA's CCR Rule environmental studies and activities at other TVA Fossil Plants, visit here.

OIG Report on CCR Groundwater Monitoring at Kingston

TVA's Office of Inspector General conducted a review of groundwater monitoring activities at Kingston Fossil Plant. The independent review looked at the quality of the monitoring program and to determine if we are following regulatory standards. The review, dated Aug. 22, 2019,

CCR Annual Groundwater Monitoring and Corrective Action Report - TVA Kingston Fossil Plant

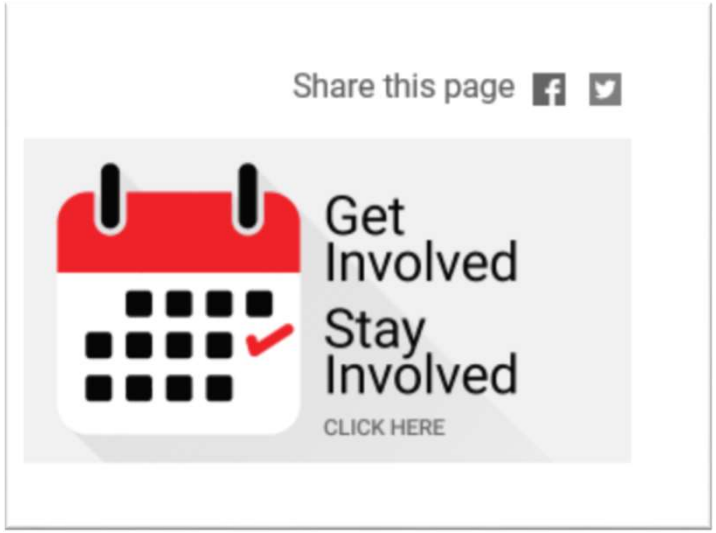
G-3A														
8		02-Jul-18		19-Jul-18		09-Aug-18		29-Aug-18		19-Sep-18		10-Oct-18	
		3		4		5		6		7		8	
ent		Downgradient		Downgradient		Downgradient		Downgradient		Downgradient		Downgradient	
	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
	U	< 0.0303	U	< 0.0303	U	< 0.0303	U	< 0.0303	U	< 0.0303	U	< 0.0303	U
		30.4		38.4		31.3		40.2		39.8		37.7	
		1.80		2.11		1.17		1.26		1.31		2.91	
	J	0.0266	J	0.0300	J	< 0.0263	U	0.0340	J	< 0.0263	U	0.0308	J
		23.6		21.5		22.5		21.9		23.0		19.1	
		159		201		179		210	J	210		189	
		6.16		6.67		6.43		6.79		6.99		6.33	

ons identified during data validation

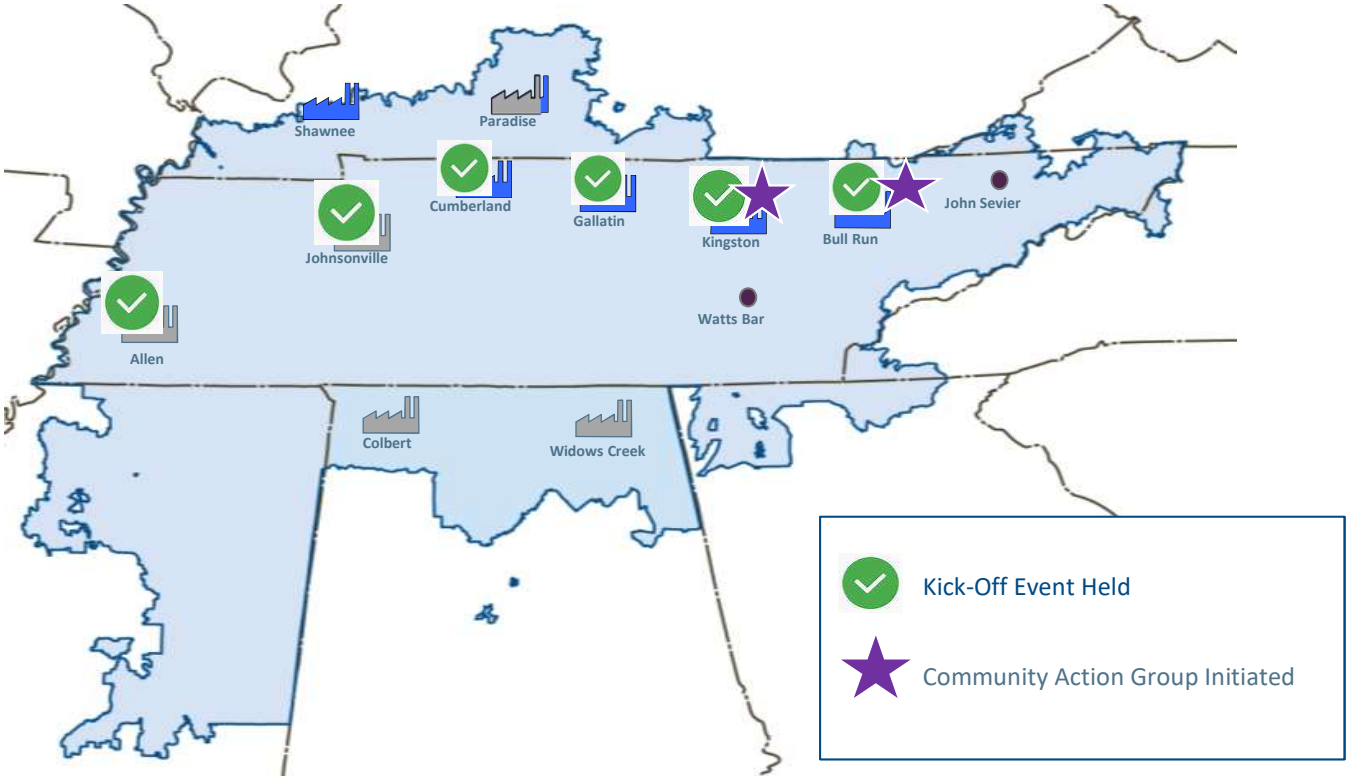
U - Concentration not detected
mg/L - milligrams per liter
SU - Standard Unit

Gather Input

- TVA Board Listening Sessions
- TVA RERC
- TVA Individual Experts
- Community Action Groups
- Public Comments / NEPA
- TVA ‘Get Involved – Stay Involved’



Outreach Status



Phased outreach approach underway

Next Steps:

- Continue to build local approaches
  - Local staff
  - Site specific newsletters
  - TVA - ‘People You Know’
  - Speakers Bureau
  - Community Involvement activities

- Kick off additional outreach efforts and Community Action Groups

- Develop metrics to measure progress

TVA
Allen
ALF_Video

TVA

Q&A / RERC Discussion

RERC Discussion

1. What aspects of coal ash management do you want to understand more fully?

2. What should TVA consider in our outreach about coal ash?

Break

RERC Discussion (cont'd)

RERC Discussion

1. What aspects of coal ash management do you want to understand more fully?

2. What should TVA consider in our outreach about coal ash?

Wrap Up / Lunch

Thank you and please travel safely!