Economic Development Overview
Tennessee Valley Authority

- 7 States
- 58 Direct Served Customers
- 153 Local Power Companies
- 80K Square Miles
- ~10M People
Mission of Service

Serving the People of the Valley to Make Life Better
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.

President Franklin D. Roosevelt
TVA Economic Development

What we do
Strategies

Prepare
Communities

Recruit
New Companies & Investments

Retain
Industries & Talent

Jobs & Capital Investment
Performance & Trends: FY18 – FY22

1,133 Projects announced
- Non-Urban: 680 (60%)
- Urban: 453 (40%)

$44 Billion capital investment
- Non-Urban: $22B (50%)
- Urban: $22B (50%)

340,000 Jobs created & retained
- Non-Urban: 179K (53%)
- Urban: 159K (47%)

Fiscal Year (Jobs, in thousands)
2018 2019 2020 2021 2022
- 340k

Fiscal Year (Capital Investment, in billions)
2018 2019 2020 2021 2022
- $44B
Departments

- Product Development
- Tech Services
- Research
- Incentives
- Training & Development
- Target Market Specialist
- Marketing & Communications
Target Industry Sectors

- Aerospace & Defense
- Consumer Products
- Advanced Manufacturing
- Industrial Products
- Transportation Related Manufacturing
Product Development

**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

**InvestReady**
Marketing & Communications

Support recruitment efforts
Internal and external communications
Community assistance

TVAsites.com
Relationship Marketing
Brand Management
Valley Incentive Programs
Grants

Telework Grant

TVA ED is now offering the TVA Telework Technology Grant. This grant is available to economic development organizations in TVA designated SOC (Special Opportunity County) communities to enhance their technology capabilities specific to remote work requirements.
Rural Development

**Partners in Progress**

- Special opportunity counties
- Tennessee Valley Rural Leadership Institute
- Rural economic development cabinet
- Plant closure assistance
- Leveraging resources
Training & Development

Quality of Place

Preparing for the prospect
Customized training & facilitation services
Proposal development
Program of work assistance
Leadership training
Young talent development
Valley sustainable communities
Research

Leveraging Resources

Public and subscription sources/databases

Summaries, maps and detailed data

Data analysis on the strengths of the site and region

Custom research
Serve:
Teamwork with Partners

- Local Power Companies
- Regional Partners
- Federal Partners
- State Agencies
- Local Economic Development Organizations
TVA’s Financing Program

Virtual Think-Tank Roundtable Presentation

September 29, 2022
TVA in Context: America’s Largest Public Power Provider

Among the largest utilities in the U.S.
89 years in business
10 million service area population
37,900 MW diverse power system
3rd largest nuclear owner in the U.S.
16,400 mile transmission system
$11 billion annual revenues
$53 billion total assets
Entirely self-funded
TVA - Dimensions of Value

Low Cost | Reliable

Resilient | Sustainable
TVA’s Primary Historic Sources of Funding

1. **Revenues** – from power sales and other sources

2. **Financing** – funding from debt and other obligations

Laying the Foundation for the Clean Energy Economy

TVA has reduced carbon emissions by 57% through 2021 from 2005 levels, while maintaining retail power rates below 70% of other utilities.
Retail Rate Competitiveness

Average Retail Rate (¢/kWh) Top 100 U.S. Utilities

- 12.26¢/kWh
- 10.79¢/kWh
- 9.50¢/kWh
- TVA 27th, 0.2% Gap to Top Quartile, 9.52¢/kWh

Average Industrial Rate (¢/kWh) Top 100 U.S. Utilities

- 8.55¢/kWh
- 7.61¢/kWh
- 6.36¢/kWh
- TVA 3rd, Top Quartile, 5.26¢/kWh

12-Month Rolling Average (¢/kWh) – Sources: U.S. Energy Information Administration-861M and Electricity Sales Statistics- May 2021- April 2022
TVA’s Agency Status

Legal Status: Wholly-Owned Government Corporation (U.S. Code)

Not a “Government Sponsored Enterprise”

U.S. government sole equity holder

TVA holds real property as an agent of the U.S.

Governance - All board members appointed by U.S. President

TVA debt comprises the majority of U.S. federal agency debt

TVA debt not guaranteed by the U.S. (per TVA Act)

TVA debt not counted against U.S. Treasury debt limit
Key Credit Rating Support Factors

- Wholly-Owned by U.S. government
- TVA Board sole power rate-setting authority
- Service area protections

**TVA’s Credit Ratings**
- Aaa/AAA/AA+ (Moody’s, Fitch, S&P)
- Highest ratings of any U.S. power utility
Financing Program Key Facts

- Power system self-financing since 1959
- TVA Board has sole authority to set power rates
- Power revenues must cover debt service (requirement of TVA Act)
- U.S. government sole equity holder
- Bonds and notes subject to $30 billion limit (set in TVA Act)
- Maximum bond maturities of 50 years (set in TVA Act)
- Selective use of alternative financing
- TVA debt comprises the majority of U.S. federal agency debt
- TVA debt not guaranteed by the U.S. (per TVA Act)
- TVA debt not counted against U.S. Treasury debt limit
As of June 30, 2022

Almost $5 billion in maturities over the next 5 years

TVA Long-Term Bond Portfolio Characteristics:
- Avg. Life: 14.96 years
- Avg. Coupon: 4.51%

LT bonds and other financing obligations outstanding shown are as of June 30, 2022. Excludes Short-Term Debt.
TVA has invested over $17 billion in its asset base, while reducing debt by $7 billion, and maintaining flat effective rates.

Positive Financial Health Trends

* See Appendix – Regulation G Reconciliation
“Safe Harbor” Statement

This document contains forward-looking statements relating to future events and future performance. All statements other than those that are purely historical may be forward-looking statements. In certain cases, forward-looking statements can be identified by the use of words such as “may,” “will,” “should,” “expect,” “anticipate,” “believe,” “intend,” “project,” “plan,” “predict,” “assume,” “forecast,” “estimate,” “objective,” “possible,” “probably,” “likely,” “potential,” “speculate,” or other similar expressions. Although TVA believes that the assumptions underlying the forward-looking statements are reasonable, TVA does not guarantee the accuracy of these statements. Numerous factors could cause actual results to differ materially from those in the forward-looking statements. For a discussion of these factors, please see the annual, quarterly, and periodic reports that TVA files with the Securities and Exchange Commission. New factors emerge from time to time, and it is not possible for management to predict all such factors or to assess the extent to which any factor or combination of factors may impact TVA’s business or cause results to differ materially from those contained in any forward-looking statement. TVA undertakes no obligation to update any forward-looking statement to reflect developments that occur after the statement is made.
## Appendix – Regulation G Reconciliation

<table>
<thead>
<tr>
<th></th>
<th>September 30, 2021</th>
<th>September 30, 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Outstanding Debt</strong></td>
<td>$20,314</td>
<td>$20,889</td>
</tr>
<tr>
<td>Exchange Gain - Current</td>
<td>-</td>
<td>73</td>
</tr>
<tr>
<td>Exchange Gain - LT</td>
<td>58</td>
<td>80</td>
</tr>
<tr>
<td>Unamortized Discounts, Premiums, Issue Costs and Other</td>
<td>122</td>
<td>131</td>
</tr>
<tr>
<td>Notes Payable</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Debt of Variable Interest Entities</td>
<td>(1,056)</td>
<td>(1,098)</td>
</tr>
<tr>
<td><strong>Bonds and Notes, Gross</strong></td>
<td>$19,438</td>
<td>$20,075</td>
</tr>
<tr>
<td>Energy Prepayment Obligations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notes Payable</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Leaseback Obligations</td>
<td>25</td>
<td>223</td>
</tr>
<tr>
<td>Membership Interests of Variable Interest Entity Subject to Mandatory Redemption</td>
<td>24</td>
<td>25</td>
</tr>
<tr>
<td>Debt of Variable Interest Entities</td>
<td>1,056</td>
<td>1,098</td>
</tr>
<tr>
<td><strong>Total Debt and Other Financing Obligations, Gross (&quot;TFO&quot;)</strong></td>
<td>$20,543</td>
<td>$21,421</td>
</tr>
</tbody>
</table>

Construction and Completed Plant Assets, Gross = Completed Plant + Construction in Progress

Interest Coverage Ratio: (Net Income + Interest Exp., net + Depreciation Exp.) / (Interest Exp., gross)

Debt to Asset Ratio: (Short-term debt, net + Current maturities of power bonds + Current maturities of long-term debt of variable interest entities + Total Long-term debt, net)/Total Assets

Financing Cost as a Percent of Revenue: Interest Expense / Total Operating Revenue

Note numbers may be adjusted for rounding
## Quick Reference – Key Facts

<table>
<thead>
<tr>
<th>Mission</th>
<th>Governance &amp; Oversight</th>
<th>Operations</th>
<th>Financial</th>
</tr>
</thead>
</table>
| • Three-Part Mission:  
  ➢ Affordable Energy  
  ➢ Environmental Stewardship  
  ➢ Economic Development  
• 10 Million Service Area Population  
• 153 Local Power Companies  
• Various Directly-Served Customers |
| • U.S. Agency (not a GSE)  
• “Wholly-Owned Government Corporation” under U.S. Code  
• Holds Real Property as Agent of the United States  
• 9-Member Board of Directors  
• Board Sets Power Rates  
• Board Members Appointed by U.S. President (Confirmed by U.S. Senate)  
• CEO Oversees Daily Operations  
• Oversight by Independent Inspector General  
• Congressional Jurisdiction:  
  ➢ U.S. Senate Environment & Public Works Committee  
  ➢ U.S. House Transportation & Infrastructure Committee |
| • Among the Largest Power Providers in the U.S.  
• Power to Seven States  
• 37,896 MW Power Capacity  
• Over 16,000 Miles Transmission  
• 80,000 Square Mile Service Area  
• 99.999% Reliability  
• 3rd Largest Nuclear Owner  
• Approximately 10,000 Employees  
• TN River System Managed by TVA for: Power, Navigation, Recreation, Flood Control |
| • $10.5 Billion Annual Revenue  
• $52.5 Billion Total Assets  
• Profit-Neutral  
• Self-Funded - No Federal Appropriations  
• Power Bonds:  
  ➢ Backed by Power Revenues  
  ➢ $30 Billion Limit (TVA Act)  
  ➢ Max Maturity of 50 Years  
• Power Revenues Must Cover Debt Service (TVA Act)  
• High Credit Ratings - Same as U.S. Government:  
  ➢ Aaa by Moody’s  
  ➢ AAA by Fitch  
  ➢ AA+ by S&P  
• Annual, Quarterly, Current Reports Filed with SEC  
• Sarbanes-Oxley Compliant |
Online Resources for the Financial Community

ESG Website

Sustainability Report

TVA EEI ESG Template Report

Sustainable Financing Framework

Strategic Intent & Guiding Principles

Link: TVA - Environmental, Social, & Governance Website (https://tva.q4ir.com/esg)
Q & A
Topics

Integrated Tennessee River System Overview

River Management Policy

Planning for Climate Change

Summary
Integrated Resource Management

River system assigned multipurpose role through TVA Act in 1933.

(section 9a) ...to regulate the stream flow primarily for the purposes of promoting navigation and controlling floods. So far as may be consistent with such purposes, ...for the generation of electric energy...

“Father of TVA,” Senator George Norris
Integrated Tennessee River System Overview

- Navigation
- Flood Damage Reduction
- Power Generation
- Water Supply
- Recreation
- Water Quality
Reservoir Operating Policy
Reservoir Operations Study - 2004

- Included a Draft Programmatic Environmental Impact Statement (DEIS)
- Called on two stakeholder review groups
  - 17-member Interagency Team
  - 13-member Public Review Group
- Included TVA response to comments and development of a Preferred Alternative
- Developed Final Programmatic Environmental Impact Statement (FEIS)
- Presented for approval to TVA Board of Directors
- Filed Record of Decision in 2004
Data Collection and Modeling
River Forecast Center

- Staffed 24/7/365
- Teams issue 2-4 forecasts per day
- Data validation, modeling and system monitoring
- Emergency Response

- Hydropower Scheduling
- Stakeholder Engagement
- Real-time response to weather
Decision Horizons and Tools

- **Historic**
  - Observed Values (-) 14 Days

- Real-time data, Hourly Models, radar

- **Today**
  - 2 Days

- Hourly Economic Modeling, Hourly Reservoir Simulation, 6-hour Reservoir Simulation

- **14 Days**

- 6-hourly Reservoir Simulations & Optimization, Economic Models, Load Forecasts, NWS QPF, Planned Constraints

- **Months - Years**

- Planning Models, Long-term power studies, Capacity Constraints, Resource Strategy

U.S. Drought Monitor
December 25, 2007

TVA
TENNESSEE VALLEY AUTHORITY
Flood Early Warning System (FEWS)

- Developed by Deltares – Netherlands
- Used in over 40 countries
- Platform used by the National Weather Service (NWS)
- TVA leveraged partnerships with NWS and others to develop and customize FEWS for our own application over a 3-year development period
Planning for Climate Change
Planning for Climate Change

- TVA is in year 1 of a 3-year project to assess future climate change projections on our impact to meet key River Management benefits
  - Partnership between TVA, DOE Water Power Technologies Office (WPTO) and Oak Ridge National Lab (ORNL)
  - TVA goal will be to utilize information to better inform future operations
  - ORNL will utilize the project to further provide guidance to other national hydropower stakeholders
Timeline (FY2022 – FY2024)

- **Year 1 (FY2022)**
  - Development of detailed research plan (TVA and ORNL)
  - Model / data collection and exchange (TVA and ORNL)
  - Climate model selection and downscaling (ORNL)
  - Execute TVA-specific assessment (TVA)

- **Year 2 (FY2023)**
  - Execute TVA-specific assessment on water quantity and quality control (TVA)
  - Assess results and draft publication of climate change study (TVA and ORNL)

- **Year 3 (FY2024)**
  - Publish TVA-specific climate change assessment results (TVA).
  - Publish general practices to support the broader hydropower community (ORNL).
Summary

- TVA continues to fulfill our River Management mission – dating back to the TVA Act
- Operations are driven by rainfall and runoff as guided by Reservoir Operations Policy – and the Policy has served the Valley well under hydrologic variability
- Integrated operation allows TVA to balance numerous river system benefits
- More information available:

www.tva.com
Q & A