Our Changing Energy Landscape

August 31, 2018
Huntsville Utilities and TVA

Huntsville has partnered with TVA since 1940

Huntsville was served by Alabama Power

HU is the fifth largest electric system in the Valley

TVA delivers power to HU at 12 locations

HU required to purchase all power from TVA

Complicates HU’s engagement in DER

TVA is not required to provide transmission access
Traditional Power System Model
Vertical vs. Open Markets
Distribution Smart Grid

Supply Side Resources
- Nuclear
- Coal
- Gas
- Purchased Power
- Renewables
- Hydro
- Other Assets

Load Management MegaWatts & MegaWatts

Capacity (kW) and Energy (MWh)

Demand Side Resources
- Energy Efficiency
- Demand Response
- Energy Services
- Distributed Generation
Complex Interactions
Power Supply Sources

ARGUMENTS AGAINST-
NUCLEAR  OIL  COAL

IT'S IN MY BACKYARD!

- Nuclear: 20%
- Coal: 30%
- Natural Gas: 32%
- Hydro: 8%
- Wind: 6%
- Solar: 2%
- Other Renewables: 2%
- Coal: 30%
TVA’s Changing Portfolio

FY07
- Nuclear: 26%
- Coal: 58%
- Gas: 10%
- Hydro: 6%

Total CO₂ Emissions: 108 (millions of tons)

FY18
- Nuclear: 40%
- Coal: 26%
- Gas: 20%
- Wind & Solar: 3%
- TVA EE: 1%

FY27
- Nuclear: 43%
- Coal: 22%
- Gas: 19%
- Wind & Solar: 5%
- TVA EE: 1%
TVA Generation Over Time
Power Supply Stack

Demand Load Chart: January 5-8, 2014

- Demand
- 31,599 MW
- 32,490 MW
- 30,064 MW
- 21,103 MW
TVA’s Emissions Footprint

- **CO₂**: 47% from 2005
- **SO₂**: 98% from peak
- **NOx**: 94% from peak
Huntsville Fiber Project
Fiber Network
Huntsville’s AMI Project