First-of-its-kind agreement with TVA to purchase 212 MW of solar in March 2020

Purchase includes solar output from two new installations
  - 177 MW – Ridgely, TN
  - 35 MW – Columbus, MS

Represents 8% of KUB’s system load or enough to serve 35,000 homes

Solar scheduled to come on-line in fall 2022 (Columbus) and summer 2023 (Ridgely)

Annual cost $825,000; 20-year term
Proposed Additional Solar Purchase

- 290 MW of new solar split among three installations
  - 200 MW – West Point, MS
  - 55 MW – Tullahoma, TN
  - 35 MW – Columbus, MS
- Represents 12% of KUB’s system load or enough to serve 48,000 homes
- Solar scheduled to come on-line in fall 2022 (Columbus) and fall 2023 (Tullahoma and West Point)
- Annual cost $806,000
- 20-year term
Green Invest Pricing Structure Change

- Provides more favorable terms for purchase of solar and other renewable sources of generation
- Includes small annual fee to cover TVA administrative costs
- Results in 30% lower unit cost ($/MW) allowing for greater investment in solar (290 MW vs 212 MW)
- Requires amendment to Green Invest Agreement
KUB Committed to Renewable Power Sources

Total KUB Green Invest Purchases

<table>
<thead>
<tr>
<th>502</th>
<th>1.1 Billion</th>
<th>83,000</th>
<th>20%</th>
</tr>
</thead>
<tbody>
<tr>
<td>MW New Solar in the Valley</td>
<td>kWh per Year</td>
<td>Homes Served</td>
<td>KUB System Load</td>
</tr>
</tbody>
</table>

- Other renewable projects to come
  - Community solar project in development
  - Self generation up to 80 MW under power supply contract flexibility provision
Top Commercial Solar Installations (2019)

Installed MW

Source: Solar Energy Industries Association (SEIA)
KUB Compared With Top Commercial Solar Installations (2019)

Installed MW

<table>
<thead>
<tr>
<th>Company</th>
<th>Installed MW</th>
</tr>
</thead>
<tbody>
<tr>
<td>KUB ('23)</td>
<td>502</td>
</tr>
<tr>
<td>Apple</td>
<td>398</td>
</tr>
<tr>
<td>Amazon</td>
<td>369</td>
</tr>
<tr>
<td>Walmart</td>
<td>331</td>
</tr>
<tr>
<td>Target</td>
<td>285</td>
</tr>
<tr>
<td>Google</td>
<td>245</td>
</tr>
<tr>
<td>Kaiser</td>
<td>182</td>
</tr>
<tr>
<td>Switch</td>
<td>179</td>
</tr>
<tr>
<td>Prologis</td>
<td>134</td>
</tr>
<tr>
<td>Facebook</td>
<td>119</td>
</tr>
<tr>
<td>Solvay</td>
<td>81</td>
</tr>
</tbody>
</table>

Source: Solar Energy Industries Association (SEIA)
Resolution 1426

- Authorizes President and CEO to execute Green Invest amendments for pricing structure change and 290 MW of new solar purchases
Water and Wastewater Bonds Sold at Favorable Rates

- Fund utility system capital improvements
- Offerings awarded at 2.36% (W) and 2.41% (WW)
- $7.4M debt service savings
- Bonds mature over 30 years
- Sold at premium, reducing bonds to $36.5M
- High-quality ratings from Moody’s and Standard & Poor’s affirmed
# Bids on Water Bonds

<table>
<thead>
<tr>
<th>Bidder</th>
<th>True Interest Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morgan Stanley &amp; Co., LLC</td>
<td>2.359</td>
</tr>
<tr>
<td>Piper Sandler &amp; Co.</td>
<td>2.377</td>
</tr>
<tr>
<td>FHN Financial Capital Markets</td>
<td>2.378</td>
</tr>
<tr>
<td>Robert W. Baird &amp; Co., Inc.</td>
<td>2.460</td>
</tr>
<tr>
<td>Wells Fargo Bank, National Association</td>
<td>2.519</td>
</tr>
<tr>
<td>Huntington Securities, Inc.</td>
<td>2.557</td>
</tr>
</tbody>
</table>
- $214M in outstanding bonds
- $93M in interest cost
- Principal paid in next 10 years: 40%
- Debt ratio: 51%
- Weighted interest cost: 3.47%
# Bids on Wastewater Bonds

<table>
<thead>
<tr>
<th>Bidder</th>
<th>True Interest Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piper Sandler &amp; Co.</td>
<td>2.410</td>
</tr>
<tr>
<td>Morgan Stanley &amp; Co., LLC</td>
<td>2.423</td>
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<tr>
<td>FHN Financial Capital Markets</td>
<td>2.450</td>
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<tr>
<td>Robert W. Baird &amp; Co., Inc.</td>
<td>2.466</td>
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<tr>
<td>Wells Fargo Bank, National Association</td>
<td>2.476</td>
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<tr>
<td>Huntington Securities, Inc.</td>
<td>2.508</td>
</tr>
<tr>
<td>Citigroup Global Markets Inc.</td>
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</tr>
</tbody>
</table>
Wastewater Bond Profile

- $540M in outstanding bonds
- $258M in interest cost
- Principal paid in next 10 years: 33%
- Debt ratio: 61%
- Weighted net interest cost: 3.53%

Wastewater Debt Service – Millions ($)

- Existing Bonds
- New Bonds
## Professional Fees

<table>
<thead>
<tr>
<th>Cost</th>
<th>Professional Firm</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Advisor</td>
<td>Cumberland Securities</td>
<td>$63,000</td>
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<tr>
<td>Bond Counsel</td>
<td>Bass, Berry &amp; Sims</td>
<td>$45,000</td>
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<tr>
<td>Rating Agency</td>
<td>Moody's</td>
<td>$40,000</td>
</tr>
<tr>
<td>Rating Agency</td>
<td>Standard &amp; Poor's</td>
<td>$31,000</td>
</tr>
<tr>
<td>Paying Agent</td>
<td>Regions Bank</td>
<td>$1,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$180,000</td>
</tr>
<tr>
<td>Other Costs (Escrow, POS, OS, Advertising)</td>
<td></td>
<td>$22,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$202,000</td>
</tr>
</tbody>
</table>
What is Municipal Broadband?

- **Services**
  - High speed internet service
  - TV packages
  - Phone service

- **Municipal business model**
  - Fiber to the home built on utility backbone
  - Serves everyone
  - Homegrown, local solution
KUB’s Position has Changed

- KUB has more experience in fiber
- Technology has been proven
- Broadband has become a utility
- Other utilities have been successful
Why are Distributors Doing This?

- Electric reliability
  - Fiber enables smart devices on electric system
Example: Before Distribution Automation
Normal Condition

Feeder A

500 Cust

Feeder B

500 Cust

500 Cust

500 Cust

500 Cust
Example: Before Distribution Automation
Fault Occurs
Example: Recloser Devices
Normal Condition
Example: Recloser Devices
Fault Occurs

Fault 1000 Cust
Example: Recloser Devices
Reconfiguration Occurs
Why are Distributors Doing This?

- **Electric reliability**
  - Fiber enables smart devices on electric system

- **Environmental benefits**
  - Conservation Voltage Reduction (system efficiency)
  - Demand Response
  - Distributed Energy Resources
Why are Distributors Doing This?

- Electric reliability
  - Fiber enables smart devices on electric system

- Environmental benefits
  - Conservation Voltage Reduction
  - Demand Response
  - Distributed Energy Resources

- Serves community needs not met by the private sector
Underserved Communities

- E-Task Force shows that there are children who lack access to broadband in their homes
  - Not available or inferior quality
  - Not affordable
- Rural areas are underserved, or not served at all
Broadband Approval Process

- Process established in State Law
- Formal Approvals
  - KUB Board
  - State of Tennessee Comptroller of the Treasury
  - TVA
  - City Council
- Required to have Open Forum for Customers
What’s Next

- Winter: Board updates, one-on-one conversations with key stakeholders
- Spring: Potential recommendation for board consideration
- Summer: Public input on plans
- Fall: Formal approval process
KUB Alternative Fuels Fleet Receives Green Fleet Recognitions
KUB Receives Tennessee Sustainable Transportation Award for EV Rebate Program
TVA Recognizes KUB Customer for Environmental Impact

- O-N Minerals (Luttrell) Company
- Most Improved Carbon Emissions Category Winner