The Essentials of Public Finance:

OVERVIEW OF MUNICIPAL BOND FINANCING IN COAL-FIRED POWER PLANT DEVELOPMENT
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for the
Institute for Energy Economics and Financial Analysis
Outline

- Overview of Municipal Bonds in Coal Plant Construction
  - Issuers: Types of Entities Utilizing Municipal Bonds
  - Types of Bonds & Characteristics
  - Assembling Bond Transaction & Participants
  - Example of Coal Projects Utilizing Municipal Bonds
  - Points of Advocacy
Issuers: Municipal Bonds

- State and Local (Municipal) Governments and Special Districts
  - By Statutory Authority
    - Regulations Dictate Caps (limits) on amounts
    - Designation of Board Members, Meetings
  - Political Roles
    - Provide low cost electricity
  - Economic Functions
    - Jobs and new economic development
What is a Bond?
– A long term debt security in which the issuer agrees to repay a specified principal amount at a certain date with interest.
(different from notes which have a shorter period of maturity)
Municipal Bonds: Tax-Exempt, Taxable, and Taxable Build America Bonds (BABs)

- **Tax –Exempt Bonds**
  - Section 103(2) of the Internal Revenue Code exempts the interest income from municipal bonds from Federal Taxation.
  - Issuer Benefits: lower cost of borrowing than direct loans, private placement and other borrowing vehicles
  - Investor Benefits: investors able to deduct the interest generated on bonds from their federal income tax. States where the bond is issued may also allow interest on bond is exempt from state and local tax

- **Taxable Bond**
  - Interest or other investment return is included in gross income for federal income tax purposes and issued because the intended use of proceeds does not meet federal tax law requirements for the exclusion from gross income (e.g. private activity bonds that are not qualified bonds) or because certain other federal tax law requirements are not met.

- **Taxable Build America Bonds (BABs)**
  - Issued as part of the American Recovery and Reinvestment Act
    - (Direct Payment) Option of a direct 35% interest subsidy from the federal government or a
    - (Credit BABs) bondholders receive a tax credit equal to 35% of the interest coupon on the bonds.
Characteristics of Municipal Bonds

- **Source of payment**
  - General Obligation Bonds
    - Backed by the full faith and credit of the issuing entity
    - Raise taxes (property taxes) to provide the Revenue of fund the Bonds
  - Project Revenue Bonds
    - Funded by the Revenue of a particular project

- **Maturity structure**
  - Serial
  - Term

- **Price**
  - Discount
  - Premium

- **Rating**
  - Rated
  - Unrated
## Elements of a Municipal Bond Offering
### Participants and Their Roles

<table>
<thead>
<tr>
<th>Participant</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issuer</td>
<td>Initiates the process to fund a particular project</td>
</tr>
<tr>
<td>Underwriter</td>
<td>Purchases the bonds from the issuer with the intent of offering or selling the bond.</td>
</tr>
<tr>
<td>Underwriter’s Counsel</td>
<td>Ensures all of the facts and information with respect to the transaction; prepares documents on behalf of underwriter relating to the purchase of bonds including official statement.</td>
</tr>
<tr>
<td>Bond Counsel</td>
<td>Renders a legal opinion to give investors assurances to the validity of the bonds. Hired by Underwriter</td>
</tr>
<tr>
<td>Bond Insurers</td>
<td>Provide insurance to the issuance and enabled the issuer to pay lower interest rates.</td>
</tr>
</tbody>
</table>
### Elements of a Municipal Bond Offering

#### Participants and Their Roles

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<th>Role</th>
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</thead>
<tbody>
<tr>
<td>Rating /Credit Analysts</td>
<td>Issue an opinion about the credit strength or the probability that bond investors will be paid in full and on time.</td>
</tr>
<tr>
<td>Broker</td>
<td>Any person engaged in the business of effecting securities transactions for the accounts of others (excludes banks)</td>
</tr>
<tr>
<td>Dealer</td>
<td>Any person who is engaged in the business of buying and selling securities for his own account.</td>
</tr>
<tr>
<td>Secondary Market</td>
<td>Market in which the securities are purchased and sold between investors rather than purchasing from the issuer.</td>
</tr>
<tr>
<td>Municipal Securities Rulemaking Board (MSRB)</td>
<td>Requires Underwriters of publicly sold bonds to send an Official Statement and Continuing Disclosure Procedures</td>
</tr>
</tbody>
</table>
Municipal Securities Rule Making Board: (MSRB) Rules: Official Statements

Cover Sheet

Maturity Schedule
Overview of Municipal Bond Financing in Coal-Fired Power Projects

- Coal-Fired Power Plant Financing and Electric Utility financing
  - Relatively small percentage of total municipal bonds issued
  - Among the most expensive projects financed by municipal bonds
  - Power Purchase Agreements provide a contractually supported stream of revenue that give the perception of low risk investment
  - Market and Regulatory Factors present cumulative risks to alter risk profile.
Examples of Coal-Fired Power Plant Projects Utilizing Municipal Bond Financing

- Plum Point Energy Project
- Tennessee Valley Authority
- Prairie State Energy Campus
Examples of Coal-Fired Power Plant Projects Utilizing Municipal Bond Financing

- Plum Point Energy Project
  - Plum Point Energy Associates ("PPEA") ; LS Power Subsidiary
  - Missouri Joint Municipal Electric Utility Commission (MJMEUC)
  - East Texas Electric Cooperative ("ETEC")
  - Empire District Electric Company ("Empire")
  - Municipal Energy Agency of Mississippi ("MEAM")
Plum Point Project Ownership Structure at Financial Close

- LS Power
  - Plum Point Project
    - PPEA
      - Merchant Power
        - Empire
          - 50 MW
    - ETEC
      - 50 MW
    - Empire
      - 50 MW
    - MJMEUC
      - 147 MW

AR Cities:
- North Little Rock: 60 MW
- Osceola: 20 MW
- Piggott: 8 MW

MO Cities:
- Kennett: 20 MW
- Poplar Bluff: 20 MW
- Carthage: 12 MW
- Malden: 7 MW

Modified take-or-pay contracts with limited step-up provisions

(a) At Empire's option, the long-term contract can be converted into an additional 7.52% ownership interest in Plum Point from PPEA.

(b) MEAM's long-term contract converted into an ownership interest in May 2009 from PPEA.
## Plum Point Project Ownership Structure at Financial Close

<table>
<thead>
<tr>
<th>Plum Point Participant</th>
<th>Plum Point %</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPEA</td>
<td>56.85%</td>
</tr>
<tr>
<td>MJMEUC</td>
<td>22.11%</td>
</tr>
<tr>
<td>ETEC</td>
<td>7.52</td>
</tr>
<tr>
<td>Empire</td>
<td>7.52</td>
</tr>
<tr>
<td>MEAM</td>
<td>6.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.00%</strong></td>
</tr>
</tbody>
</table>
TVA operates the nation’s largest public power system and supplies power in most of Tennessee, northern Alabama, northeastern Mississippi, and southwestern Kentucky and in portions of northern Georgia, western North Carolina, and southwestern Virginia to a population of over nine million people.

In 2011, the revenues generated from TVA’s electricity sales were $11.7 billion and accounted for virtually all of TVA’s revenues.
## TVA: Bond Issuances

<table>
<thead>
<tr>
<th>Plant</th>
<th>Total Units</th>
<th>Existing Scrubbers and SCRs</th>
<th>Requirements Under Environmental Agreements</th>
<th>Actions Taken or Planned to Be Taken by TVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allen</td>
<td>3</td>
<td>SCRIs or all three units</td>
<td>Install scrubbers or retire no later than December 31, 2018</td>
<td>Add scrubbers on all three units by December 31, 2018</td>
</tr>
<tr>
<td>Bull Run</td>
<td>1</td>
<td>Scrubber and SCRs on unit</td>
<td>Continuously operate current and new emission control equipment</td>
<td>Continuously operate existing emission control equipment</td>
</tr>
<tr>
<td>Colbert</td>
<td>5</td>
<td>SCR on Unit 5</td>
<td>Remove from service, convert, or retire Units 1-4 no later than June 30, 2016</td>
<td>TVA has not yet decided what actions to take with respect to the Colbert units.</td>
</tr>
<tr>
<td>Cumberland</td>
<td>2</td>
<td>Scrubbers and SCRs on both units</td>
<td>Continuously operate current and any new emission control equipment</td>
<td>Continuously operate existing emission control equipment</td>
</tr>
<tr>
<td>Gallatin</td>
<td>4</td>
<td>None</td>
<td>Control, convert, or retire all four units no later than December 31, 2017</td>
<td>Add scrubbers and SCRs on all four units by December 31, 2017</td>
</tr>
<tr>
<td>John Sevier</td>
<td>4</td>
<td>None</td>
<td>Retire two units no later than December 31, 2012 and control, convert, or retire those units no later than December 31, 2015</td>
<td>Retire two units by December 31, 2012. TVA has not yet decided what additional actions to take with respect to these two units.</td>
</tr>
<tr>
<td>Johnsonville</td>
<td>10</td>
<td>None</td>
<td>Retire six units no later than December 31, 2015 and retire four units no later than December 31, 2017</td>
<td>Retire six units by December 31, 2015 and retire four units by December 31, 2017</td>
</tr>
<tr>
<td>Kingston</td>
<td>9</td>
<td>Scrubbers and SCRs on all nine units</td>
<td>Continuously operate current and any new emission control equipment</td>
<td>Continuously operate existing emission control equipment</td>
</tr>
<tr>
<td>Paradise</td>
<td>3</td>
<td>Scrubbers and SCRs on all three units</td>
<td>Upgrade scrubbers on Units 1 and 2 no later than December 31, 2012</td>
<td>Upgrade scrubbers on Units 1 and 2 by December 31, 2012</td>
</tr>
<tr>
<td>Shawnee</td>
<td>10</td>
<td>None</td>
<td>Control, retire, or convert Units 1 and 4 no later than December 31, 2017</td>
<td>Idled Unit 10 in October 2010 and TVA has not yet decided what actions to take with respect to Units 1 and 4.</td>
</tr>
<tr>
<td>Widows Creek</td>
<td>6</td>
<td>Scrubbers and SCRs on Units 7 and 8</td>
<td>Retire two of Units 1-6 no later than July 31, 2013 and Retire two of Units 1-6 no later than July 31, 2014 and Retire two of Units 1-6 no later than July 31, 2015</td>
<td>As of September 30, 2011, TVA had idled Units 1-5 and TVA idled Unit 6 effective October 1, 2011. Continuously operate current or equivalent emission control equipment on Units 7 and 8.</td>
</tr>
</tbody>
</table>

**Notes**

1. If TVA decides to add emission controls to these units, TVA must continuously operate the emission controls once they are installed.
2. Selective catalytic reduction systems ("SCRs").
3. Convert to renewable biomass.

TVA’s long-range plans will continue to attempt to balance the costs and benefits of significant investments at its remaining coal-fired plants without scrubbers and/or SCRs. TVA expects to decide whether to control, convert, or retire its remaining coal-fired capacity on a unit-by-unit schedule.
Prairie State Energy Campus

Prairie State Owners Serve More Than 2.5 Million People in Nine States
Prairie State Energy Campus

American Municipal Power (AMP) AMP 368 LLC 23.26%
Kentucky Municipal Power Agency (KMPA) 7.82%
Northern Illinois Municipal Power Agency (NIMPA) 7.6%
Missouri Joint Municipal Electric Utility Commission (MJMEUC) 12.33%
Illinois Municipal Electric Agency (IMEA) 15.17%
Indiana Municipal Power Agency (IMPA) 12.64%
Southern Illinois Power Cooperative (SIPC) 7.9%
Prairie State Power, Inc. (PPI) 8.22%
Peabody Energy Affiliate (Lively Grove Energy) 5.06%

128 total members, 68 participants

12 utilities led by Columbia, MO

Figure 2: The four joint action agencies highlighted in red have secured the bonds with anticipated revenues from executed take-or-pay power purchase agreements.
Engagement & Advocacy

- **Effective use of Financial Information in Coal Campaigns**
  - Publicly released data and analysis to provide ammunition to advocates to persuade decision makers
  - Private reports released to the public to educate decision makers and advocates in the environmental community
Engagement & Advocacy

Sources of Information

- [www.emma.msrb.org](http://www.emma.msrb.org)
- [www.sec.gov](http://www.sec.gov)
- [www.sifma.org](http://www.sifma.org)
- The Bond Buyer (Journal of Municipal Finance)