Tax Incentive Based Financing Options for Renewable Energy

Paul Schwabe

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Financing Options and Sources of Capital

- Cash on hand (e.g., reserves, trust, cash flow from other activities)
- Grants from third parties
- Renewable energy incentives
- Monetizing green attributes (e.g., renewable energy certificates [RECs])
- Traditional tax-exempt/corporate debt
- New Market Tax Credits
- Tax incentive based financing mechanisms
Tax-Based Financing Concept:

Using non-competitive, economically valuable federal tax incentives to secure *tribal and private capital sources* to support financing and development and of renewable electricity

- Investment Tax Credit, or
- Production Tax Credit
  &
- Depreciation
Why Seek Tax Incentive – Based Financing?

- Tax incentives (ITC/PTC and Depreciation) can represent up to half the project value, or reduce project’s costs by ~40-50% (capital or LCOE)
- Quick recovery of capital by financier – 5 or 6 years
- Tribal ownership can be contractually structured as soon as year 6
- May be possible to combine with other forms of finance such as new market tax credits (NMTCs)
Investment Tax Credit (ITC)

• One-time federal tax credit worth either 30% or 10% of project’s eligible tax basis (by technology)
  o 30% ITC available for primarily solar
  o 10% ITC available for geothermal electric

• Schedule: Project must “start construction” to qualify by:

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<tbody>
<tr>
<td>Solar Technologies</td>
<td>30%</td>
<td>30%</td>
<td>30%</td>
<td>30%</td>
<td>26%</td>
<td>22%</td>
<td>10%</td>
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• Example: 1 MW solar project costing $2 M
  o Tax Credit = $600,000 recovered in year 1 of project ($2M x 30%)

For more information on the investment tax credit, see: http://programs.dsireusa.org/system/program/detail/658
Production Tax Credit (PTC)

- 2.3¢ for every kWh generated for *wind, geothermal* for 10 years
  - 1.2 ¢/kWh for select other renewable technologies

- Available for 10-years after project is built

- Schedule: Wind projects must “*start construction*” to qualify
  - Other Non-wind technologies placed in service by 12/31/16

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wind</td>
<td>100%</td>
<td>80%</td>
<td>60%</td>
<td>40%</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>(~2.3¢/kWh)</td>
<td>(~1.84¢/kWh)</td>
<td>(~1.38¢/kWh)</td>
<td>(~.92¢/kWh)</td>
<td></td>
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- Example: 1 MW wind, costing $1.5M with 35% capacity factor =
  - ~$70k annually for 10 years = $700k after 10 years

For more information on the production tax credit, see: [http://programs.dsireusa.org/system/program/detail/734](http://programs.dsireusa.org/system/program/detail/734)
Accelerated Depreciation

- **Modified Accelerated Cost Recovery System (MACRS)**
  - Allows for depreciation of certain costs over 5 years (instead of 15-20 year lifetime)
  - Allows owner to “write off” business expenses such as an energy project from taxable income (note tax credits like ITC/PTC reduce tax liability not taxable income)

- **Available to all ITC or PTC eligible technologies**
  - Though not 100% of project costs are eligible for depreciation treatment

- **MACRS Depreciation is *IN ADDITION to ITC or PTC***

- **No stated expiration date**

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<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-Year MACRS</td>
<td>20%</td>
<td>32%</td>
<td>19.2%</td>
<td>11.52%</td>
<td>11.52%</td>
<td>5.76%</td>
</tr>
<tr>
<td>schedule</td>
<td></td>
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</table>

**Example: 1 MW solar project costing $2 M**

Depreciation = ~ $550,000 recovered in years 1-6 of project
Tribal Non-Taxable Funding vs. Tax Equity Financing

Grant-based funding: Primary Benefit: **Energy/Cost Savings**

- Tribal Government / Non-taxable entity
- Public Funding Source
- Energy Project
- Energy (kWh)

Tax Equity Partnership Primary Benefits:
**Energy / Cost Savings, and Valuable Tax Benefits**

- Tribal Corp / Taxable- Entity
- Limited Liability Corporation
- Energy Project
- Energy (kWh)
- Tax Credits & Depreciation
- Private Capital Tax Investor (Exits after 5 years)
Third Party Power Purchase Agreement

- The customer agrees to **host** the system and **purchase** the electricity to indirectly benefit from renewable energy tax based incentives.

  - **Revenue from electricity sales**

    - **“Host” of Renewable Energy Generation Equipment**
      - Remaining electricity needs
      - Worth ~40-50% of the cost of a solar system
    - Renewable electricity at fixed prices
    - Various project finance structures

  - **Local Utility**

- Other mechanisms could include a land host and service provider (labor, gravel, etc.) or tribal owner through taxable tribal corporation.
Challenges of Tax Credits and Tax-Equity Finance

1. Tax credits cannot be used efficiently by entities without significant tax liability
2. Transaction costs can be high – particularly at first
3. Need to find a tax equity partner
4. Investors generally want large projects or portfolio of projects ($1-2 M min)
More Information

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Cash Purchase: Simple and Direct

- **Things to consider:**
  - Host ownership requires tax appetite to absorb solar tax benefits
  - Budgetary constraints – capital allocation, checkbook availability
  - Financial Statement impact: balance sheet: increase in liabilities & reported leverage
  - Loan option for cash purchase - New loan products are being introduced to market

**Benefits:**
- Maximize returns by
  - Not passing incentives to a financier: Yields the highest NPV
  - Retaining solar tax benefits and rebates
  - Asset depreciation benefits
  - Any environmental attributes generated by the system
  - Avoiding financing costs
- Hedge Against Rising Electricity Prices by limiting exposure to volatile energy rates
- Reduce the total time required for a solar project
- Loan option
  - Bank terms typically shorter than term of PPA;
  - Cost of debt cheaper than equity;
  - Host may pay higher price for electricity on a monthly basis for a set period (especially when large portion of debt payment is principle)
# Considerations for PPA Versus Traditional Municipal Finance

<table>
<thead>
<tr>
<th>PPA (Third Party Ownership)</th>
<th>Cash Purchase, Bond, Lease</th>
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<tbody>
<tr>
<td><strong>Upfront Cost</strong></td>
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<tr>
<td>• Low/Zero upfront costs: from $0 down to 50% of cost</td>
<td>• Requires upfront payment in full or loan/lease</td>
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<tr>
<td><strong>Incentives</strong></td>
<td></td>
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<tr>
<td>• Goes to TPO provider</td>
<td>• Stays with system owner</td>
</tr>
<tr>
<td><strong>Tax Appetite</strong></td>
<td></td>
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<tr>
<td>• Provided by third party</td>
<td>• Must have sufficient tax appetite/eligibility to use tax credits</td>
</tr>
<tr>
<td><strong>Maintenance</strong></td>
<td></td>
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<tr>
<td>• O&amp;M remain the responsibility of the TPO</td>
<td>• You own the system outright and are responsible for O&amp;M and additional costs (i.e. solar inverter)</td>
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<tr>
<td><strong>Term</strong></td>
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<tr>
<td>• Typically 20 years but can be as little as 10 years</td>
<td>• Life of asset for cash purchase</td>
</tr>
<tr>
<td><strong>Transfer / End of Contract Issues</strong></td>
<td>• Loan tenor determined by lender. The average is around 7 years with interest rates of 3.5% to 7.5%</td>
</tr>
<tr>
<td>• Complications may arise when moving or transferring</td>
<td>• System generally a money-saving asset</td>
</tr>
<tr>
<td>• Transfer options may include</td>
<td>• Less complicated transfer, buy-out options</td>
</tr>
<tr>
<td>• Contract buy-out</td>
<td>• Solar electricity generated for 25-40 years</td>
</tr>
<tr>
<td>• Transfer to another property</td>
<td></td>
</tr>
<tr>
<td>• Continued payments while technology innovates</td>
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<tr>
<td><strong>Pros</strong></td>
<td></td>
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<tr>
<td>• Low upfront investment, less O&amp;M or repair risks, possible utility savings</td>
<td>• Utility savings, carbon emission reductions, tax credits and other incentives, likely increase property value</td>
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<tr>
<td>• Allows for depreciation deductions</td>
<td></td>
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<tr>
<td><strong>Cons</strong></td>
<td></td>
</tr>
<tr>
<td>• Leases/PPA may complicate transfer of property</td>
<td>• Larger cash outlay and responsibility for O&amp;M costs</td>
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<tr>
<td>• May reduce utility savings compared to purchase</td>
<td>• Loss of depreciation (no residential depreciation)</td>
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