Quantifying the Value of the Section 1603 Treasury Cash Grant to Community Wind Projects

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1) Pre-Stimulus: Federal Wind Incentives are Tax-Based
   • PTC and Accelerated Depreciation
   • Graphs of tax benefit streams both with and without tax appetite

2) Post-Stimulus: Cash Is (Almost) King
   • 30% Cash Grant (in lieu of PTC) and Accelerated Depreciation
   • Graphs of cash/tax benefit streams both with and without tax appetite

3) Comparison of Pre- and Post-Stimulus Value

4) Additional or “Ancillary” Benefits of Cash Grant

5) Conclusions
Prior to the Recovery Act of 2009: Federal Wind Incentives Are Tax-Based

1) Production Tax Credit (PTC):
   • $/MWh income tax credit in place during first 10 years of project’s life
   • Inflation-adjusted value of $22/MWh in 2010
   • For a “typical” community wind project with an installed cost of $2500/kW and a 30% capacity factor, the present value of the PTC amounts to 15% of total project costs (at a 10% nominal discount rate)

2) Accelerated Tax Depreciation:
   • Up to ~95% of total installed costs can be depreciated using a 5-year schedule (creates net operating losses in early years of project)
   • Present value of depreciation deductions equals 25.7% of installed project costs (only 6.8% of which is due to acceleration)

PV (PTC + depreciation) = ~41% of installed project costs (but this assumes efficient use of tax benefits!)
If Owners Have Tax Appetite: Tax Benefit Stream is Front-Loaded

Tax benefits exceed project’s ability to use them during first six years; additional tax capacity from outside of project needed for efficient use

- Some (relatively few) developer/owners may have outside tax capacity
- Others can seek third-party tax equity investors (but at a cost)
If Owners Do Not Have Tax Appetite: Tax Benefit Stream is Back-Loaded

Passive credit & loss limitations restrict ability of passive investors to apply excess credits/losses against outside (i.e., non-project) income:

- Excess credits and losses can only offset other passive income
- Passive income does not include wages, interest, or dividends
After the Recovery Act of 2009: Cash Is (Almost) King

• **February 2009:** Among many other things, the American Recovery and Reinvestment Act of 2009 (the “Recovery Act”) allows wind projects to **temporarily** choose between the PTC, a 30% investment tax credit (“ITC”), or a **30% cash grant**

• The cash grant is good news for projects that don’t have tax credit appetite (e.g., many community wind projects)

• **BUT** some tax appetite is still required for efficient use of depreciation deductions…
If Owners Have Tax Appetite: Choice Influenced by Cost/Performance

- Grant provides more value than PTC to projects that cost more and/or generate less (e.g., typical community wind project?)
- Depreciation still exceeds project’s tax capacity in years 1-5
If Owners Do Not Have Tax Appetite: Choice of Grant a “No-Brainer”

Replacement of a long-delayed PTC with an up-front cash grant (that is *not* subject to passive credit limitations) provides significant time value that will overwhelm cost/performance considerations.
Comparison of Four Scenarios Shows Substantial Benefit to Community Wind

- **Projects with Tax Appetite:** Though positive (+9.7%) in this example, the relative value of the grant may be positive or negative, depending on project cost and performance (will be positive for most community wind projects).

- **Projects without Tax Appetite:** Grant provides significant time value benefits that will overwhelm project cost and performance considerations (+21.8% total).

- In this example, the project without tax appetite fares better under the grant (45.1%) than does the project with tax appetite under the PTC (40.7%).

### Table: Relative Value of Incentives

<table>
<thead>
<tr>
<th>Incentive?</th>
<th>Tax Appetite?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>PTC</td>
<td>40.7%</td>
</tr>
<tr>
<td>Grant</td>
<td>50.4%</td>
</tr>
</tbody>
</table>

**Relative Value of Grant:**

- +9.7% under PTC
- +21.8% under Grant
# The Section 1603 30% Cash Grant Also Provides Additional Benefits

<table>
<thead>
<tr>
<th></th>
<th>PTC</th>
<th>30% ITC</th>
<th>30% Cash Grant</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alternative Minimum Tax (AMT)</strong></td>
<td>The PTC is exempt from the AMT for just the first 4 (of 10) years</td>
<td>The 30% ITC is fully exempt from the AMT; The AMT is not applicable to 30% cash grant</td>
<td></td>
</tr>
<tr>
<td><strong>Haircut for Government Grants</strong></td>
<td>The PTC is reduced by gov’t grants applied to capital costs</td>
<td>The 30% ITC/Grant is reduced only by gov’t grants that are not taxed as income (use of grant does not matter)</td>
<td></td>
</tr>
<tr>
<td><strong>Haircut for Subsidized Financing</strong></td>
<td>The PTC is reduced by gov’t-subsidized low-interest loans</td>
<td>The Recovery Act eliminated this haircut for the 30% ITC/Grant (but not for the PTC)</td>
<td></td>
</tr>
<tr>
<td><strong>Owner/Operator Requirement</strong></td>
<td>The owner must also operate the project to qualify</td>
<td>No such requirement – enables leasing</td>
<td></td>
</tr>
<tr>
<td><strong>Power Sale Requirement</strong></td>
<td>Power must be sold to an unrelated person to qualify</td>
<td>No power sales requirement for the ITC/Grant (this benefits behind-the-meter projects)</td>
<td></td>
</tr>
<tr>
<td><strong>Performance Risk</strong></td>
<td>Underperformance reduces both cash revenue and PTCs</td>
<td>Underperformance only reduces cash revenue (does not impact the 30% ITC/Grant)</td>
<td></td>
</tr>
<tr>
<td><strong>Passive Credit/Loss Limitations</strong></td>
<td>Individuals who are passive investors can only apply the PTC and ITC (and losses) against passive income</td>
<td>30% cash grant not subject to passive credit limitations</td>
<td></td>
</tr>
<tr>
<td><strong>Securities Regulation</strong></td>
<td>PTC and ITC do not provide cash with which to capitalize the project (i.e., do not reduce # of shares)</td>
<td>Grant may reduce number of investors/shares needed</td>
<td></td>
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</tbody>
</table>

The value of some of these ancillary benefits is explored in a January 2010 report titled “Revealing the Hidden Value that the Federal Investment Tax Credit and Treasury Cash Grant Provide to Community Wind Projects” ([http://eetd.lbl.gov/EA/EMP/reports/lbnl-2909e.pdf](http://eetd.lbl.gov/EA/EMP/reports/lbnl-2909e.pdf))
Modeling Results (from Jan 2010 LBNL report) for 1.5 MW Behind-the-Meter Project

<table>
<thead>
<tr>
<th>Step</th>
<th>Scenario</th>
<th>20-Year After-Tax IRR Target of 12%</th>
<th>$120/MWh First-Year Revenue (with 2% inflation)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>First-Year Revenue</td>
<td>20-Year Levelized Revenue</td>
</tr>
<tr>
<td>1</td>
<td>No PTC</td>
<td>$154.4/MWh</td>
<td>$176.6/MWh</td>
</tr>
<tr>
<td>2</td>
<td>30% ITC</td>
<td>$110.0/MWh</td>
<td>$125.8/MWh</td>
</tr>
<tr>
<td>3</td>
<td>30% Cash Grant</td>
<td>$108.5/MWh</td>
<td>$124.1/MWh</td>
</tr>
<tr>
<td></td>
<td>Step 3-Step 1:</td>
<td>-$45.9/MWh</td>
<td>-$52.5/MWh</td>
</tr>
</tbody>
</table>

- Primary benefit is **access**: behind-the-meter projects cannot access the PTC (no power sale), but can access the ITC/grant.
- Can measure the value of the 30% ITC/grant in two ways:
  1. Assume a 12% IRR target and measure the impact on required revenue
     - Grant reduces revenue requirements by ~$50/MWh
  2. Assume $120/MWh revenue and measure impact on IRR and NPV
     - Grant increases IRR by 4.7%, NPV by $751k
Conclusions

• The Section 1603 cash grant provides significant value to wind projects, and in particular community wind projects
  – Projects without tax appetite benefit the most
  – Consider face value and ancillary benefits

• Wind has received 87% of the >$3.6 billion in grants that have been awarded to date
  – 6200 MW (62%) of all new wind capacity built in 2009 chose the grant
  – But <2% of that 6200 MW might be considered community wind…

• Window of opportunity is short…unless extended
  – Projects must begin construction by end of 2010, and be online by end of 2012, to qualify for the grant
  – Efforts to extend the program (perhaps in an altered form) are underway, but face uncertain prospects

• Don’t miss this opportunity!
Appendix: Wind Project Assumptions Used for the Benefit Stream Graphs

- **COD:** January 1, 2010
- **Nameplate Capacity:** 10 MW
- **Installed Cost:** $2,500/kW
- **Capacity Factor:** 30% net
- **EBITDA:** $65/MWh
- **Depreciation:** 95% 5-yr MACRS
- **Income Tax Rates:** 35% (federal only)
- **Discount Rate:** 10% nominal
- **Inflation Rate (for PTC):** 2%/year