

**FINANCIAL AND PRACTICAL PROJECT ENGINEERING:**  
**GETTING LFG PROJECTS DONE IN HARD TIMES**

**16<sup>th</sup> Annual Landfill Methane Outreach Conference**  
**Baltimore MD, January 30, 2013**

*Michael Levin*  
*Carbon Finance Strategies*

There are 3 pieces of good news for LFG developers: (1) the Fiscal Cliff legislation (HR 8) extended the § 45 PTC for more than a year (due to “begin construction” rather than “placed in service”), along with the option to “jump” to the § 48 ITC where that makes project economic sense; (2) 50% bonus depreciation also was extended for at least another year; and (3) markets are surging for C-LFG and other renewable vehicle fuels.

Beyond this, conditions are daunting. Section 1603 Cash Grants mostly have expired. U.S. carbon markets generally are dormant, low-value or difficult to access. Many state REC markets are close to oversubscribed or near historic lows. The tax equity needed to monetize PTCs or ITCs remains relatively limited, costly, and difficult to capture for smaller projects. Bonus and accelerated depreciation benefits can be difficult to monetize, even where tax equity is available. Reasonable project-finance debt may be beyond reach for projects under \$20 million cap-ex. Traditional “friends and family” sources of early-stage development equity took a hike after 2008 and mostly have not returned. Finally, the “shale gas boom” has driven natural gas and wholesale power prices down to levels not foreseen even 3 years ago, putting direct-use projects on hold and making many new or merchant electricity projects (as well as those coming off long-term PPAs) financially problematic.

**What options are open to LFG developers and how are projects are using them to end-run or mitigate current hurdles?** Possibilities include capturing larger or additional revenue streams (e.g., explicit capacity sales), repurposing projects to reach alternative markets (e.g., compressed or liquid renewable LFG fuels rather than electricity), tax-related and other mechanisms to boost project returns (e.g., teeing up projects to cut capital costs & secure optimal leverage), and crowd-funding or other new sources of potential development capital (e.g., REITs or MLPs).

\* \* \*

**“Rules”:**

- **Target your efforts:** ask what type of project *makes sense now*, & how that choice may affect sources of capital, financing structures, and off-take opportunities. Except in special circumstances, conventional LFGTE may not compute for the next several years.

- **Timing is everything:** Don't delay in hopes of securing additional \$ -- hogs get slaughtered. If the IRRs pencil out with a deal on the table, take the money & run. That deal may not be there next week. Your next project can capture the increment, if that increment materializes.
- **Comb the project** for cost reductions that don't compromise quality, & for potential sources of additional revenue. For example, look carefully at capacity sales & whether perceived risks are real or can be mitigated. If power prices are in the pits, look at special off-take arrangements with (say) municipalities that may give them an upside in the out-years. Look at tiered or synthetic PPAs that can peg per-kWh prices to forward gas curves or guarantee a strike price that works financially. Then comb the project again.
- **Be realistic about adverse trends like shale-gas effects.** Prices & rates don't just go down & stay down. Natural gas pricing has been incredibly volatile historically. Many people believe domestic gas will "go global" like oil due to pending export terminals within the next 5 years. If that's true the "price" issue may be tactical not strategic -- how to structure projects to bridge the next few years. That could be quite different than trying to do projects assuming \$3/mmBTU gas or 3.5¢/kWh wholesale power for the next 20 years,
- **Remember the project should be not just *financeable* (to get built), but *acquirable*** by tax equity or other 3<sup>rd</sup> party purchasers. They're not the same thing.
- **Get creative:** There always are options and alternatives. But, find out what it takes to fit those boxes, & their potential hurdles or pitfalls.

\* \* \*

**Capturing additional revenue sources: Look at (for example):**

- **Selling some or most energy Firm,** not just unit-contingent
- **Selling capacity.** This could be worth a lot for baseload operations like LFG, especially where substantial coal-fired capacity may be going off-line
- **Ultra-long-term PPAs** (25 to 30 years) at relatively high initial flat rates that may offer counterparties substantial upsides in the out-years, where they believe gas & wholesale power prices inevitably will rise.
- **"Synthetic PPAs" or similar structures** where the off-taker pays you if hourly LMPs are below a strike price but you pay the off-taker where LMPs exceed that price. This off-taker may be a creditworthy power marketer, not just an end-user. Such hedging arrangements (sometimes known as "contracts for differences") in effect can guarantee the project a price floor.

- **Optimizing revenues from RECs or from CO<sub>2</sub>-e reductions.** You usually can't get both. But, the value of RECs sold for 20+ years as part of a PPA may outweigh what you can get through shorter-term spot or strip sales, even with price and NPV discounts. In addition, LFG projects that destroy (combust) carbon (create "direct" reductions) have a potentially unique advantage over renewables projects that only displace fossil generation (create only "indirect" reductions). A voluntary-market (or even a compliance-market) sale of CO<sub>2</sub>-e "offsets" that adds a penny per kWh net can be a tipping factor, though costs of 3<sup>rd</sup>-party verification can be substantial.

- **Long-term contracts for every available revenue stream.** Contracted revenues with creditworthy counterparties "count" for debt & other pro forma purposes. Spot sales usually don't – they're often discounted to zero or close to zero. The overall difference in ability to access debt, or get longer debt terms &/or better interest rates, can outweigh price discounts that reflect greater risk to the counterparty. Contracted revenues can be particularly important to 3<sup>rd</sup>-party project purchasers who plan to "leverage off the back end" to increase equity yields after project acquisition.

- **The costs v. benefits of going to LFG-derived renewable-fuels rather than direct-use or power generation.** This can get complicated – there are multiple tradeoffs, & long-term PPAs generally are not available in the fuels world. However, the combination of selling RINs at 50¢ or more per gallon equivalent, plus potential tax credits for (say) renewable-diesel fuel production and for running compressors on LFG-derived power, may well be worth the effort.

\* \* \*

**Additional capital sources.** If you don't have a sufficient balance-sheet or want to supplement it, keep an eye on (for example):

- **REIT funding.** What constitutes qualifying "real estate" interests is a flexible concept – REITs already have been approved for cell towers, data centers, power lines, & gas pipelines that have real property aspects & generate long-term steady income streams. A PLR request currently is pending IRS approval of REIT funding for solar "farms." LFG projects typically have the same limited leasehold interests.

- **Master Limited Partnership ("MLP") funding.** Like REITs, but with somewhat fewer restrictions, MLPs allow direct access to capital by selling partnership interests like stock shares. They also can sidestep corporate double taxes on income & dividends (here, partnership distributions). By 2008 Code amendment they currently are available only to fund renewable-related fuel pipelines & storage facilities. However, pending bills would extend broad eligibility to most renewable-energy production, marketing & transportation activities.

- **State-level "green banks."** Funded from system-benefit charges & other sources, these currently exist only in CT but are under development in NY & other states. See [www.coalitionforgreencapital.com](http://www.coalitionforgreencapital.com). Their initial focus typically has been to provide cheap

debt for behind-the-meter rooftop solar residential & commercial installations. Nevertheless, their charters often are not limited to such applications, & they could become vehicles for development funding of other renewable-energy facilities in the near future.

- **“Crowd-funding” under the 2012 federal JOBS (“Jumpstart Our Business Start-Ups”) Act.** Among other things, the Act loosens certain SEC restrictions by authorizing broad solicitations to non-accredited investors, potential funding by citizen-investors at up to \$2000 per company per individual, and sharply reduced reporting burdens for so-called “emerging growth companies.” However, because the SEC has not yet issued implementing regulations, except in CA & NY only accredited investors currently can “crowd fund.”

- **Commercial PACE (property-assessed clean energy) programs.** PACE programs have been legislatively authorized (though in some cases not yet fully implemented) in states including NJ, CA & MA. They basically allow qualified renewable-energy facilities to be funded through inexpensive public sources, with debt repaid through (added to) ongoing real property tax bills.

- **Prepaid PPAs.** “P-PPAs” can provide what amounts to inexpensive development equity through lump-sum prepayment of a substantial portion of the energy committed to be sold over the term of a PPA, typically by government utility departments that secure the prepayment funds through tax-exempt or taxable bond issues.

- **Tax-exempt or taxable bond funding.** In the “cheap capital” stack that starts with no-interest state or federal grant funds & proceeds through (for example) 1603 Cash Grants, debt guarantees from the Rural Electrification Agency or US or foreign Ex-Im agencies, & monetization of tax-credits or accelerated or bonus depreciation through tax-equity-type transactions, such bond funding may come second-in-line. Tax-exempt “small issues” of up to \$10 million at interest currently running around 3.5% may be one option. Taxable bonds currently running at around 5% interest may be more accessible for appropriate projects. Bond funding may have important advantages over conventional project finance, especially for smaller projects or small-project portfolios. For example, such bonds often can fund a higher proportion of total capital requirements, can carry less onerous reserve requirements, & can provide construction and term debt in a single transaction.

\* \* \*

To ensure compliance with Internal Revenue Service Circular 230, we are required to inform you that any tax advice implied, contained in or accompanying this document is not intended or written to be used, and cannot be used, to (1) avoid penalties under the Internal Revenue Code, or (2) promote, market or recommend to any other party any tax-related matter(s) addressed herein.