

ILLINOIS WIND WATCH

Be **SMART** about being **GREEN**

Comments to the Energy Tax Reform Working Group
U.S. House of Representatives
Committee on Ways and Means
Submitted April 15, 2013

Illinois Wind Watch is an unincorporated, grass roots association of citizens and citizens' groups that oppose irresponsible industrial wind development in Illinois. IWW is self-funded and 100% volunteer. Neither the group nor the undersigned representatives are allied with any energy company or industrial interest. For more information, see www.illinoiswindwatch.com. As residents of the State of Illinois we respectfully submit these comments for consideration of the Energy Tax Reform Working Group of the House Ways & Means Committee.

EXECUTIVE SUMMARY

We respectfully request that Congress terminate the Production Tax Credit (“PTC”) for wind energy. Eliminating the PTC would restore tens of billions of dollars in tax revenue to the U.S. Treasury. Together, both houses of Congress rejected extension of the PTC multiple times in 2012, allowing it to expire at the end of the year. A few hours later this zombie tax break came back from the dead as part of the fiscal cliff deal. Real tax reform requires Congress to examine each tax subsidy to determine whether it provides a net benefit to the American people. When Congress looks beyond the “green” hype and relentless lobbying, it becomes clear that **the PTC actually *harms* the U.S. economy from top to bottom:**

- (1) official Illinois economic development reports show that wind projects create *very* few permanent jobs despite receiving billions in tax breaks and other subsidies and European studies show a net loss of jobs when they reviewed the impact on the economy as a whole;
- (2) the PTC provides tax breaks for highly profitable commercial and industrial corporations that can and should pay their fair share of taxes;
- (3) the PTC will not impact global climate change;
- (4) the amount of the subsidy is absurd in today's market, and
- (5) our nation's utilities will move toward cheaper, cleaner natural gas *without government intervention or expense*, thus creating economically sustainable jobs and making all our businesses more competitive.

After 20 years and billions of dollars in massive subsidies in the form of cash grants, tax breaks and loan guarantees for wind energy, it is high time to end the Production Tax Credit. Furthermore, Congress should get out of the business of picking winners and losers and eliminate government support in energy markets in general.

I. THE PTC KILLS MORE JOBS THAN IT CREATES.

Empirical evidence shows that the industry's jobs claims are significantly inflated. Given the overall impact on the rest of the economy, we have been handing out billions in tax breaks to the most profitable corporations in other sectors of the economy only to experience net job losses.

- ❖ The industry's claims of job creation do not reflect reality. Reports from wind host communities indicate that the wind industry actually creates very few permanent jobs. In Illinois, a 2011 study of the official quarterly reports filed with the Illinois Department of Commerce and Economic Opportunity (ILDCEO) for eight industrial wind projects (1,460 turbines) created only 61 to 75 permanent full-time jobs from 2007 through 2010. In comparison, a single hardware store created 75 jobs. Furthermore, it appears the alleged wind energy jobs were not truly permanent. The local reports either did not indicate how many employees were still employed by the project or noted there were "0" at the time of the report. A press release summarizing the results of the study is attached as Appendix A. The full report can be found at <http://illinoiswindwatch.com/each-illinois-wind-job-costs-taxpayers-8-million/>. These are real world numbers, not estimates, projections or models pitched by the industry and "green" activists.
- ❖ Picking winners in one sector of the economy inflicts job losses on the rest of the economy. Independent studies of the impact of renewable energy policies in Europe show that for every renewable energy job created (at great cost), two to five jobs were lost elsewhere in the economy due to higher energy costs and taxes. For a summary of the European experience, see "Green Jobs Resources," <http://www.instituteforenergyresearch.org/issues/green-jobs-resources/>.

II. THE PTC PROVIDES TAX BREAKS FOR HIGHLY PROFITABLE, NON-GREEN COMMERCIAL AND INDUSTRIAL CORPORATIONS.

The PTC is being sold--before it is earned—to highly profitable corporations that are willing to take on the risk of buying *future* tax credits at a great discount. The PTC is being monetized (reduced to its present cash value) and sold to corporations that are willing to provide cash up front to wind companies to use as capital for the project that will generate the credits. According to pro-wind sources, as of 2007 the banks, fossil fuel businesses and other companies engaged in these complex transactions paid 40 to 60 cents to get a dollar's worth of tax avoidance in the future. See *Renewable Power, Policy and the Cost of Capital, Improving Capital Market Efficiency to Support Renewable Power Generation Projects*, http://sefi.unep.org/fileadmin/media/sefi/docs/publications/Renewable_Power_Policy_and_the_Cost_of_Capital.pdf (2007). The discount reflects the tax avoiders' estimate of the value of PTCs projected to be generated, the risk associated with the project, and the time value of money. Like a payday loan, this allows wind companies (most of which are foreign) to get cash

from American tax equity investors right up front, thus transferring a chunk of the risk of enterprise failure from the foreign wind developers to those American investors. See Appendix B for a detailed description of how a performance-based green incentive has been cleverly (if somewhat inefficiently) converted to corporate welfare for major corporations, including General Electric, clients of Goldman Sachs, BP, and the like. These financing vehicles are complex, with each deal said to be unique, but the report shows there are some standard patterns. Industry representatives have said at conferences that if the PTCs are not earned for any reason, the tax equity investor would lose that portion of the value of its investment. **The wind developer gets the benefit of the PTC in the form of startup capital from tax equity investors regardless of whether the project ever generates energy.**

III. THE PTC WILL NOT STOP GLOBAL CLIMATE CHANGE.

Reducing manmade carbon emissions to avoid global warming was the original *raison d'être* of industrial wind energy. Two decades later, it appears the climate debate is continuing, in part because the dire predictions made back then have not come true. **IWW takes no position regarding global warming, global cooling or global climate change.** It is interesting to note, however, that the head of the U.N.'s own International Panel on Climate Change recently admitted there has been no global temperature increase for 17 years.

<http://www.theaustralian.com.au/news/nothing-off-limits-in-climate-debate/story-e6frg6n6-1226583112134> (February 22, 2013)(also reported elsewhere, including

<http://canadianawareness.org/2013/02/ipcc-head-rajendra-pachauri-acknowledges-17-year-stall-in-global-warming/>). More and more people are questioning whether global climate change poses as big a threat as once feared.

In any case, the United States should stop wasting valuable resources on wind energy. First, there is no independent, scientific proof that adding wind to the grid actually reduces carbon emissions. Several studies suggest it does not. For an accessible discussion of this issue, see “A New Study Takes the Wind out of Wind Energy” by Robert Bryce, <http://www.forbes.com/2011/07/19/wind-energy-carbon.html>. *See also* <http://theenergycollective.com/node/64492> (reviewing recent studies). There are also several excellent articles by industry experts on the website Master Resource, www.masterresource.com, including a digest of articles touching on emissions claims. *See* <http://www.masterresource.org/category/windpower/emissions-reduction-wind/>. The time for blind faith is over. Actual operational data should be released and reviewed by independent experts to determine whether there are indeed any net carbon savings. The companies are claiming such information is “proprietary business information.” Given the tens of billions in tax breaks, grants and mandates that this industry has been given, such a claim is almost laughable. The American people have *more* than earned the right to know whether their “investment” in Big Wind has paid off. **The fact that the industry continues to rely on “modeling” strongly suggests that Big Wind can’t prove it provides any actual carbon savings in the real world.**

Second, industrial wind energy just doesn't generate enough usable energy when we need it to do any good. The data from the Energy Information Administration show that after decades of mandates and billions in subsidies, wind still provides only 3% of our nation's electricity. See http://www.eia.gov/energy_in_brief/article/renewable_electricity.cfm. That is **less than 1% of our nation's total energy portfolio.** See <http://www.eia.gov/renewable/annual/preliminary/pdf/preliminary.pdf> . Since our nation accounts for 25% of worldwide energy consumption, **American wind energy accounts for less than a quarter of one percent** of the world's energy needs. **Common sense suggests we had better starting using our limited resources to look for real solutions,** including new technologies that our less-fortunate fellow travelers can afford since they account for 75% of the world's energy usage.

IV. THE AMOUNT OF THE SUBSIDY IS ABSURD IN TODAY'S MARKET.

The PTC grants wind tax equity investors 2.2 cents/kwh, which is absurdly high in today's market. In 2010, Big Wind received about \$5 billion in tax credits. This equaled approximately *half* of the total investment in wind energy that year. <http://ourfiniteworld.com/2012/01/04/obstacles-facing-us-wind-energy/>. This can be seen on the project level in local zoning reviews as well. For example, the developer of the Minonk Wind project in Illinois admitted that PTC equity provided 40-50% of the capital for that project. **It is ludicrous for the people of this country to provide half the funding for private investments and receive ZERO profit, ZERO revenue and ZERO benefit from the project.**

The PTC's distortion of the market further demonstrates that the amount of the tax credit is absurd. The \$22/MWH credit is often so high compared to the wholesale cost of energy that it actually turns the market upside down. The subsidy is not tied to market prices, so when the cost of electricity on the grid fell due to natural gas prices and lower demand, **wind energy generators could pay grid operators to take their product, and still turn a profit.** http://www.eenews.net/assets/2012/09/14/document_gw_01.pdf.

If an industry is so dysfunctional, so inefficient, so disliked by consumers in the open market that the government has to pay HALF the cost of that product in order to force it on consumers, **either that industry or that government deserves to go bankrupt.** Congress should protect the country rather than these special interests, many of whom are foreign conglomerates.

V. CONGRESS SHOULD ELIMINATE TAX BREAKS AND SUBSIDIES FOR ALL FORMS OF ENERGY.

The smart energy choice is natural gas. Most experts believe that this is a no-brainer. <http://www.newgeography.com/content/002509-gas-against-wind>. **The Energy Information Administration reported that the per kilowatt cost of new generation of wind energy was about 50% higher than natural gas, and this does not even account for the cost of wind's extensive subsidies or billions of dollars in new transmission required to accommodate wind**

alone! http://205.254.135.24/oiaf/aeo/electricity_generation.html. Nor does it accurately account for the unavailability of wind at times of peak demand (and therefore its lower value). <http://www.instituteforenergyresearch.org/2011/12/22/making-sense-of-levelized-costs/>. There is no free lunch. Someone is paying for that.

The federal government is itself a massive consumer of energy. Has anyone determined how higher energy prices impact the federal deficit?

In contrast to wind, development of domestic natural gas would create good jobs and trigger economic booms wherever natural gas deposits have been found. **The natural gas sector needs NO federal subsidy** or regulatory market forcing in order to replace dirtier forms of energy. And natural gas plants could be built locally where power is used, avoiding the need to build expensive transcontinental power lines or install “smart meters” that few consumers want. **We have abundant domestic gas reserves that will provide a secure and clean source of energy for centuries, giving our scientists plenty of time to look for viable non-fossil options.**

CONCLUSION

After 20 years of tax breaks, grants, renewable portfolio standards, and countless other preferences for industrial wind energy, the verdict is in: It’s just not worth it. According to the Joint Committee on Taxation, extending the PTC one year diverted over \$12 billion from the U.S. Treasury. <http://www.finance.senate.gov/imo/media/doc/JCX.pdf>. There actually is no statutory or regulatory cap on the cost of the PTC program so the actual costs could be much higher, especially if the IRS allows unfettered access to the program. Despite their heavy investment, the American people receive no real benefit from wind energy. All the hype, marketing and lobbying in the world cannot disguise the cold reality that the wind industry provides a mere 1% of our total energy portfolio, no net increase in real jobs, no proven reduction in net carbon emission by the grids, and crazy market distortions where wind generators can *pay* utilities to “buy” their product. Every year that the PTC stays in the tax code, we load billions more onto our soul-sucking national debt. The PTC should be eliminated once and for all. Furthermore, IWW supports the elimination of subsidies for all forms of energy.

Yours truly,

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APPENDIX A

Each Illinois Wind Job Costs Taxpayers \$8 Million

Carolyn K. Gerwin

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PRESS RELEASE
For immediate release

Each Illinois Wind Job Costs Taxpayers \$8 Million

A study of enterprise zone reports obtained from the Illinois Department of Commerce and Economic Opportunity (Illinois DCEO) reveals that under Section 1603 of the federal stimulus bill, the federal government is offering developers about \$8 million for every wind job reported.

Wind farm companies claim they create jobs in the areas where wind projects are built. Their academic counterparts (often funded by the wind industry [See, e.g., <http://renewableenergy.illinoisstate.edu>]) produce scholarly reports claiming that wind brings a vast economic boom to the economy. [<http://renewableenergy.illinoisstate.edu>] The federal government has developed a special computer program called the Job and Economic Development Impact model, commonly referred to as JEDI. [http://www.windpoweringamerica.gov/filter_detail.asp?itemid=707]. Using the JEDI model, wind companies input data about a given project and the model kicks out estimates of the number of jobs stimulated. In other cases, the method of calculating the jobs created is not explained. For example, Iberdrola Renewables has claimed that its Streator Cayuga Ridge South project in Livingston County, Illinois “created and supported 1,523 jobs.” [http://www.iberdrolarenewables.us/rel_10.10.14.html] That level of economic development would be explosive in a county of only 39,000 residents, many of whom work in neighboring counties. Such claims rarely, if ever, are tested after a project has been completed.

According to the Renewable Energy Center of Illinois State University, every major Illinois wind farm has applied for and received “enterprise zone” status, which allows the wind company to avoid paying state sales and use taxes on purchases that support a project built in an economically distressed area. [<http://renewableenergy.illinoisstate.edu/wind/publications/2011%20FINAL%20Economic%20Impact%20Report.pdf>, p. 14.] In return, the communities expect to get economic development they would not otherwise see. To further stimulate the wind industry, Illinois recently extended the sales tax exemption to all new large wind farms regardless of whether the project area was actually economically distressed. [*Id.*]

To monitor the impact of these enterprise zones, Illinois DCEO requires the local administrator of each zone to file quarterly reports, including the total amount of investment and the number of

jobs created and retained as a result of such projects.

[http://www.commerce.state.il.us/NR/rdonlyres/5F180547-E845-4D69-A37C-2BE43AAD3597/0/EZAnnRept_09.pdf, p.11] To assess the impact of wind projects in Illinois, installations of four or more turbines built from 2007 through 2010 were identified based on information published on the website of the Illinois Wind Energy Association.

[<http://maps.google.com/maps/ms?ie=UTF8&hl=en&msa=0&msid=102713907268110874068.00046247a98a6f3a2b29b&ll=40.971604,-89.351807&spn=2.488469,6.855469&z=7&source=embed>] Under the Freedom of Information Act, enterprise zone reports for the period 2007 through 2010 for each county where a wind farm had been built were requested. After much delay, Illinois DCEO denied the request. The denial was appealed to Illinois Attorney General's Office of the Public Access Counselor, which makes non-binding determinations in such cases. The Public Access Counselor directed Illinois DCEO to grant the request and after local administrators rejected DCEO's invitation to oppose disclosure, Illinois DCEO turned over the reports.

The reports disclosed detailed information about Illinois wind farm projects and job creation. Illinois does not follow the federal JEDI model's policy of counting all jobs associated with a project rather than actually created by the project. The enterprise zone report form expressly states that " 'Jobs Created' means the number of jobs for which persons are hired or are expected to be hired within 1 year as a result of the new investments, *not* including construction jobs or spinoff jobs that may be created." (emphasis original). Thus, zone administrators must report the number of primary jobs created or retained as a direct result of the investment.

Secondary jobs are created by virtually all economic activity. Instead of granting subsidies to a private company, the government could just apply the funds directly to infrastructure repairs or other economic development, thereby avoiding the inefficiency of administering a grant program where taxpayer funds are given to a private company in hopes that some of the funds will be returned to the local community. Alternatively, the government could let taxpayers spend their money as they see fit, thereby stimulating the economy while allowing the workers to buy what they believe brings the highest value for their hard-earned money.

Defining, identifying and counting such spinoff jobs would be difficult and time-consuming. Eliminating them from the reports avoids speculation as to the actual impact achieved.

In the reports, a part-time job is not equivalent to a full time job; jobs must be reported in terms of "full time equivalents." In other words, if a project created ten half-time jobs, they would be reported as five full-time-equivalent jobs.

The reports show that wind farms create very few local jobs. Of the 15 wind farms reported on the IWEA website, only eight wind farm projects appear in the reports. Those eight projects total \$1.95 billion in project costs. The reports show that these projects, as a group, created a total of 61 to 75 jobs. A table summarizing the data is attached.

The reports include a column entitled “Current Employees.” Most of the time this column was left blank, but for four wind projects, the administrator reported that the wind company had zero current employees. None of the administrators reported any “current employees” for a wind farm.

Compared to other projects that appear in these reports, the wind industry’s ability to create jobs is anemic. For example:

- Wheel Worx (a railcar wheel manufacturer) created 50 new jobs in the Pekin area;
- Culver’s of Ottawa (a frozen custard restaurant) reportedly created 60 jobs; and
- Starbucks (a coffee shop) in LaSalle County was credited with creating 25 jobs.

A single project, the new Menards hardware store in the city of Washington, Illinois, created 75 jobs, as many jobs as all the reported wind energy jobs in the State of Illinois put together.

Eight of the 16 wind projects were not listed in the Illinois DCEO reports. Illinois DCEO has not published a comprehensive list of Enterprise Zone projects so it is possible that ISU’s data is incorrect and some wind farms are not in the program. In other cases, however, it is unclear why the project is not reported. For example, Iberdrola Renewables obtained Enterprise Zone status for its Streator Cayuga Ridge South project in Livingston County, which was completed in 2010, but there is not a single reference to the project in the local administrator’s reports.

The reports show that wind jobs come at an enormous cost to American taxpayers. Under Section 1603 of American Recovery and Reinvestment Act of 2009 (the “2009 Stimulus”), the federal government currently offers a rebate of 30% of the capital cost of a wind farm. Over \$6 billion has been awarded to wind developers so far.

[<http://www.treasury.gov/initiatives/recovery/Documents/Overview.pdf>] A court has ruled that payment is not discretionary; any wind developer that meets the criteria must be paid, even if the government does not like the project’s financing or future prospects.

[<http://www.troutmansanders.com/court-rejects-treasury-challenge-to-section-1603-cost-basis-02-08-2011>] Given the current budget deficit, the federal government will be forced to borrow the money to pay off the wind developers, most of which are subsidiaries of foreign corporations.

Based on the data reported to Illinois DCEO, taxpayers are paying the mostly foreign-owned wind companies \$7.8 million to \$9.6 million for each temporary primary job created.

Only one of the wind farms in the Enterprise Zone reports was also listed on the Treasury Department’s website as actually having received a Section 1603 grant.

[<http://www.treasury.gov/initiatives/recovery/Pages/1603.aspx>]. Other wind projects may have been sold and renamed, making it difficult to track where the money went. However, the EcoGrove Wind Farm received over \$67 million in Section 1603 stimulus money, but created only 8 jobs, costing taxpayers more than \$8 million per job.

In addition, wind companies may opt for other federal subsidies. Presumably they would do so only if those subsidies offered more payback than the Section 1603 rebate. For example, the

2009 stimulus also provides loan guarantees for renewable energy companies.

[https://lpo.energy.gov/?page_id=41] Under this program, the federal government guarantees up to 80% of bank loans to wind companies. With government backing readily available, lenders that provide capital to wind companies have far less incentive to scrutinize the risk. A year after President Obama touted solar panel maker Solyndra as a paragon of green investment, the company went bankrupt, leaving taxpayers liable for over \$500 million in loan guarantees.

[http://www.washingtonpost.com/politics/solyndra-solar-company-fails-after-getting-controversial-federal-loan-guarantees/2011/08/31/gIQAB8IRsJ_story.html;

<http://www.therightscoop.com/obama-touts-solyndra-a-year-later-they-fold/>]

Update: The Section 1603 grant program ended this year but wind industry supporters have been calling for new forms of subsidies to replace the grant program. For example, costs associated with giant new transmission lines needed only for wind are likely to be paid for by all utilities and their customers “to upgrade the grid.” Approximately \$20 billion in transmission costs required to transmit wind from Midwestern wind farms to more populated areas would be passed on to Midwestern utility customers under rules proposed by the Federal Energy Regulatory Commission.

[<http://online.wsj.com/article/SB10001424052970204527804576043893513811886.html>]

The wind industry receives a wide variety of subsidies and incentives.

[<http://www.dsireusa.org>] Of these, the most important is the Renewable Portfolio Standard.

Like 32 other states, Illinois has imposed a Renewable Portfolio Standard (RPS) on Illinois utilities. [http://www.epa.gov/chp/state-policy/renewable_fs.html] The RPS forces utilities to buy a certain amount of wind energy or renewable energy credits. The Obama Administration has proposed adoption of a national RPS to force further reductions in carbon emissions from American utilities.

[<http://www.cbsnews.com/stories/2009/01/09/tech/livinggreen/main4710584.shtml>]. However, a recent study of actual emissions of four major power distribution systems found that adding wind energy to the grid did not significantly reduce carbon emissions.

[<http://www.forbes.com/2011/07/19/wind-energy-carbon.html>]

Update: The wind industry also receives special tax breaks called Production Tax Credits. Although these tax credits are intended to reward wind companies only when they actually generate electricity, the anticipated future stream of tax credits is often monetized (given a monetary value). These credits are assigned to major banks, including Citigroup and Chase, as part of the financing of a wind project, before energy is delivered to the grid. Such tax breaks are most profitable for corporations that are certain they will have enough taxable profits in the future to use the PTC, such as General Electric, which is a major player in the industrial wind market. The PTC is slated to end after 2012 but the wind industry has been pushing Congress to extend the qualification period for tax breaks to 2016 or longer.

Update: The Department of the Treasury continues to withhold documents regarding wind projects in Illinois in violation of the Freedom of Information Act.

APPENDIX B

CASHING IN ON THE PTC

Excerpt: Appendix D: Sample PTC Monetization Structure “Partnership Flip,” *Renewable Power, Policy and the Cost of Capital, Improving Capital Market Efficiency to Support Renewable Power Generation Projects*, (Frederick A. & Barbara M. Erb Institute for Global Sustainable Enterprise, University of Michigan, April 2007):

There are two primary reasons for a developer to monetize the tax credits allowed under Section 45 of the IRS tax code. First, the developer often does not have the tax appetite to adequately take advantage of the credit independently. Second, monetizing the credit up front can provide a much needed source of capital for developing a renewable power project (Duffy 2005, 5).

There are several structures that can allow for monetization, including “partnership flip,” “service contract,” and “sale and leaseback” (this structure is not available for wind projects). Among these options, one of the most common for wind facilities is the partnership flip. This structure has several variations that can include non-tax equity investors and debt capital in addition to the developer and tax equity investor. This appendix offers an overview of the partnership flip structure in order to provide a sense of the complexity of monetization. Note that the concepts presented are very general, as most monetization structures are highly customized to fit the circumstances of individual projects.

Under Section 45, there are limitations to transferring credits, primarily as a function of eligibility. Currently, only owners of a given power facility can take advantage of the tax credit (one exception is the result of a special rule, which allows openloop biomass power plant operators or lessees to claim the credits) (Martin 2007, 20). Therefore, it is necessary to establish a limited liability company (LLC) or a joint venture that results in the partners (developer and equity investors) each being classified as owners. The partners are then allocated credits in proportion to their ownership. In addition, there are other limiting factors according to Section 45, including (Zaelke 2005, 20):

Subject to all tax equity investors:

1. Tax credits from the PTC can be diminished by other state, federal, and local incentives that help pay the capital cost of the facility.
2. The PTC will begin to phase out as the power price exceeds 10.7 cents per kWh.
3. The PTC only can be used to offset the alternative minimum tax for the first four years.

Not subject to large institutional investors and corporations who are supplying the tax equity in partnership flip deals:

1. Passive loss rules require that the taxpayer must be actively engaged in the business or must be using the credit only to offset other passive investments.
2. At-risk rules that restrict individuals and smaller companies in claiming full depreciation from a project, limiting the amount to the amount of equity the investor has invested.

The LLC is generally structured with the developer as the managing member and the tax equity investor as a passive participant with limited voting rights, but with 90 to 100 percent of the economic returns from the entity. In return, the tax investor will provide the majority of the equity contribution to finance the construction of the facility. For the first 10 years, the tax equity investor will usually draw the tax credits and revenue in proportion to its economic ownership. Effectively, the LLC is treated as a partnership to take advantages of the tax benefits, though according to IRS regulations, the partners must share the PTCs in the same ratio as taxable income. By the end of this cycle, but not before the tax equity investor has reached a predetermined rate of return, the equity proportions will switch between the tax investor and the developer, hence the term "flip." At this point, the interest of the tax investor usually drops to five percent (Martin 2007, 9).

To provide the developer, who is also commonly the managing member in charge of day-to-day operation of the facility, with cash during the period of minimal equity, an upfront development fee and/or ongoing management contract is often part of the agreement. Many times, after the flip has occurred, the developer has the option to buy the tax investor's remaining interest at the current fair-market value (Zaelke 2005, 31).

Risk allocation between the tax equity investor and developer is negotiated when developing the operating agreement for the LLC as well as any separate purchase or equity commitment agreements. If the forecasts made by the developer during these negotiations fail to materialize, the investor will have a claim against the developer, the damages from which are usually capped. The equity investor accepts the risk that the deal will deliver the tax credits. In addition to damages, the equity investor can delay the flip until the target return is reached.

There are several variations to this structure. First, leverage can be added to the initial capital. Upon completion of the project, construction lenders expect to be repaid. However, there is occasionally some level of debt remaining on the project from a "term" lender. Any term financing is then usually serviced over the same period as the PTC, so when the equity flips, the developer owns the facility debt-free. Non-tax equity investors also may have invested during the development phase of the project. In this case, cash is initially paid to this investor to cover the amount of the original investment, while returns are earned over the same period as the tax equity investor.

In addition to, or in lieu of, an upfront payment, the tax equity investor also can make quarterly equity payments on an ongoing basis. The developer can borrow against these payments like a stream of revenue, used to securitize the debt, effectively monetizing the future tax credits. This structure is commonly referred to as "pay-as-you-go." Whereas in acquisition deals the investor makes payments to the developer to buy the project, tax investors in new projects generally make a capital contribution

to the LLC to repay the construction debt. The pay-as-you-go structure is typically a way for the tax investor to spread risk by not providing the entirety of the project's equity capital upfront (Duffy 2005, 18).

The sophistication inherent in these structures often results in significant legal and accounting fees. Thus flips and other monetization structures may not allow for smaller projects to effectively take advantage of the incentive. To overcome this barrier, small developers may elect to combine their projects into a single entity to pool tax credits for a single tax investor. Even so, there are currently only about a dozen large institutional investors supplying tax equity to REPG projects and often they do not want to spend time with small deals (Duffy 2005, 22).

PTC syndication has allowed for investors such as banks and insurance companies to participate in the renewable power sector, in addition to traditional energy and project finance investors. The result has been greater transfer of PTC value to the developer. In addition, the fact that the structure allows for the developer to remain in control makes it attractive to developers.

See the full report at

http://sefi.unep.org/fileadmin/media/sefi/docs/publications/Renewable_Power_Policy_and_the_Cost_of_Capital.pdf.