Hudson Clean Energy Partners, L.P.

Additional Observations About the Impact of Stimulus Action on Energy and Environmental Policy




January 8, 2009

Executive Summary

Hudson Clean Energy Partners is pleased to offer an analysis of the tax equity market's ability to provide the necessary liquidity to achieve the incoming Administration's targets of doubling non-hydro renewable energy generation by 2011 and of securing 10% of the nation's electricity needs from non-hydro renewable energy by 2012

- We forecast that renewable energy generation can grow from 170 TWh in 2008 to 330 TWh in 2011, achieving the incoming Administration's goal to double renewable energy generation in this timeframe
  - We also believe that achieving the new Administration's 10% renewable energy target by 2012 is achievable
- To achieve these goals, $131 billion of new capital investment will be required in renewable energy infrastructure alone by 2011 and $214 billion by 2012
- The tax equity market will have to supply far more capital than it has ever supplied at reasonable cost to ensure that these goals are met
  - The tax equity market supplied approximately $5.5 billion in capital in each of 2007 and 2008. Many tax equity market participants have since left the market
  - Unless the tax laws governing the use of the PTC and ITC are modified to permit **refundability**, the tax equity market will have to double in size by 2009, triple in size by 2010 and increase over five-fold by 2011 to absorb the demand for tax equity lenders

It is unrealistic to assume that the incoming Administration's renewable energy targets can be met without permitting refundability of the PTC and ITC

- Refundability will allow developers of renewable energy to finance projects without relying on the tax equity market
- Further measures will need to be adopted to preserve the value of accelerated depreciation (e.g., leasing, transferability of tax benefits, tax credit step-up in lieu of accelerated depreciation)

Summary of Assumptions

Assumed Renewable Power Installations, Investment and Generation Mix To Reach Targets

Summary of Assumptions

Annual Installations (Cumulative 111 GW by 2012)

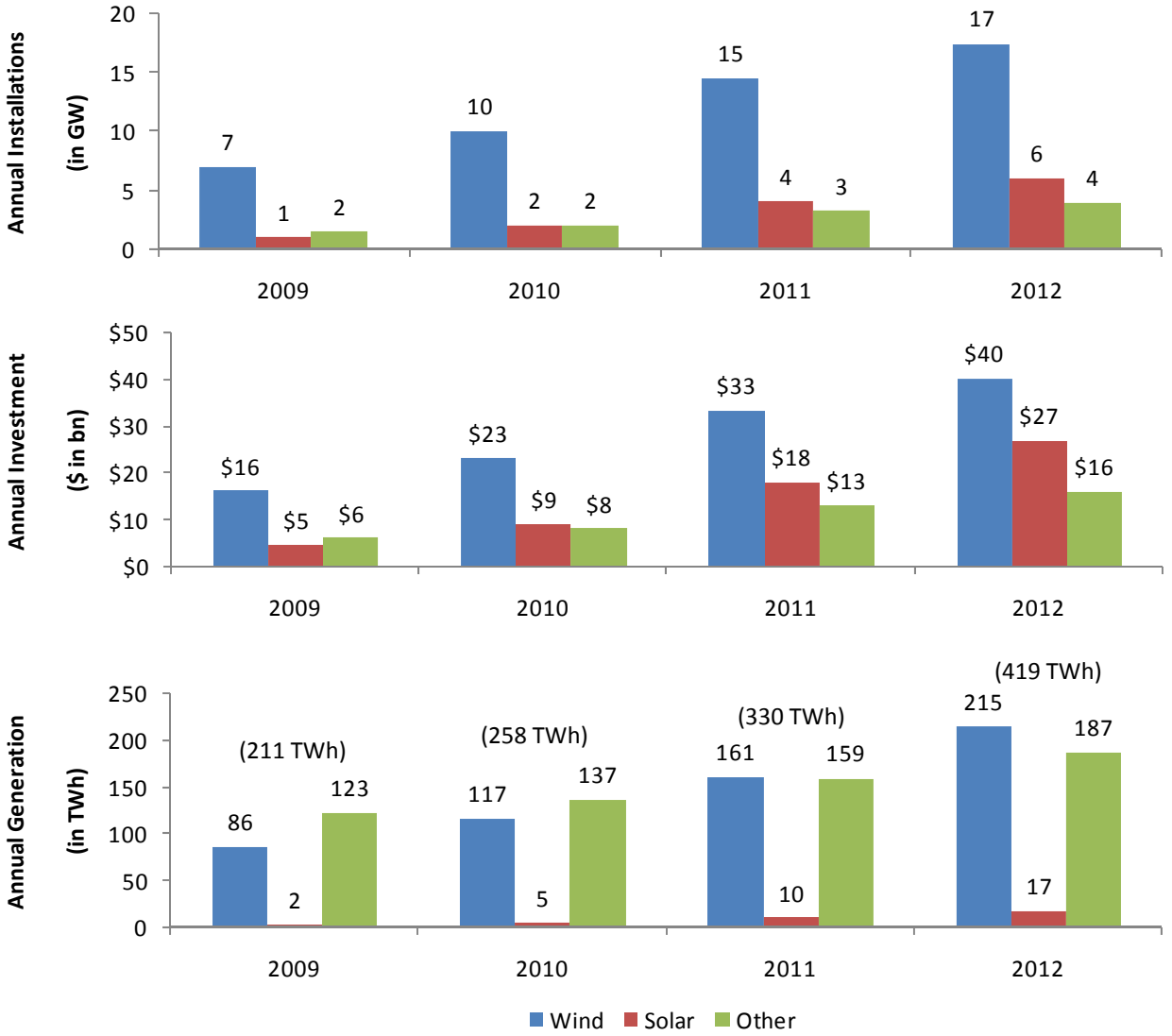
- Wind: 70.0 GW capacity by 2012
  - 2008-2012 CAGR of 35%
- Solar: 13.9 GW capacity by 2012
  - 2008-2012 CAGR of 96%
- Other: 26.7GW capacity by 2012[1]
  - 2008-2012 CAGR of 14%

Annual Investment (Incremental $214 bn by 2012)

- Wind: Investment of $2.30 / Watt
- Solar: Investment of $4.50 / Watt
- Other: Investment of $4.00 / Watt

Annual Generation

- Wind: Net capacity factor of 35%
- Solar: Net capacity factor of 14%[2]
- Other: Net capacity factor of 80%
- 2012E U.S. generation of 4,188 TWh[3]
  - 10% renewables achieved by 2012
- 2011E renewable generation of 330 TWh
  - Twice the 2008 level of 170 TWh



(1) Other includes biomass and geothermal.
(2) Solar generation is peak-coincident and typically displaces retail electricity.
(3) Source: EIA (Annual Energy Outlook), July 2008

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Reaching Renewable Energy Targets

Size of Tax Equity Investment Needed Without Refundability Option

2012 Target: 10% Market Pentration

($ in millions, capacity in MWs)	Wind	Solar	Other	Total
Operating Capacity by 2012[1]	70,000.0	13,948.0	26,694.4	110,642.4
Operating Capacity by 2008	21,017.0	948.0	16,000.0	37,965.0
Additional Development from 2009 - 2012	48,983.0	13,000.0	10,694.4	72,677.4
Average Capital Investment per MW	$2.30	$4.50	$4.00	$2.94
Total Capital Investment	$112,660.9	$58,500.0	$42,777.5	$213,938.4
Percentage of Development Requiring Tax Equity Investor[2]	56.0%	76.0%	50.0%	60.3%
Additional Investment Requiring Tax Equity Investor	$63,090.1	$44,460.0	$21,388.7	$128,938.9
Percentage of Investment from Tax Equity	60.0%	100.0%	75.0%	76.3%
Tax Equity Investment in Renewables Development	**$37,854.1**	**$44,460.0**	**$16,041.6**	**$98,355.6**
Non-Hydro Generation (in TWh)	214.6	17.1	187.1	418.8

2011 Target: Double Current Market Pentration

($ in millions, capacity in MWs)	Wind	Solar	Other	Total
Operating Capacity by 2011[1]	52,517.0	7,948.0	22,750.0	83,215.0
Operating Capacity by 2008	21,017.0	948.0	16,000.0	37,965.0
Additional Development from 2009 - 2012	31,500.0	7,000.0	6,750.0	45,250.0
Average Capital Investment per MW	$2.30	$4.50	$4.00	$2.89
Total Capital Investment	$72,450.0	$31,500.0	$27,000.0	$130,950.0
Percentage of Development Requiring Tax Equity Investor[2]	56.0%	76.0%	50.0%	59.6%
Additional Investment Requiring Tax Equity Investor	$40,572.0	$23,940.0	$13,500.0	$78,012.0
Percentage of Investment from Tax Equity	60.0%	100.0%	75.0%	74.9%
Tax Equity Investment in Renewables Development	**$24,343.2**	**$23,940.0**	**$10,125.0**	**$58,408.2**
Non-Hydro Generation (in TWh)	161.0	9.7	159.4	330.2

(1) Hudson estimates.

(2) Source: New Energy Finance and Hudson estimates.

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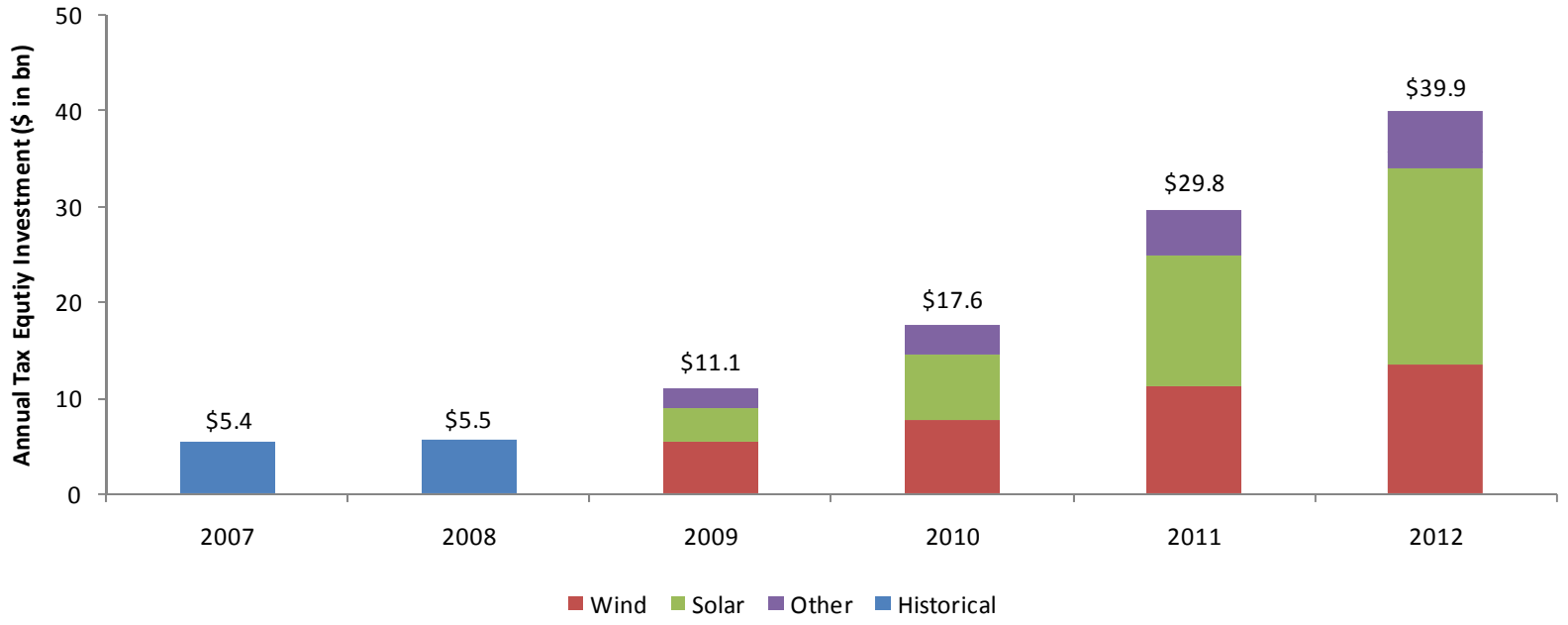
Meeting Tax Equity Demand

In order to achieve the incoming Administration's renewable energy generation targets, the tax equity market will need to handle approximately $58.4 billion in new transaction volume by 2011 and $98.4 billion in new transaction volume by 2012

- The tax equity market will need to grow from approximately $5.5 billion of transaction volume in 2008 to $17.6 billion of transaction volume in 2010 and nearly $40 billion in transaction volume in 2012 to satisfy the expected demand for tax equity



Assumptions:

- Wind capacity installations of 7 GW, 10 GW, 15 GW and 17 GW in 2009, 2010, 2011 and 2012, respectively
- Solar capacity installations of 1 GW, 2 GW, 4 GW and 6 GW in 2009, 2010, 2011 and 2012, respectively
- Other capacity installations of 2 GW, 2 GW, 3 GW and 4 GW in 2009, 2010, 2011 and 2012, respectively

Source: Historical: New Energy Finance.

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Tax Equity Investor Base

The Tax Equity Investor Base Cannot be Expected to Support this Transaction Volume

- The tax equity investor base has dwindled from approximately 20 investors in 2007, to approximately 5 investors in 2009
- Some tax equity investors may return to the market if tax credit carryback limitations are eased
- However, it is unrealistic to assume that the remaining investor base can support the tax equity transaction volumes necessary to achieve the twin targets of doubling renewable energy generation by 2011 and achieving 10% market penetration by 2012 target

Tax Equity Investors in 2007	Tax Equity Investors in 2008	Expected Tax Equity Investors in 2009	… and 2010
• JPMorgan	• JPMorgan	• JPMorgan	• JPMorgan
• Union Bank of California	• Union Bank of California	• Union Bank of California	• Union Bank of California
• Wells Fargo	• Wells Fargo	• Wells Fargo	• Wells Fargo
• New York Life	• New York Life	• New York Life	• New York Life
• Bank of America	• Bank of America	• Bank of America	• Bank of America
• GE EFS	• GE EFS	• GE EFS	• GE EFS
• Morgan Stanley	• U.S. Bancorp		
• HSH Nordbank	• Sempra Energy		
• ABNAmro			
• Key			
• MetLife			
• John Hancock			
• Prudential			
• John Deere			
• NorthWestern Mutual			
• Northern Trust			
• CitiBank			
• Fortis			
• Lehman Brothers*			
• Wachovia*			
• AIG*			
• Merrill Lynch*			
		Potential Returnees:	Potential Returnees:
		• HSH Nordbank	• HSH Nordbank
		• ABNAmro	• ABNAmro
		• Key	• Key
		• MetLife	• MetLife
		• John Hancock	• John Hancock
		• Prudential	• Prudential
		• NorthWestern Mutual	• NorthWestern Mutual
		• Northern Trust	• Northern Trust
		• U.S. Bancorp	• U.S. Bancorp
		• Sempra Energy	• Sempra Energy
		• Other financial institutions and corporates	• Other financial institutions and corporates
TOTAL TAX EQUITY MARKET: $5.4 BILLION	**$5.5 BILLION***	**$11.1 BILLION**	**$17.6 BILLION**

Departed tax equity base during 2008

***Permanent Departure**

Participation is policy / market dependent

Sources: New Energy Finance, GreenTechMedia, JPMorgan and Hudson estimates

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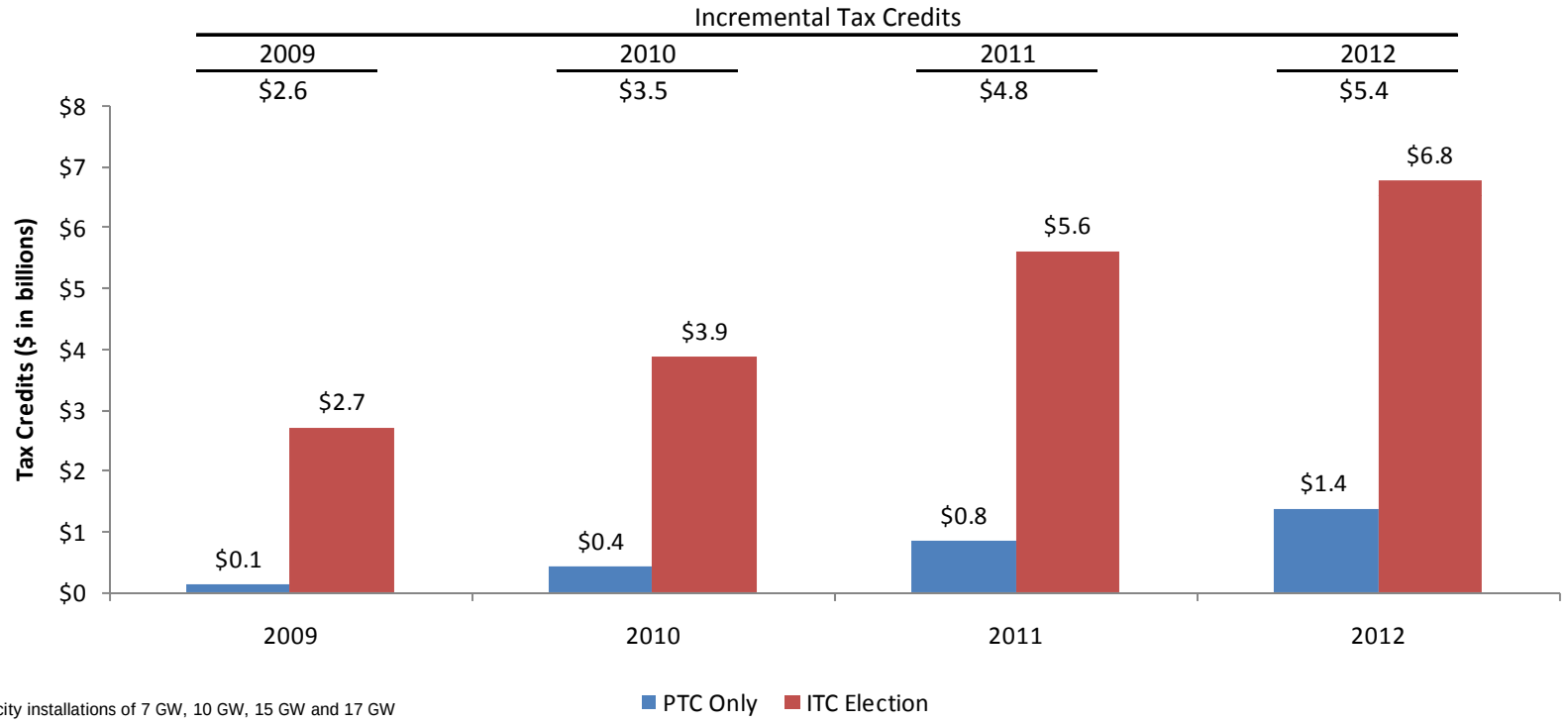
Impact of Allowing Wind Industry to Choose Between Investment Tax Credit and Production Tax Credit

- A more liberal tax credit carryback provision could encourage some investors to return to providing tax equity to the wind industry if coupled with an election to claim the 30% ITC (available to the solar industry) in lieu of the PTC
- The incremental cost to the Federal Government of providing an ITC to the wind industry in lieu of the PTC is approximately $16.2 billion
- PTC refundability should be cheaper to implement – at least over the next four years



Assumptions:

- Wind capacity installations of 7 GW, 10 GW, 15 GW and 17 GW in 2009, 2010, 2011 and 2012, respectively
- Capacity installed evenly throughout a single year
- 56% of development requires tax equity investor
- Average capital investment of $2.30 / W
- 35% net capacity factor
- PTC averaging 2¢/ kWh; ITC equal to 30% of capital investment
- All tax equity investors elect to claim ITC

CUMULATIVE IMPACT OVER 4 YEARS = $16.2 BILLION

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