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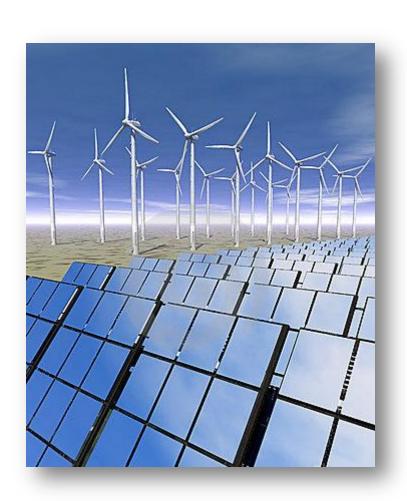
## Clean Energy Policy: Review of Developments in 2013 and Outlook for 2014

Webinar – December 17, 2013





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#### **The Pew Clean Energy Program**

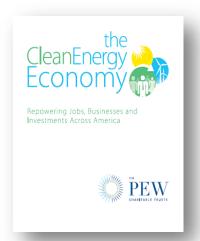
- Our goal is to accelerate the clean energy economy for its national security, economic and environmental benefits.
- We focus on four sectors:
  - Industry
  - Utilities
  - Transportation
  - Research and Development





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#### **Pew Research on the Clean Energy Economy**





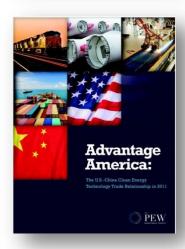














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#### **The Clean Energy Business Network**

- Launched in 2009 and now includes more than 3,700 business leaders representing all aspects of the clean energy economy.
- Serves as a resource to inform clean energy business leaders about Federal energy policy and share their perspectives with policymakers.







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**Budget Issues in 2013** 





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#### **Proposed Energy Funding Levels this Fiscal Year**

Funding for clean energy programs in FY 2014 (Oct. 1, 2013 – Sep. 30, 2014) significantly higher in Senate proposal than in House

Energy Programs	FY 2013	President's Request FY 2014	Senate FY 2014	House FY 2014
Department of Energy	\$27.0 B	\$28.9 B (+7.0%)	\$28.2 B (+4.3%)	\$24.9 B (-8.0%)
Energy Efficiency & Renewable Energy	\$1.8 B	\$2.8 B (+54.5%)	\$2.3 B (+27.0%)	\$0.9 B (-49.8%)
ARPA-E	\$265 M	\$379 M (+43.3%)	\$379 M (+43.3%)	\$70 M (-73.5%)
Office of Science	\$4.9 B	\$5.2 B (+5.7%)	\$5.2 B (+5.7%)	\$4.7 B (-4.6%)
Loan Guarantees (Sec. 1705- Innovative Tech)	\$0	\$26 M	\$26 M	\$0
Fossil Energy R&D	\$534 M	\$421 M (-21.2%)	\$421 M (-21.2%)	\$450 M (-15.7%)

Source: Department of Energy & Congressional Research Service



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#### Impact of Recent Budget Deal on Energy Funding

- Murray-Ryan budget deal establishes top-line caps on spending
  - Eliminates \$63 B of the sequester cuts over 2 years and replaces them with more targeted cuts to certain programs
  - Congress must now pass appropriations bills setting levels for particular programs within this overall cap
- Oil & gas programs are the only energy programs facing targeted cuts
  - \$750M over 10 years by limiting interest payments from Interior Department on overpayments of royalties on oil and gas leases
  - \$40M by eliminating an DOE oil and gas R&D program
- Prospects for clean energy funding may improve
  - Overall cap for non-defense, non-discretionary programs is +5% above FY 2013
  - Should make it possible to fund DOE at Senate level (+4.3% above FY 2013)



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**Key Federal Legislation in 2013** 



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#### **Energy Bills that Became Law in 2013**

- 2 small hydropower system bills, 1 helium program reauthorization
  - Hydropower Regulatory Efficiency Act of 2013 (P.L. 113-23; 8/9/13)
  - Bureau of Reclamation Small Conduit Hydropower Development and Rural Jobs Act (P.L. 113-24; 8/9/13)
  - Helium Stewardship Act of 2013 (P.L. 113-40; 10/2/13)





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The Energy Savings and Industrial Competitiveness Act (S. 1392: Shaheen-Portman/ H.R. 1616: McKinley-Welch)

 Bipartisan, bicameral legislation to authorize new / improved programs to promote energy efficiency



For a detailed summary and status updates, visit <a href="http://www.shaheen.senate.gov/priorities/issues/energy/">http://www.shaheen.senate.gov/priorities/issues/energy/</a>





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#### Renewable Electricity Standard / Energy Efficiency Standard Bills

 Bills requiring utilities to generate 25% of their power from renewable energy by 2025 and/or adopt energy conservation measures

Bill	Renewable Electricity Standard	Eligible Technologies for RES	Energy Efficiency Standard
Renewable Electricity Standard Act of 2013 (S.1595:T.Udall- M.Udall/ H.R.3654:Polis-Kuster-Luján)	25% by 2025	solar, wind, ocean, tidal, geothermal, qualified biomass, landfill gas, incremental hydropower, hydrokinetic	
American Renewable Energy and Efficiency Act (S. 1627: Markey)	25% by 2025	wind, solar, geothermal, qualified renewable biomass, biogas and biofuels derived from qualified renewable biogas, qualified hydropower, marine and hydrokinetic renewable energy, landfill gas	15% by 2025 (electric) 10% by 2025 (gas)





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**Executive Actions in 2013** 





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#### President's Climate Action Plan: Highlights of Domestic Energy Policies

- Federal agencies: increase energy efficiency, obtain 20% of their electricity from renewable sources by 2020 (prior goal was 7.5%)
- Commercial, industrial, and residential (multi-family) sectors: federal support to help buildings become 20% more energy efficient by 2020
- Utilities: carbon emissions standards for new and existing power plants
- Transportation: fuel economy standards for heavy-duty vehicles post-2018
- Technology Research, Development, and Deployment:
  - \$8 billion in loan guarantees for advanced fossil energy and energy efficiency projects
  - more renewables on public lands (enough for 6 million homes by 2020),
     and on federally-assisted housing (100 MW by 2020)



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#### **Contact Information**

To get involved in our Clean Energy Business Network or for questions about this presentation, please contact:

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# OVERVIEW

Tax Expenditures

Definition, Size and Scope

Key Energy Tax Expenditures

Fuels, Electricity, Vehicles, Efficiency, Oil & Gas, MLPs

Reform Options

Pro Rata, Cap Value, Repeal/Expire, Tech-neutral

Status of Tax Reform

Conflict over revenue; House & Senate approaches





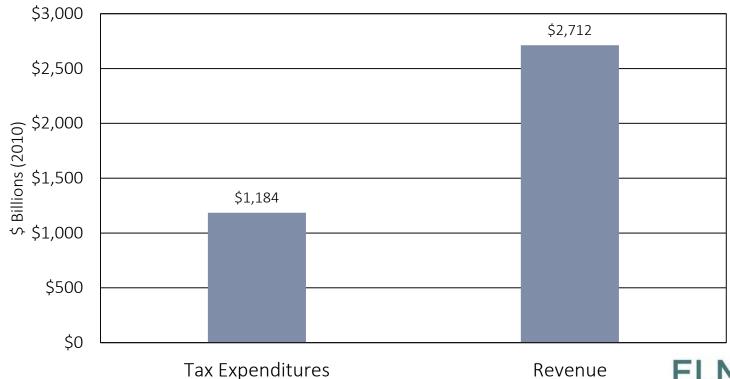
"Revenue losses attributable to provisions of the Federal tax laws which allow a special exclusion, exemption, or deduction from gross income or which provide a special credit, a preferential rate of tax, or a deferral of tax liability."

--Congressional Budget and Impoundment Control Act of 1974 ("Budget Act")





#### Tax Expenditures Exceeded 40% of Federal Revenue in FY 2013



# TAX EXPENDITURES: SCOPE (LARGEST INDIVIDUAL & CORPORATE TAX EXPENDITURES, 2010-2014, IN BILLIONS)

INDIVIDUAL TAX EXPENDITURES		CORPORATE TAX EXPENDITURES	
Exclusion of employer contributions for health care, health insurance premiums, and long-term care insurance premiums	\$659.4	Deferral of active income of controlled foreign corporations	\$70.6
Deduction for mortgage interest on owner-occupied residences	\$484.1	Exclusion of interest on public purpose State and local government debts	\$45.3
Reduced rates of tax on dividends and long-term capital gains	\$402.9	Deduction for income attributable to domestic production activities	\$43.2
Net exclusion of pension contributions and earnings: Defined benefit plans	\$303.2	Inventory property sales source rule exception	\$38.0
Earned income credit	\$268.8	Depreciation of equipment in excess of alternative depreciation system	\$37.1
Deduction of non-business State and local government income, sales and personal property taxes	\$237.3	Inclusion of income arising from business indebtedness discharged by the reacquisition of a debt instrument	\$28.8
Net exclusion of pension contributions and earnings: Defined contribution plans	\$212.2	Tax credit for low-income housing	\$27.0
Exclusions of capital gains at death	\$194.0	Expensing of research and experimental expenditures	\$25.6
Deductions for charitable contributions, other than for education and health	\$182.4	Inventory methods and valuation: Last in first out	\$20.0
Exclusion of untaxed social security and railroad retirement benefits	\$173.0	Reduced rates for first \$10,000,000 of corporate taxable income	\$15.9

# MAJOR ENERGY TAX EXPENDITURES

(2013-2017, IN BILLIONS)

Sec. 45 Production Tax Credit (wind, biomass, etc.)	\$9.7
Master Limited Partnerships	\$6.7
Expensing of Intangible drilling costs (oil & gas)	\$6.2
Excess of percentage over cost depletion and amortization of G&G expenditures (oil and gas)	\$5.7
Credit for efficiency improvements to existing homes	\$5.5
Depreciation periods for energy related items	\$4.1
Credits for plug-in electric vehicles	\$3.2
Sec. 48 Business Energy Credit (includes CHP)	\$2.9



# MASTER LIMITED PARTNERSHIPS (MLPs)

- MLPs are entities that trade on public exchanges but are taxed at the individual level, not as a corporation. MLPs were established in the 1987 tax reform law, and generally apply only to oil and gas production and transportation (pipelines).
- In recent years some have proposed allowing clean energy sources to benefit from MLPs.
  - S. 795, sponsored by Sens. Coons, Moran and Stabenow, would allow clean energy projects to utilize MLPs, allowing access to the liquidity of equity markets, preventing double taxation, and leaving more cash available for distribution back to investors.



# TAX EXPENDITURES: OPTIONS FOR REFORM

#### Pro-Rata Cut

E.g., reduce value of all credits, deductions, etc. by 10%

## Cap Value of Itemized Deductions

See Obama proposal to cap charitable contribution deduction at 28%

## •Repeal or Let Expire

E.g., VEETC (ethanol credit) expired in 2011

## Reform to Tech-Neutral System (Energy)

Develop impartial metric for providing incentives (rather than 45 cents/gallon for x, \$1.00/gallon for y, etc.).





- Disagreement over top-line issue of whether/how much new revenue should be raised.
  - -Democrats generally view tax reform as a means of raising revenue and curbing the deficit. Republicans generally oppose raising new tax revenue, especially after Fiscal Cliff legislation, which raised taxes on high-income taxpayers.
- Murray-Ryan budget agreement does not address taxes.
- Senate Finance Committee discussion drafts issued by Baucus alone, not with Ranking Member Hatch.





#### **Chairman Camp Goals:**

- Cut corporate tax rate (now at 35%) to 25%;
- Consolidate the current six individual rates (now at 10%, 15%, 25%, 28%, 33%, 35%, and 39.6%) into two brackets of 10% and 25%;
- Repeal the corporate Alternative Minimum Tax (AMT);
- Move from a "worldwide" to a "territorial" tax system.

Joint Committee on Taxation estimates Camp proposal would cost \$5 trillion over 10 years.

#### **Chairman Baucus Goals:**

(per November discussion drafts)

- Cut the corporate rate to "below 30%", while imposing a minimum tax on income earned overseas by foreign subsidiaries of U.S. parent companies.
- Improve tax administration, by simplifying tax filing and combating fraud; and
- Dramatically reform means of depreciating property, including clean energy property.

Further discussion drafts, including on energy and infrastructure tax expenditures, expected soon.





- Deadline of January 17 for comment on Baucus international, tax administration and cost recovery drafts.
- Baucus energy & infrastructure discussion draft expected soon. We expect technology-neutral credit for renewable electricity, potentially with a carbon metric (i.e., the cleaner the energy source, the greater the credit). Outlook for CHP credit unclear.
- Discussion drafts and 2014 debate likely to lay groundwork for future action. Tax extenders debate likely to start in early 2014.





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# US CLEAN ENERGY MARKET UPDATE

**PEW CEBN WEBINAR** 

**ETHAN ZINDLER** 

**17 DECEMBER 2013** 

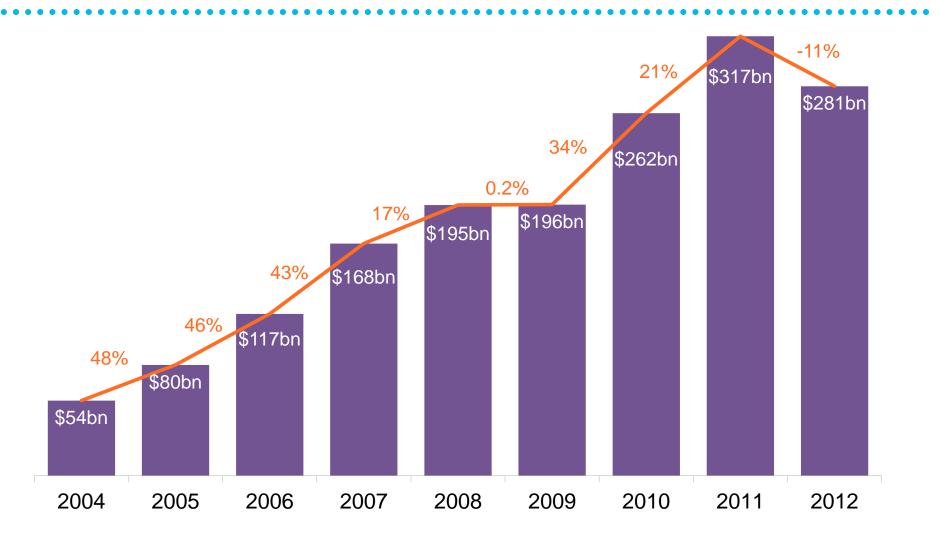


## **BLOOMBERG NEW ENERGY FINANCE:**200 STAFF IN 13 OFFICES WORLDWIDE



**Objective:** Be the definitive source of insight, data and news on the transformation of the energy sector.

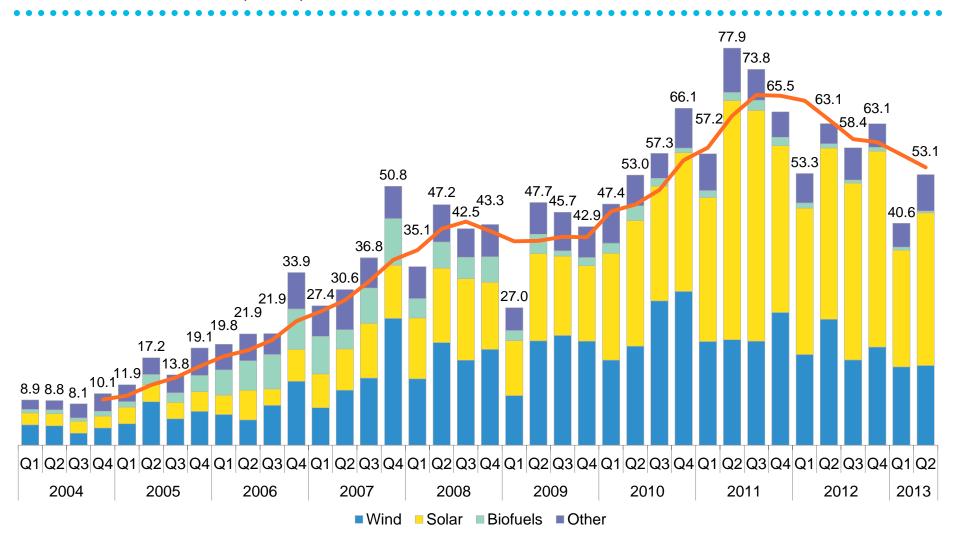
#### **NEW INVESTMENT IN CLEAN ENERGY**, 2004–2012 (\$BN)



Note: Total values include estimates for undisclosed deals. Includes corporate and government R&D. Includes digital energy & energy storage asset investment. NEW

#### NEW INVESTMENT IN CLEAN ENERGY BY SECTOR

Q1 2004-Q2 2013 (\$BN)

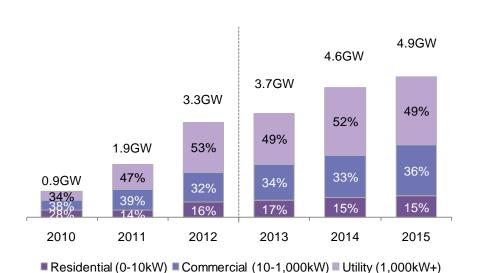


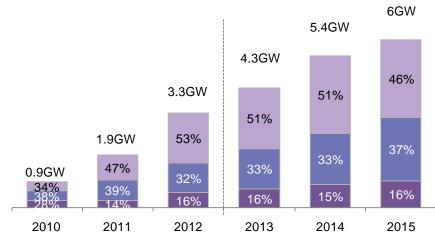
Note: Total values include estimates for undisclosed deals. Excludes corporate R&D, government R&D, digital energy asset investment and energy storage asset investment (only available annually)

### **US PV DEMAND FORECAST, 2010-15 (GW)**

#### **CONSERVATIVE**

#### **OPTIMISTIC**

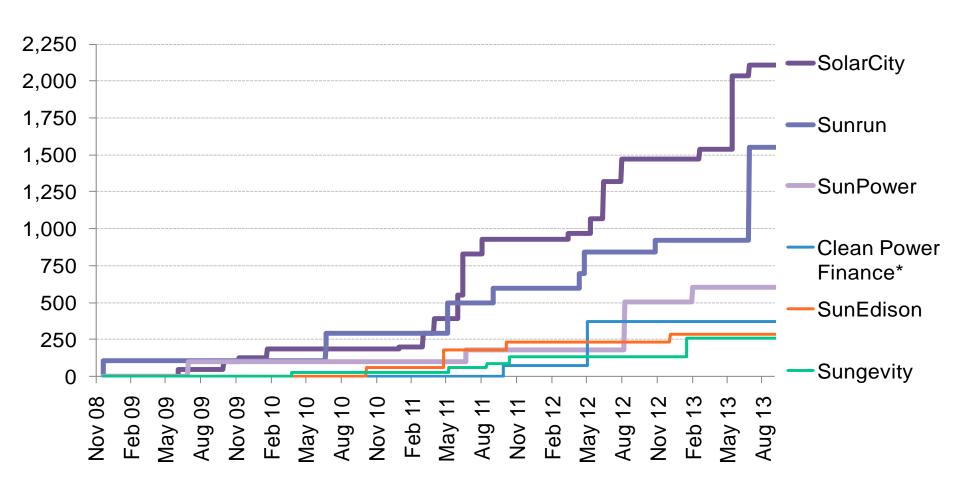




Residential (0-10kW) Commercial (10-1,000kW) Utility (1,000kW+)

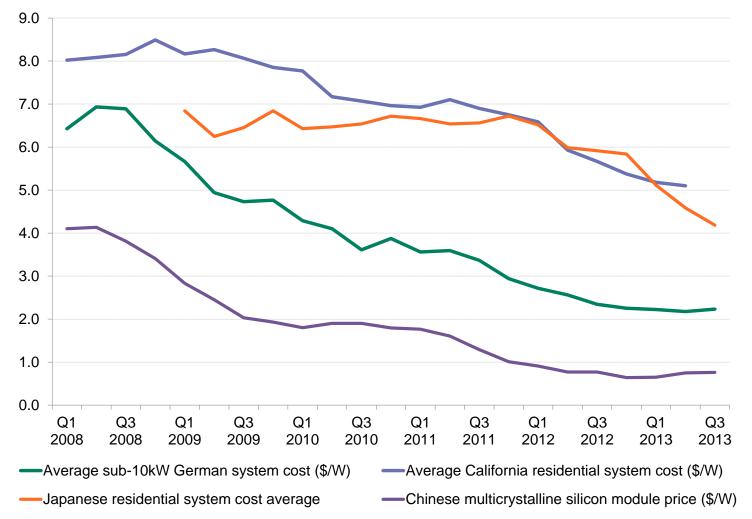
Source: Bloomberg New Energy Finance, Interstate Renewable Energy Council.

## CUMULATIVE FUNDS CLOSED BY SELECTED THIRD-PARTY FINANCIERS, 2008-SEPT 2013 (\$M)



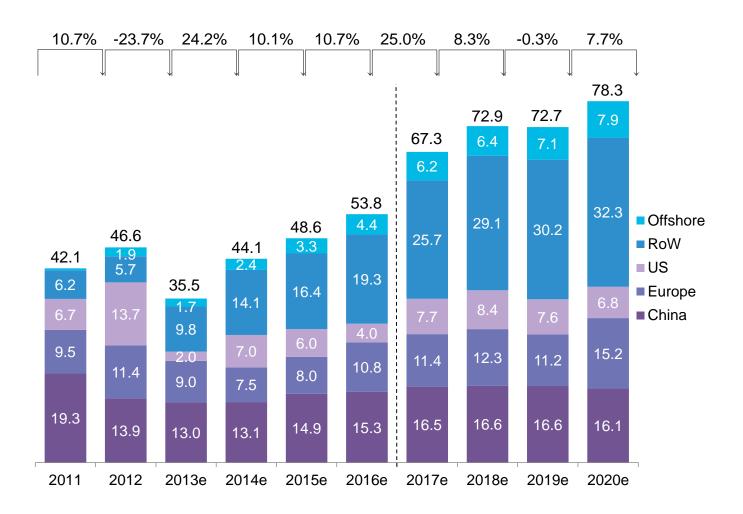
Note: This represents fund size; actual capital invested is lower and non-public. Data is from publicly-available documents and submissions from investors; this figure may not include all non-public deals. Does not include all third-party financiers. Each fund contains an unknown combination of equity, tax equity or debt (or an absence of tax equity or debt). \*The \$300m Clean Power Finance fund raised on 3 May 2012 does not contain tax equity.

### PV SYSTEM PRICES AROUND THE WORLD (\$/W (DC))

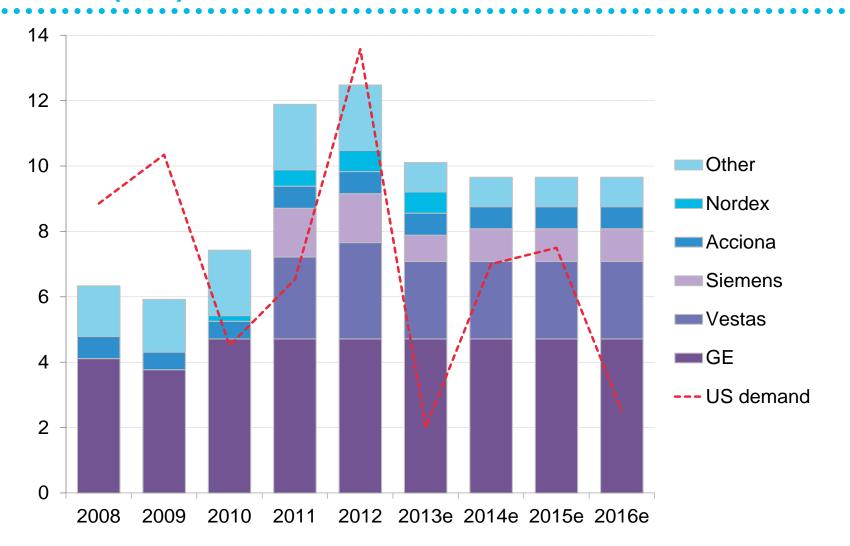


Source: Bloomberg New Energy Finance, California Solar Initiative, BSW-Solar, JPEC. Data

## WIND INSTALLATIONS AND ANNUAL GROWTH FORECAST BY REGION, 2011-20E (GW, %)

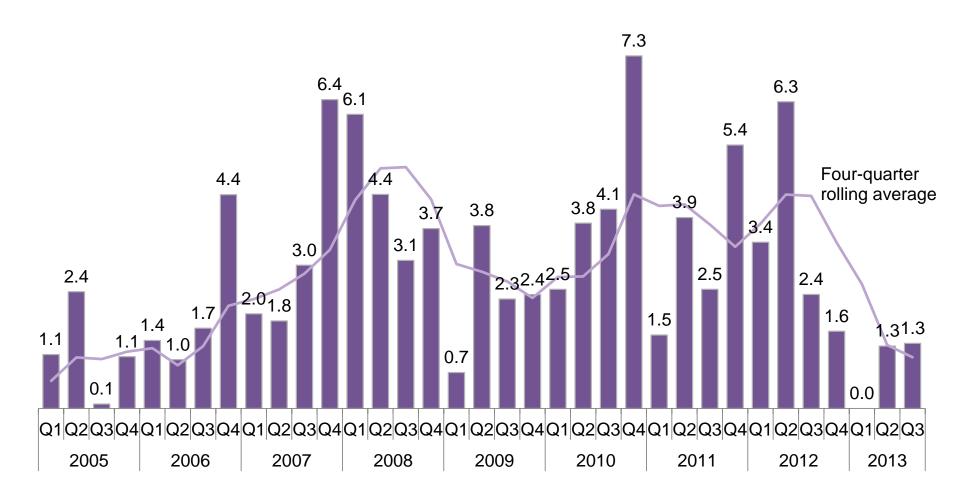


# ANNUAL US TURBINE PRODUCTION CAPACITY BY OEM, 2008-2016E (GW)



Note: 'Other includes Gamesa, Alstrom, Clipper, and Mitsubishi

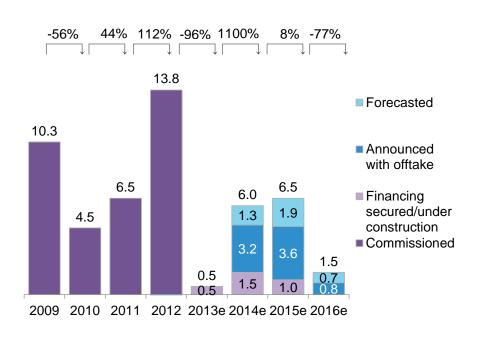
## QUARTERLY WIND ASSET FINANCE: US Q1 2005-Q3 2013 (\$BN)

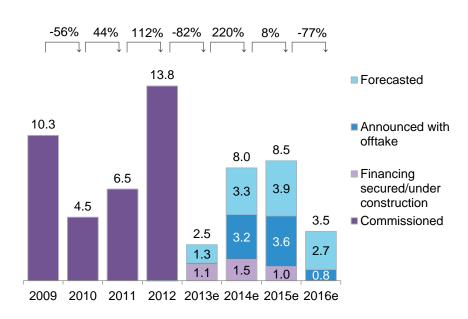


## CONSERVATIVE AND OPTIMISTIC US WIND FORECAST BY STATUS ASSUMING NO PTC EXTENSION, 2009-16E (GW)

#### **CONSERVATIVE CASE**

#### **OPTIMISTIC**





Source: Bloomberg New Energy Finance Note: "Financing secured/under construction" represent projects that have either started construction, announced third-party financing, or have secured an offtake agreement for the project and are under development by IPPs large enough to build on balance sheet (Tier 1 IPP). By offtake, we mean either projects with long-term power purchase agreements (PPAs), or disclosed financial hedges.

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## **THANKS!**

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**Carbon Markets** 

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