

# Green Stimulus: One Year Later

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# About Bloomberg New Energy Finance



130 staff in 10 offices worldwide. 1 goal: *Serve clients with the best intelligence on finance, technology, and policy developments in clean energy.*

# Three years of clean energy finance history, one PPT slide

## From (2007-1H2008)

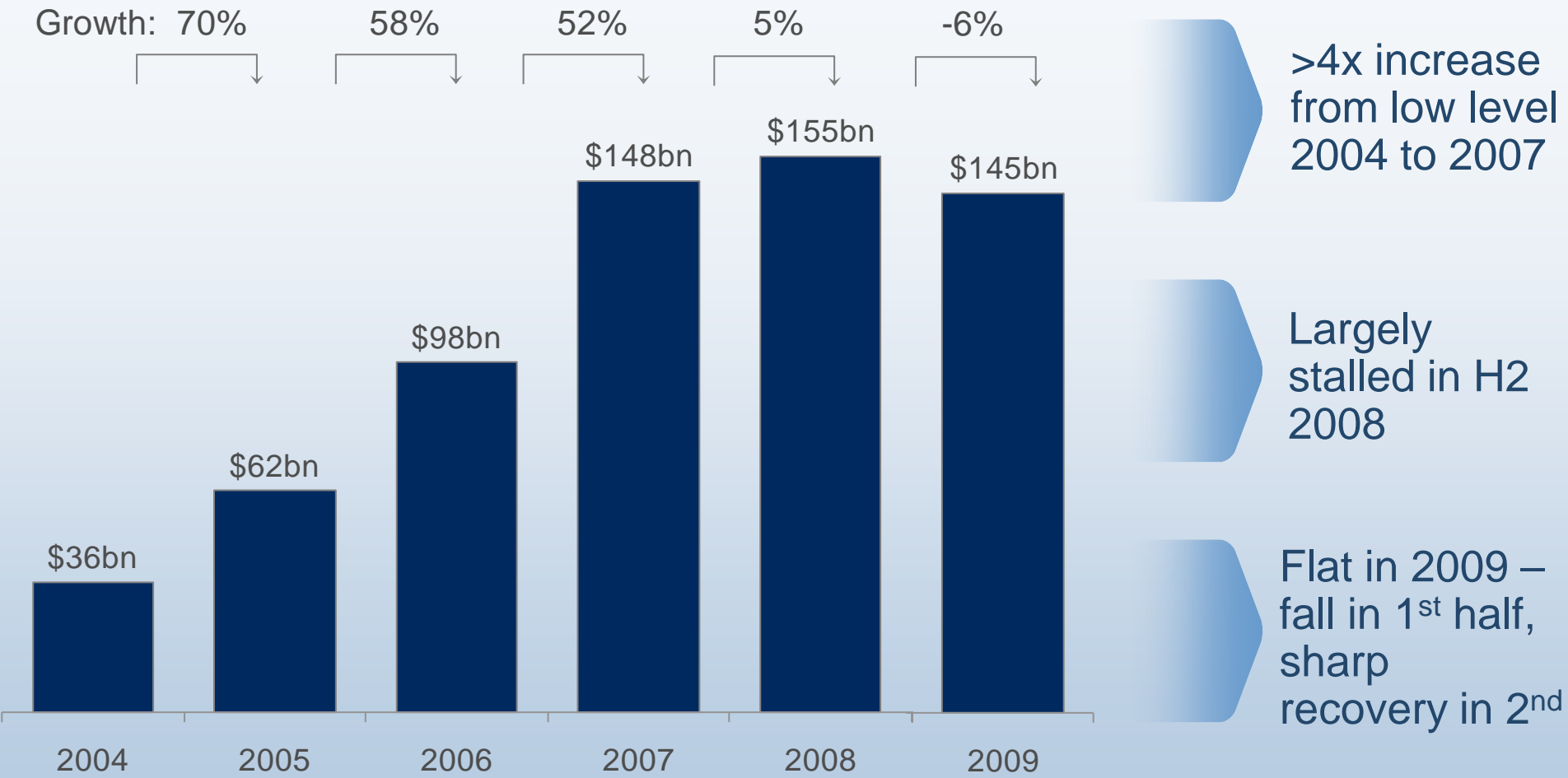
- ☞ Plentiful capital
- ☞ Low equipment supply, high prices
- ☞ Manufacturers with leverage and pricing power
- ☞ Sporadic government support via subsidies

## To (1H2009)

- ☞ Capital constrained
- ☞ High equipment supply, falling prices
- ☞ Buyers (consumers, developers) with leverage and bargaining power
- ☞ More support via subsidies and direct stimulus investment

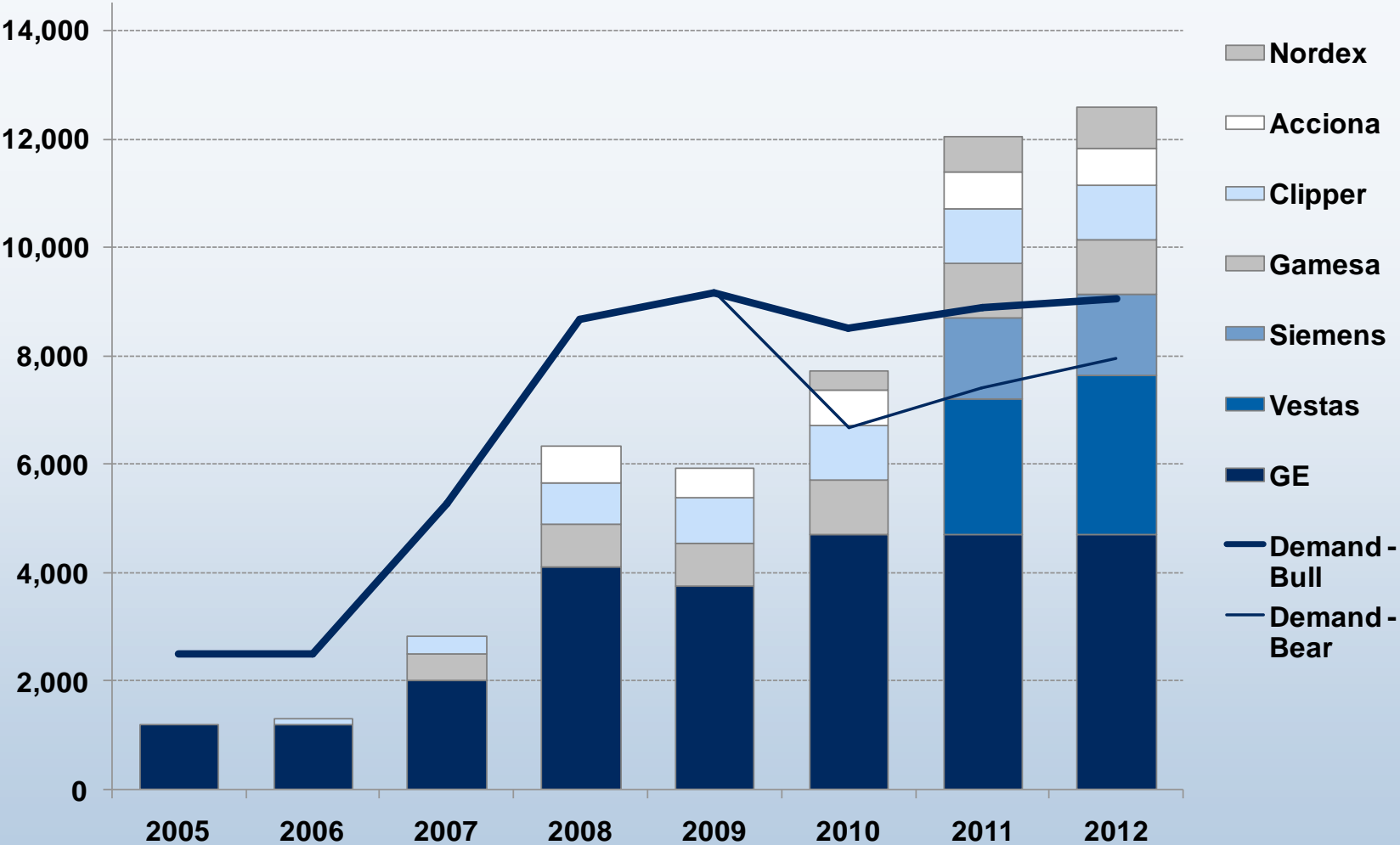
Now: Ongoing recovery and readjustment to new, harsher conditions

# Global new investment in clean energy 2004 – 2009 (\$bn)



Note: Totals include global new financial sector investment - adjusted for reinvested equity, as well as estimates for corporate and government R&D, and residential scale projects. Total values include estimates for undisclosed deals.

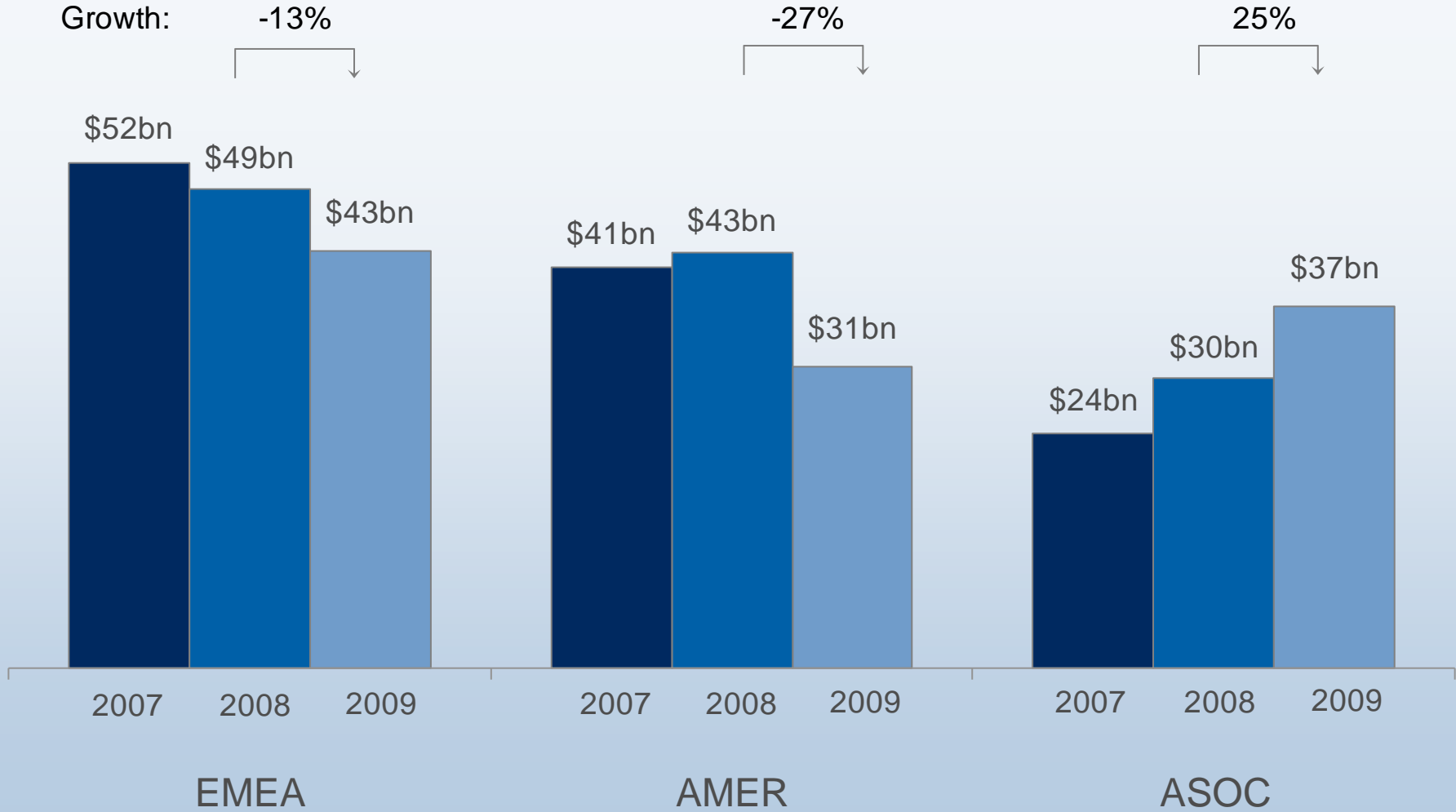
# Equipment over-supply: US Wind Supply/Demand Outlook, MW



Note: Based on announced or estimated manufacturing capacities discounted/delayed according to announced production cuts. Capacity refers to nacelle assembly on US soil.

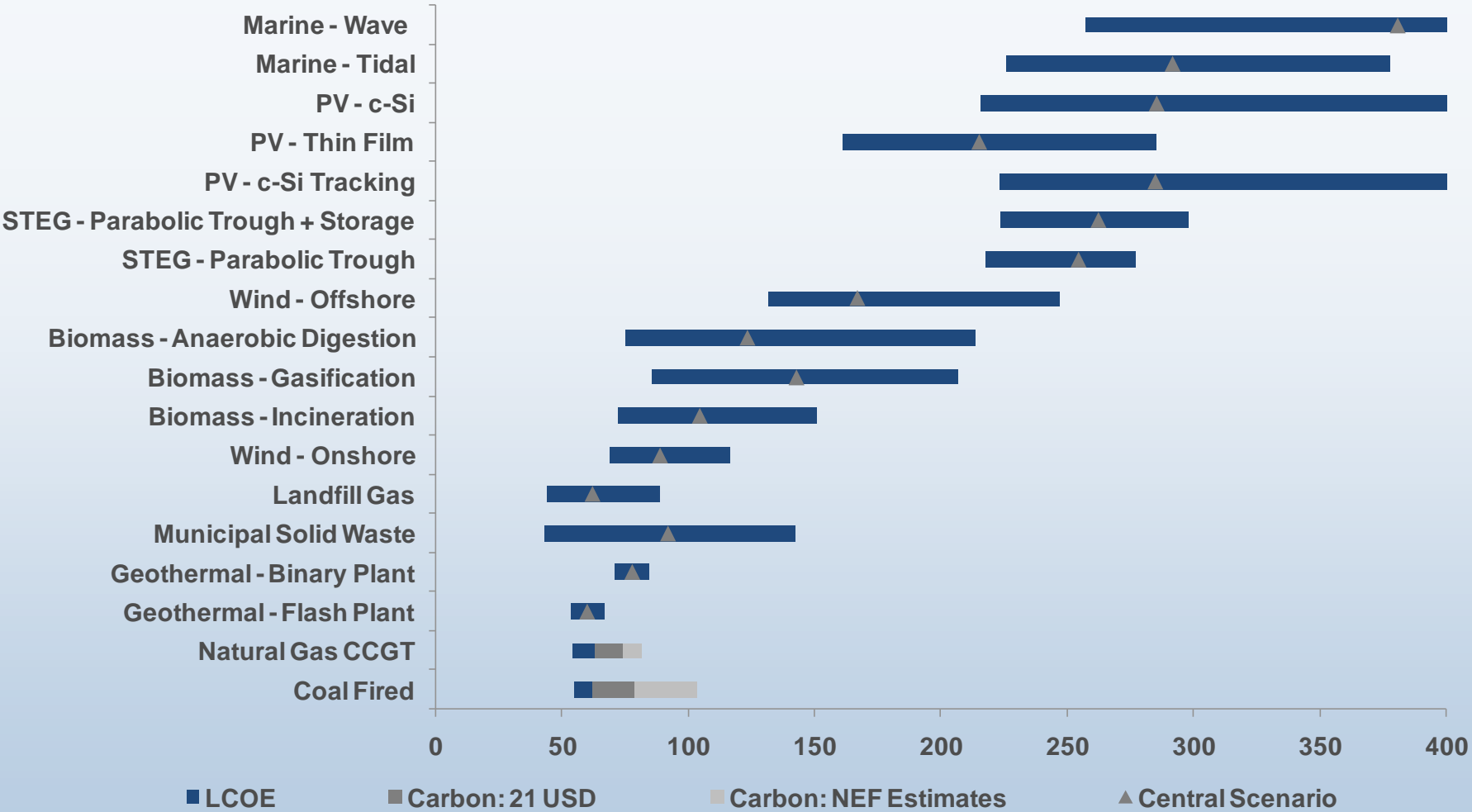
Source: Bloomberg New Energy Finance

# Capital under-supply: New financial investment in clean energy by region, 2007-2009 (\$bn)



Note: Financial sector investment only (i.e. excludes corporate and government R&D, and residential scale projects). Not adjusted for re-invested equity. Total values include estimates for undisclosed deals.

# Renewables generally more costly than fossil: Q3 2009 Levelised Cost of Energy, \$/MWh



Notes: See New Energy Finance LCOE quarterly outlook for methodology.

Source: New Energy Finance

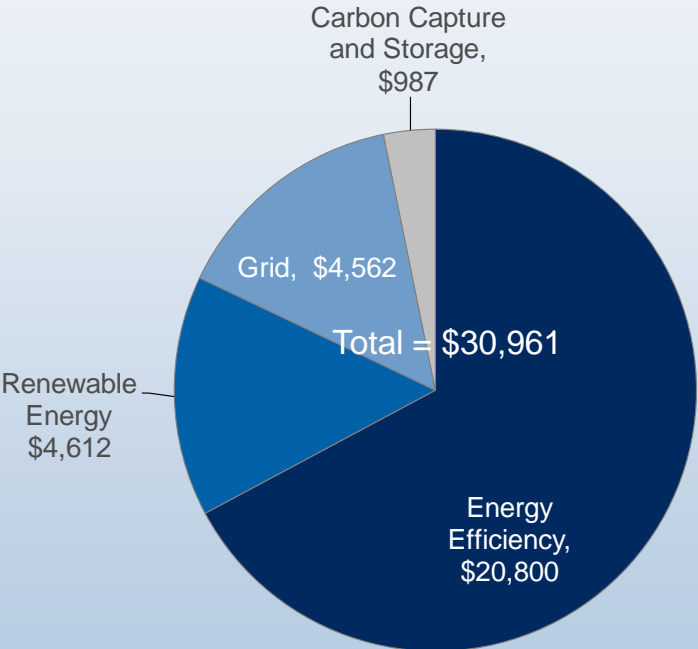
# American Recovery and Reinvestment Act

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- Most significant federal clean energy legislation in US history
- \$66bn DOE, DOD, GSA, Treasury, etc. funds
- Critical to keeping US clean energy afloat in 2009
- Many components contingent on private interaction:
  - Cost-share grants
  - Loan guarantees
  - Tax credits
- Success contingent on private fund raising conditions
  - Venture capital for tech firms / pilot projects
  - Public market funds for manufacturing firms
  - Debt capital for demonstration-scale and commercial projects
- Successes to date, but plenty left to prove

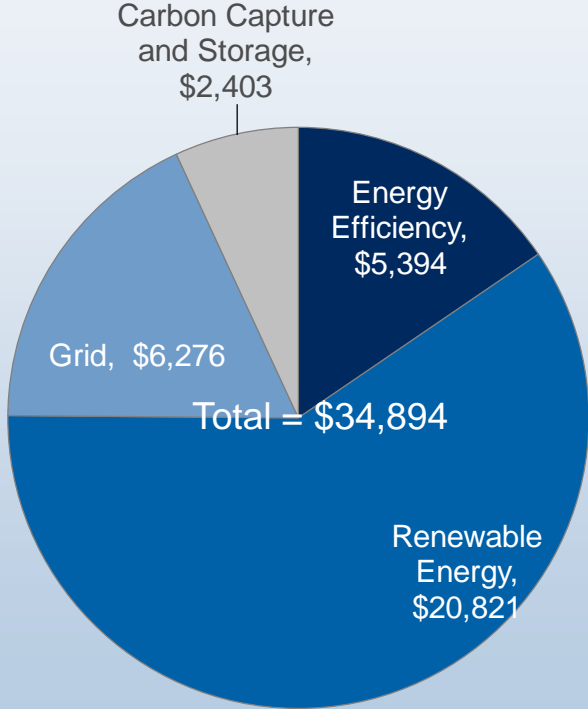
# American Recovery and Reinvestment Act funds already and yet to be allocated

ARRA funds allocated to date



Source: DOE, Bloomberg New Energy Finance Note: Figures do not include the \$1.2bn disbursed via the DOE/Treasury grants programme because those funds for 2009 come from under 2008 legislation, not ARRA. Actual dollars deployed in the marketplace are estimated at one-third this total since much of the funds has been pushed to the states and localities that must now spend the funds.

ARRA funds yet to be allocated



Source: ARRA text, DOE, Bloomberg New Energy Finance analysis Note: 2010 disbursements from the DOE/Treasury grants programme are included here because they draw off the PTC extension for 2010 and beyond, contained in the ARRA. Pie charts not drawn to scale.

# ARRA public-private success stories

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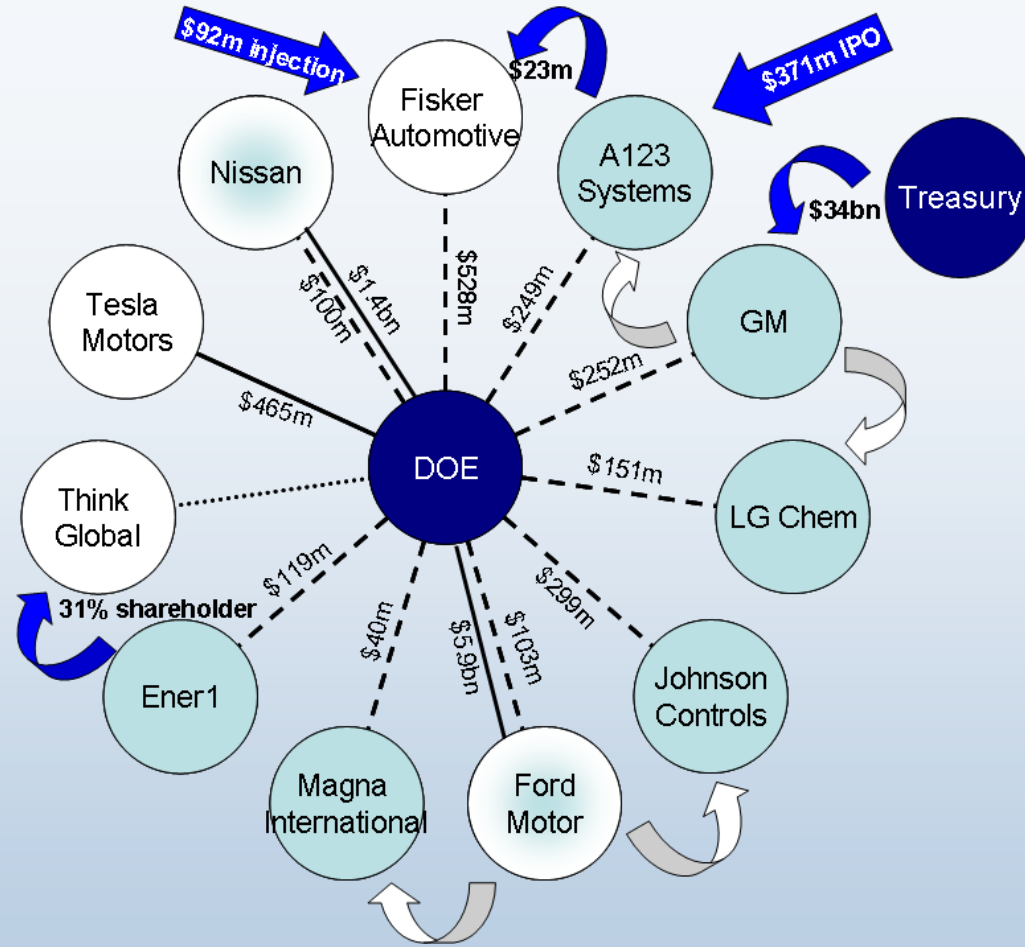
## Solyndra

- 10/07/08: Solyndra exits stealth with USD 600m in raised funds, cylindrical modules
- 3/20/09: Solyndra offered first DOE loan guarantee
- 9/4/09: Solyndra finalises USD 535m loan guarantee, raises USD 198m
- 12/29/09: Solyndra shoots for USD 300m IPO

## A123Systems

- 10/22/08: GE chips in USD 30m to A123Systems USD 102m Round E
- 4/16/09: Michigan lures four battery plants with USD 544m
- 8/06/08: US DOE awards USD 2.4bn in grants for batteries, EV components
- 9/25/09: A123 IPO raises USD 371m, stock jumps 50%

# Flow of funding in EV sector



— Completed deal    - - - Pending deal    ..... Awaiting offer  
 ● ARRAs funding    ○ Pre-ARRA funding    ● Both ARRAs and pre-ARRAs funding  
 White arrows = Supply/development deals    Blue arrows = Equity injections

Source: DOE, Bloomberg New Energy Finance

## Conclusion: market over-supply handcuffs ARRA

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- Renewables remain, for the most part, non-competitive with fossil fuels on an unsubsidized basis
- ARRA: targeted entirely on the supply of clean energy goods, services, and projects.
- But in an over-supplied marketplace, supply-side policies can only go so far
- What could up ARRA's impact:
  - Improved fund raising conditions
    - Positive signs to date among VCs, Wall Street, banks
  - New policies focused on priming clean energy *demand*
    - Renewable Electricity Standard still possible in 2010, but time is running out...

# THANKS!

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