

09 January 2015


GLOBAL TRENDS IN CLEAN ENERGY INVESTMENT

Rebound in clean energy investment
in 2014 beats expectations

Luke Mills

Bloomberg
NEW ENERGY FINANCE

1. Annual clean energy investment overview
2. Quarterly trends in clean energy: new investment
3. Quarterly trends in clean energy: funds in circulation
4. Clean energy indexes

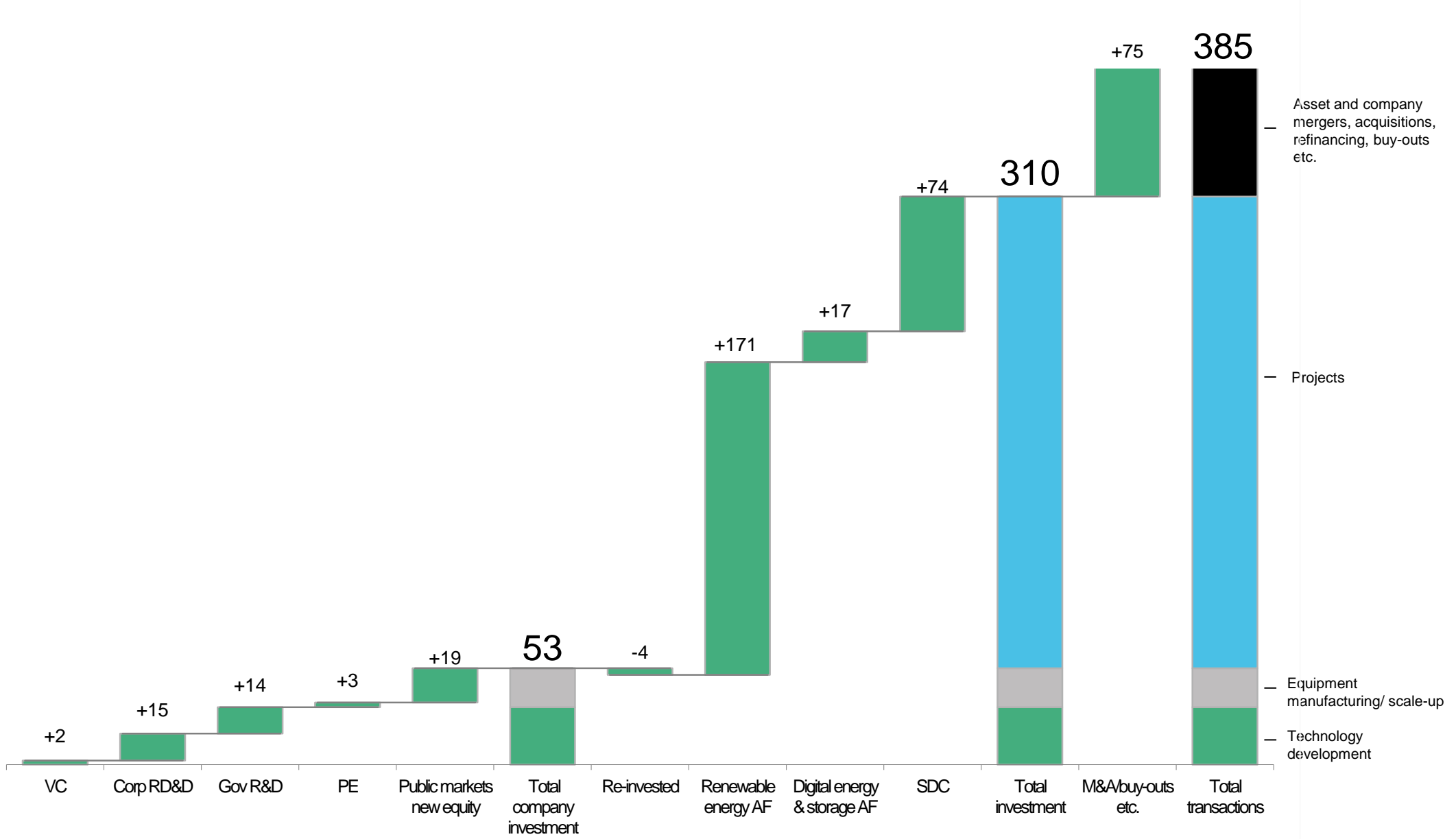


**ANNUAL CLEAN
ENERGY
INVESTMENT
OVERVIEW**

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CLEAN ENERGY INVESTMENT TYPES & FLOWS

2014 (\$BN)

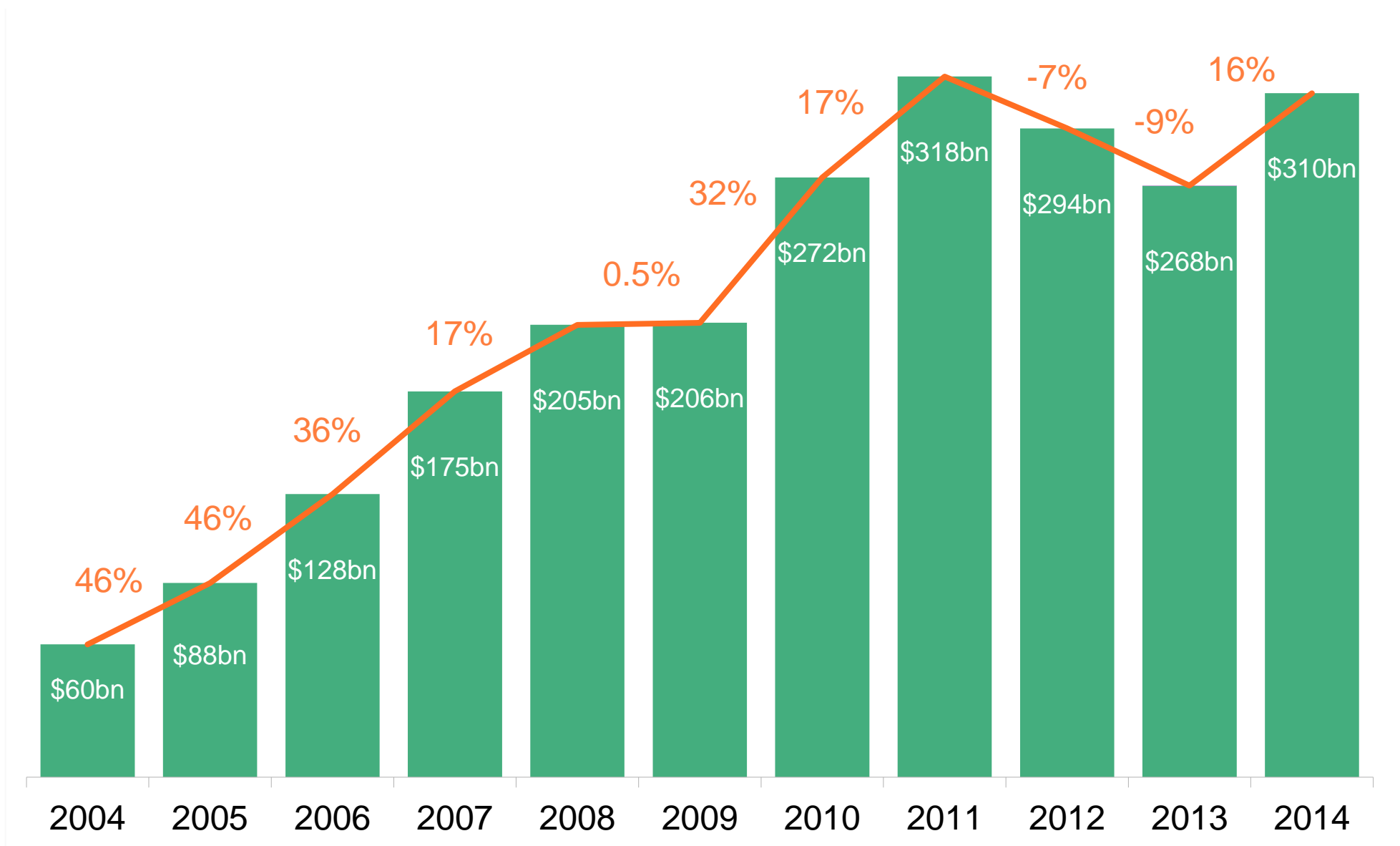


Note: Total values include estimates for undisclosed deals. AF = asset finance, SDC = small distributed capacity.

Source: Bloomberg New Energy Finance

NEW INVESTMENT IN CLEAN ENERGY

2004-14 (\$BN)

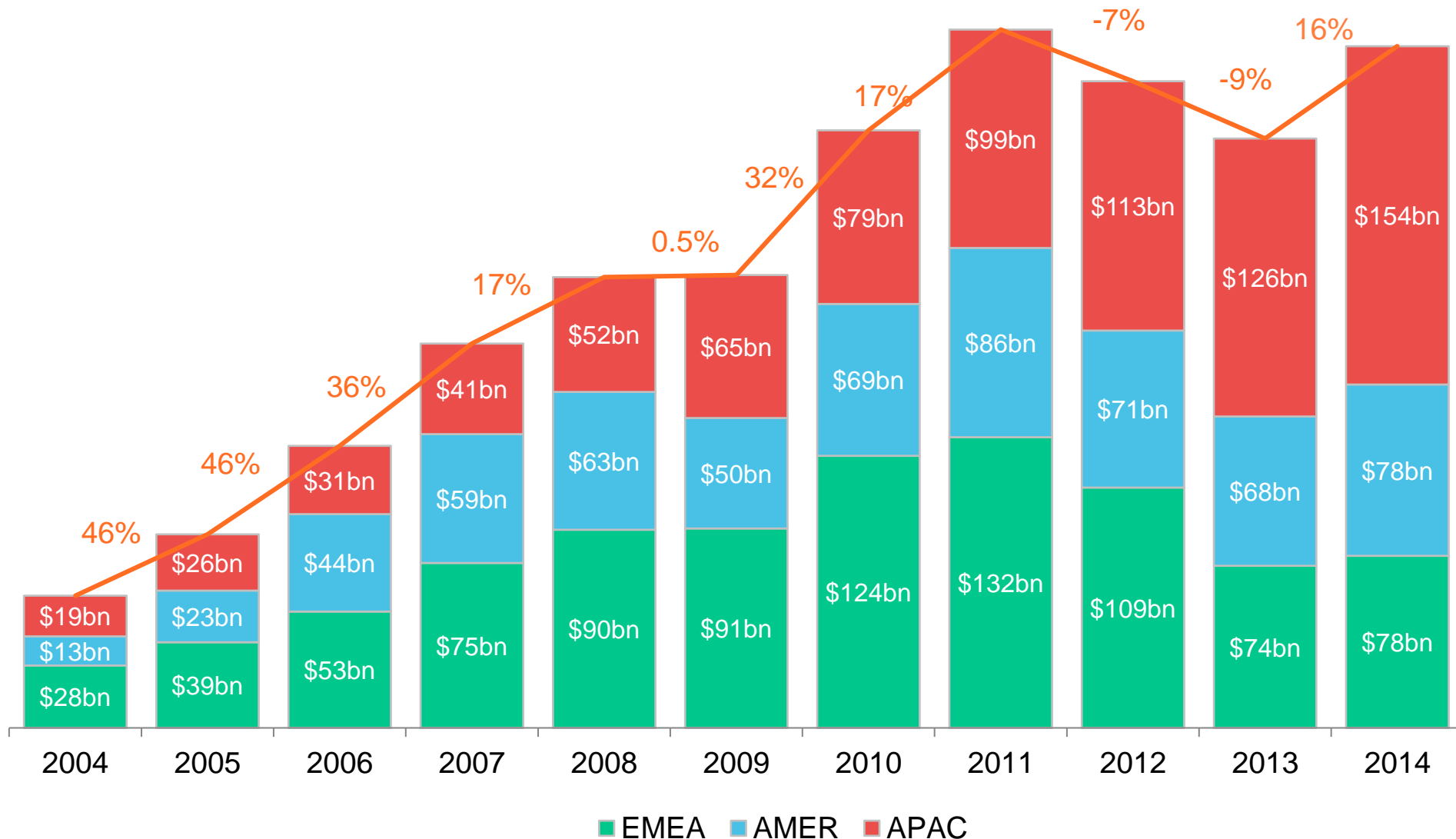


Note: Total values include estimates for undisclosed deals. Includes corporate and government R&D, and spending for digital energy and energy storage projects (not reported in quarterly statistics).

Source: Bloomberg New Energy Finance

NEW INVESTMENT IN CLEAN ENERGY BY REGION

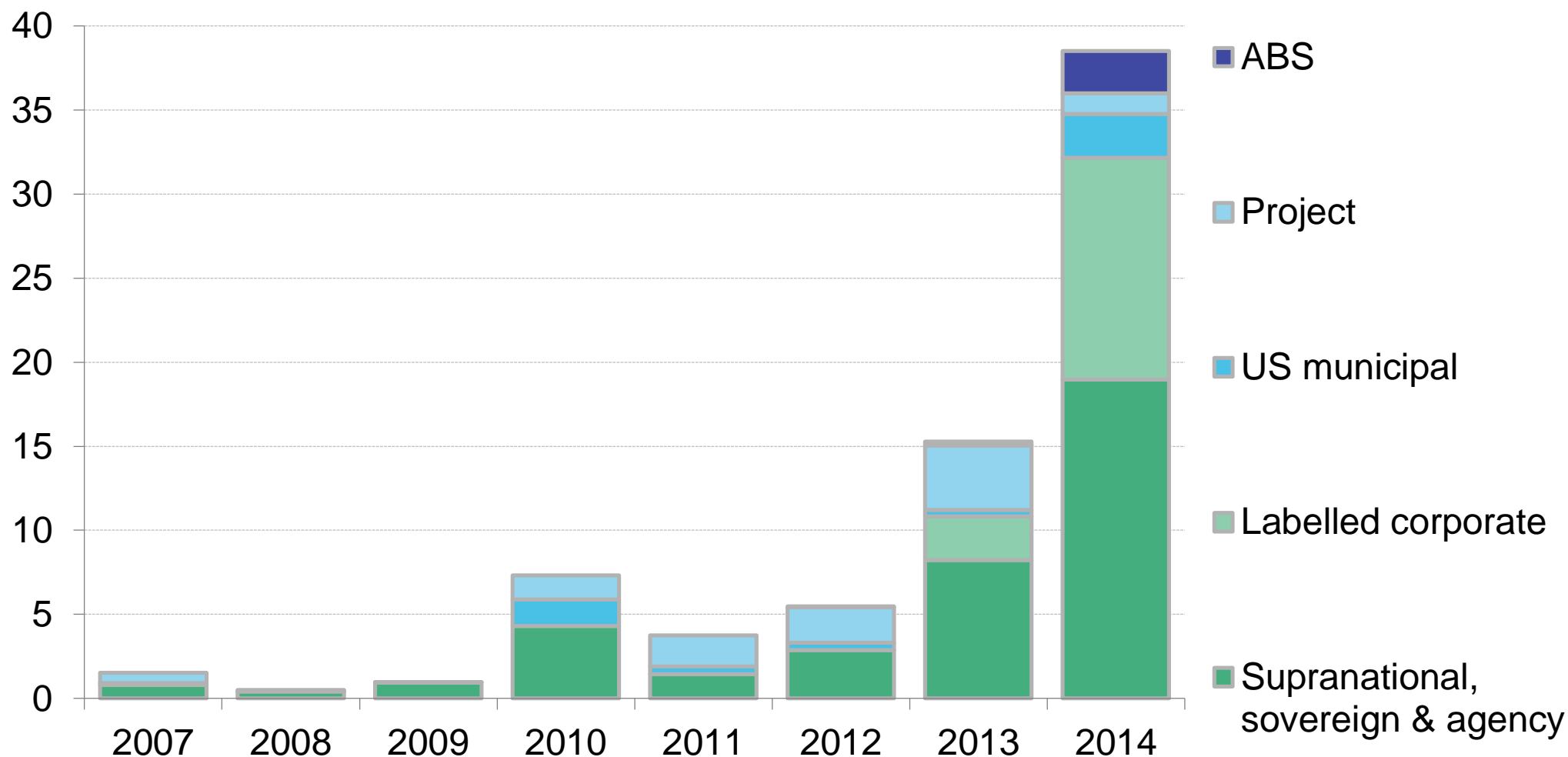
2004-14 (\$BN)



Note: Total values include estimates for undisclosed deals. Includes corporate and government R&D, and spending for digital energy and energy storage projects (not reported in quarterly statistics).

Source: Bloomberg New Energy Finance

ANNUAL HISTORICAL GREEN BOND ISSUANCE, BY TYPE, 2007-14 (\$BN)



Notes: 'Sovereign, supranational & agency' includes bonds issued by international financial institutions, agencies and provinces to finance green projects. 'Labelled corporate' includes bonds issued by companies and explicitly labelled as green. 'US municipal' refers to bonds issued by US municipalities to finance green projects. 'Project' refers to project bonds backed by renewable energy projects. 'ABS' refers to asset-backed securities whose cashflows come from a portfolio of underlying receivables such as loans, leases and PPAs associated with green projects.

Source: Bloomberg New Energy Finance

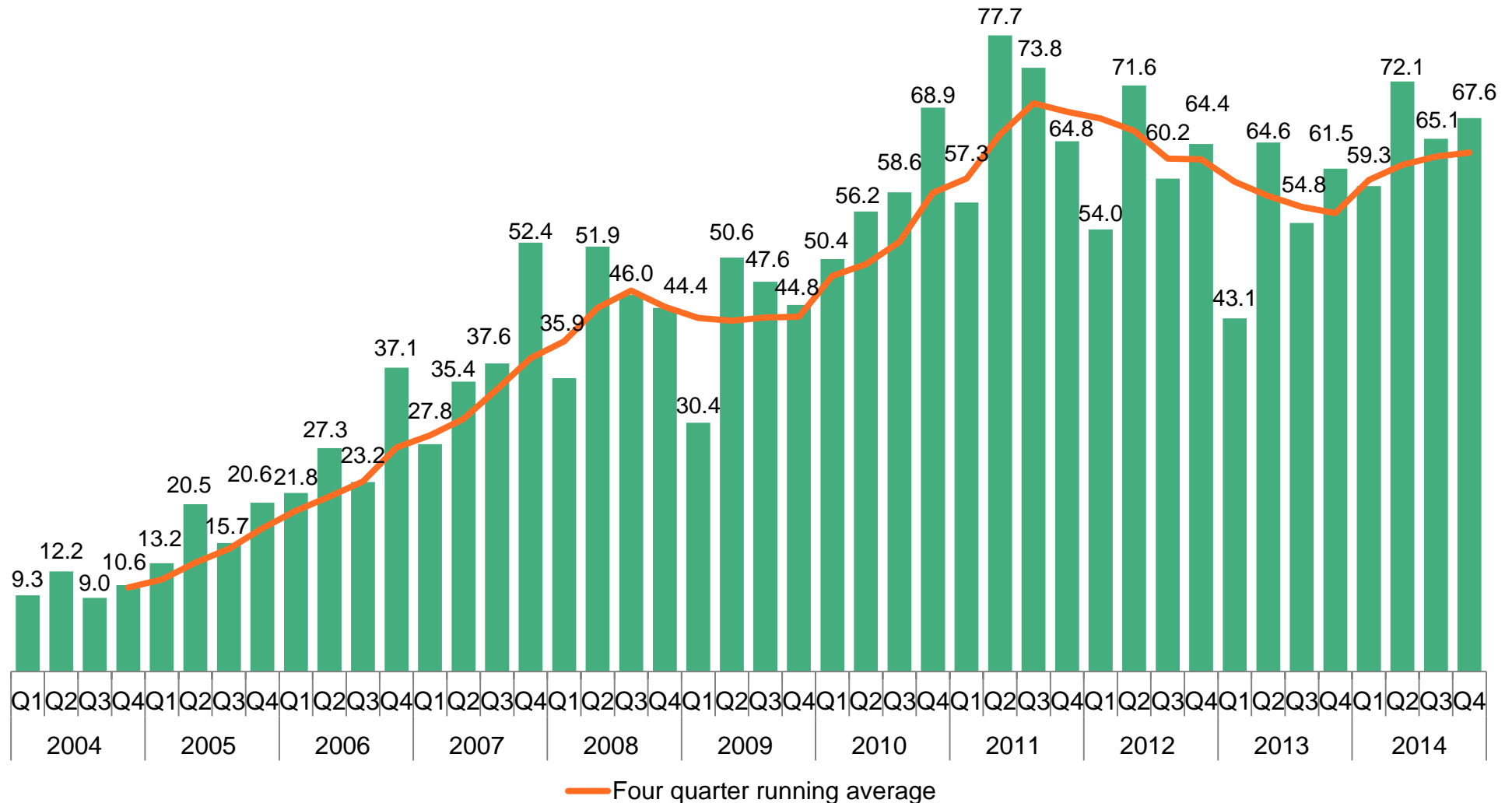


**QUARTERLY TRENDS
IN CLEAN ENERGY:
NEW INVESTMENT**

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NEW INVESTMENT IN CLEAN ENERGY

Q1 2004-Q4 2014 (\$BN)

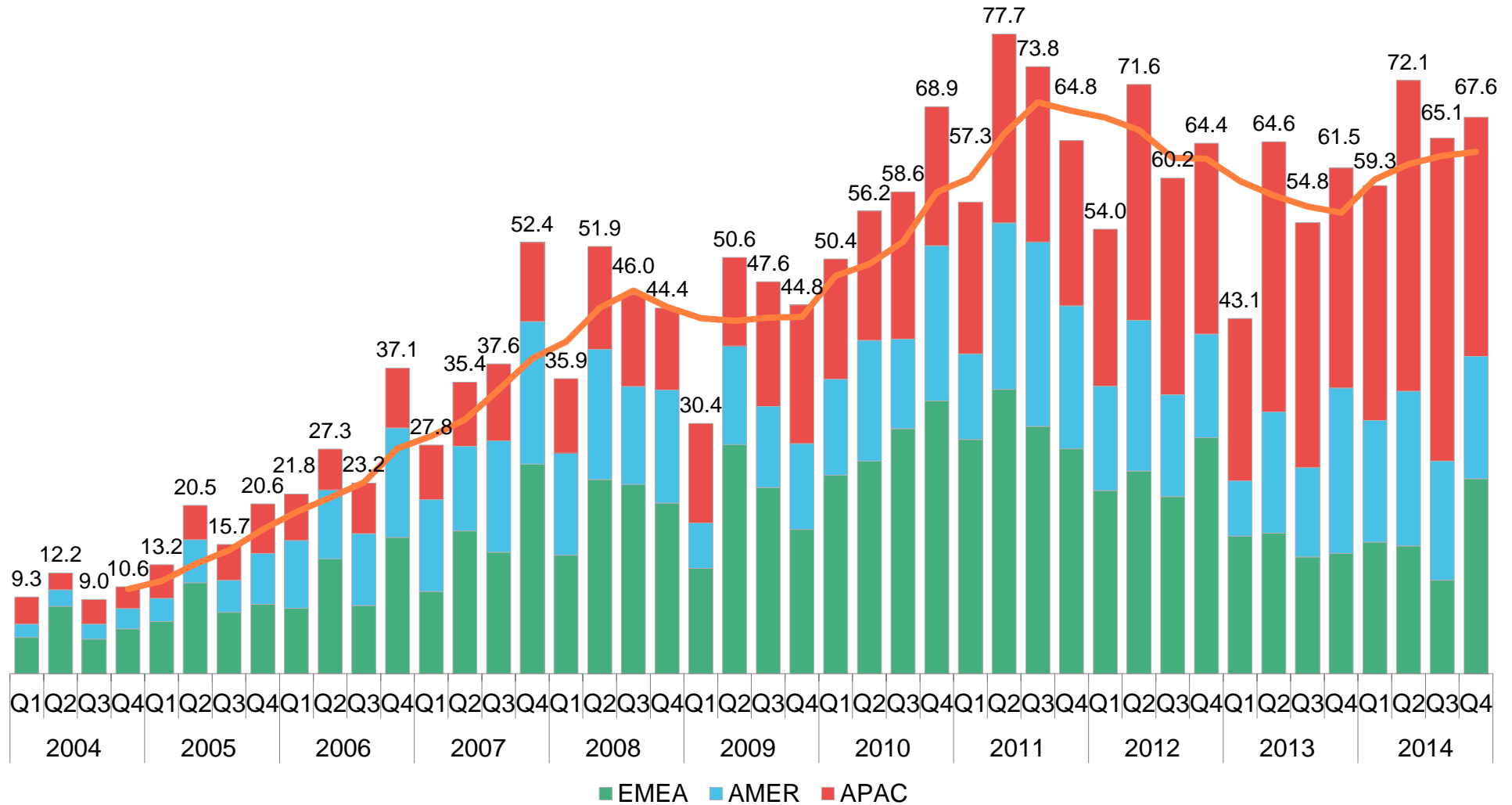


Note: Total values include estimates for undisclosed deals. Excludes corporate and government R&D, and spending for digital energy and energy storage projects (reported in annual statistics only).

Source: Bloomberg New Energy Finance

NEW INVESTMENT IN CLEAN ENERGY BY REGION

Q1 2004-Q4 2014 (\$BN)

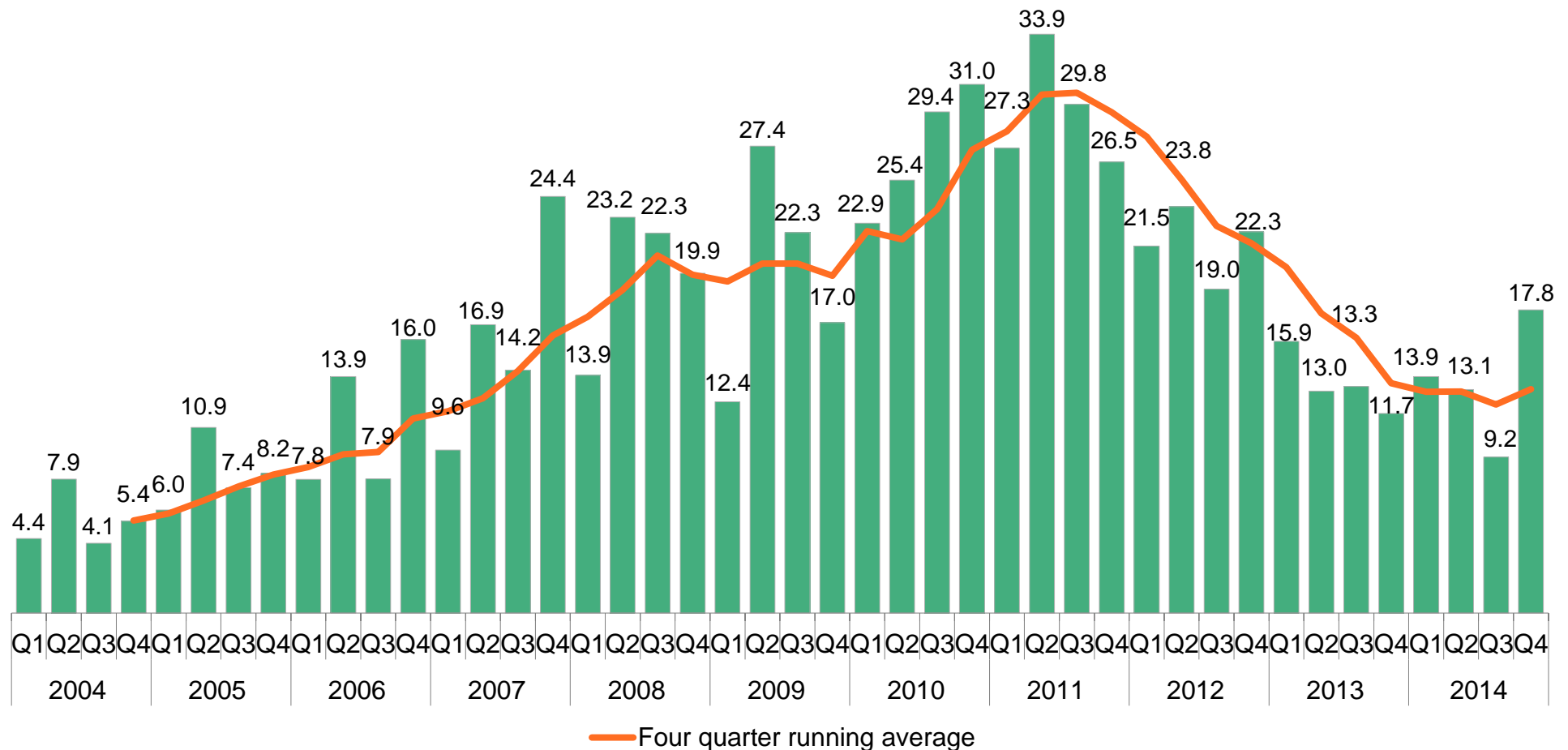


Note: Total values include estimates for undisclosed deals. Excludes corporate and government R&D, and spending for digital energy and energy storage projects (reported in annual statistics only).

Source: Bloomberg New Energy Finance

NEW INVESTMENT IN CLEAN ENERGY IN EUROPE

Q1 2004-Q4 2014 (\$BN)

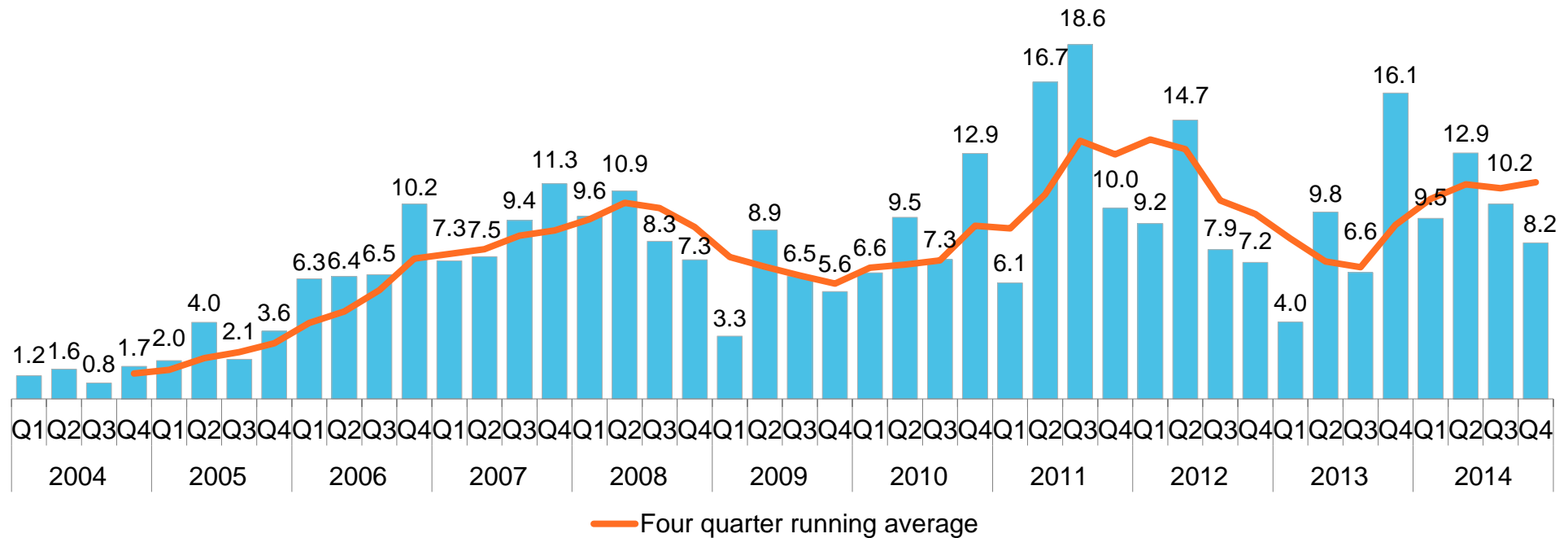


Note: Total values include estimates for undisclosed deals. Excludes corporate and government R&D, and spending for digital energy and energy storage projects (reported in annual statistics only).

Source: Bloomberg New Energy Finance

NEW INVESTMENT IN CLEAN ENERGY IN THE US

Q1 2004-Q4 2014 (\$BN)

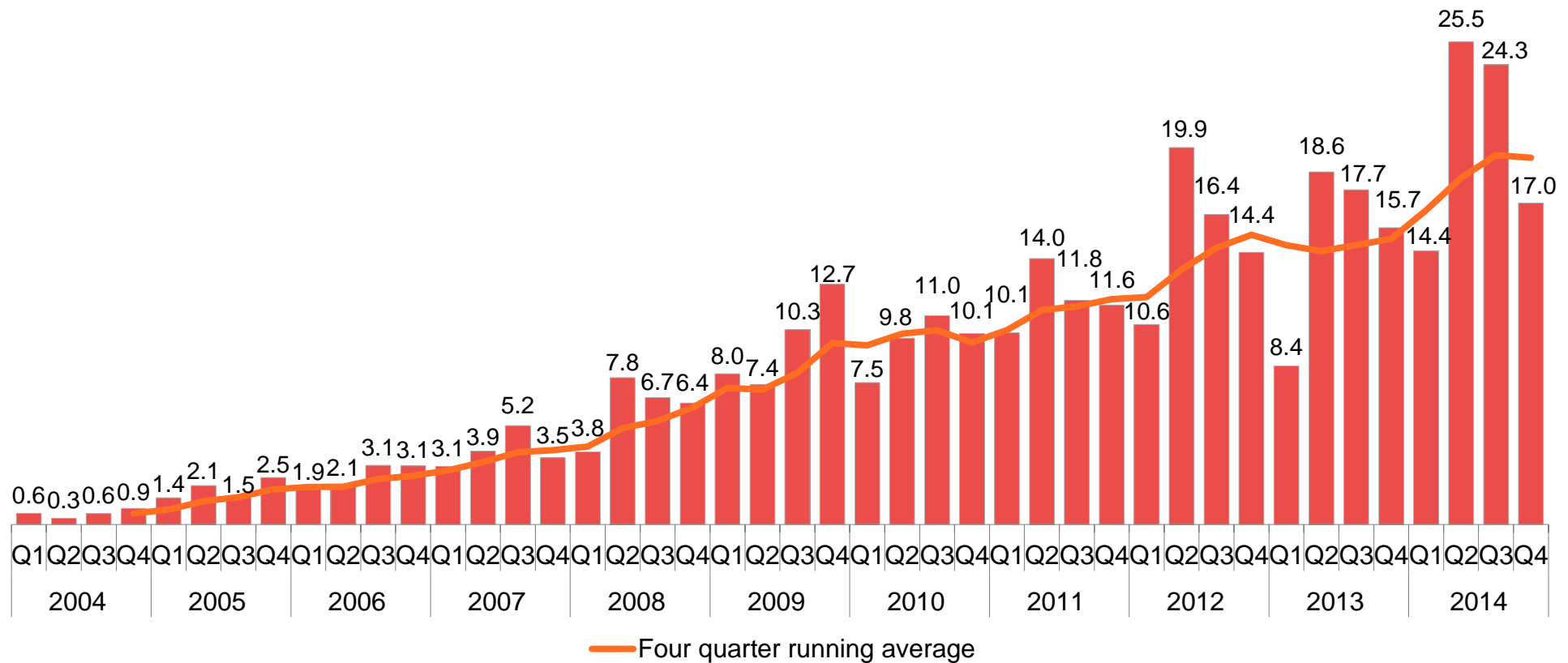


Note: Total values include estimates for undisclosed deals. Excludes corporate and government R&D, and spending for digital energy and energy storage projects (reported in annual statistics only).

Source: Bloomberg New Energy Finance

NEW INVESTMENT IN CLEAN ENERGY IN CHINA

Q1 2004-Q4 2014 (\$BN)

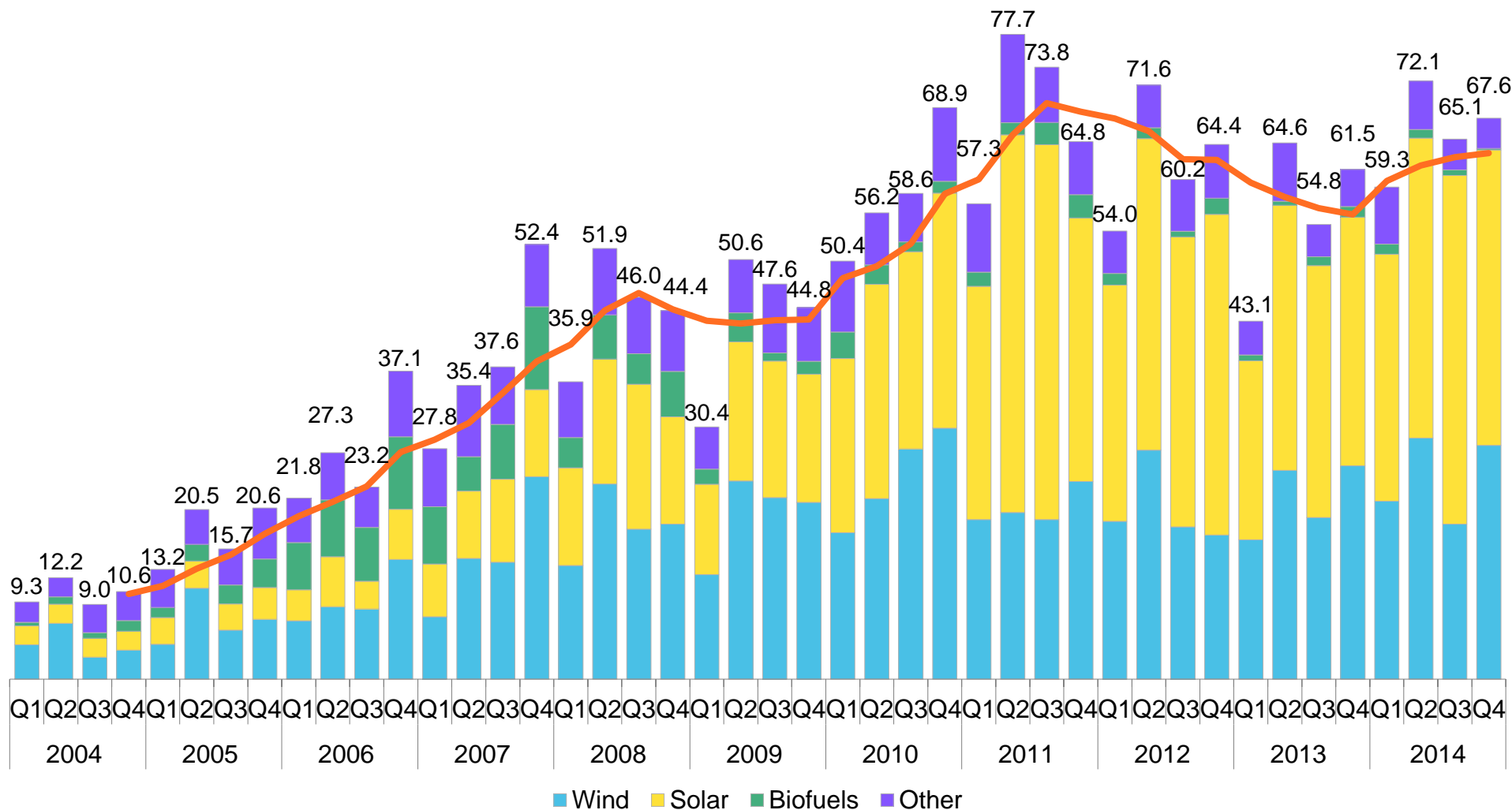


Note: Total values include estimates for undisclosed deals. Excludes corporate and government R&D, and spending for digital energy and energy storage projects (reported in annual statistics only).

Source: Bloomberg New Energy Finance

NEW INVESTMENT IN CLEAN ENERGY BY SECTOR

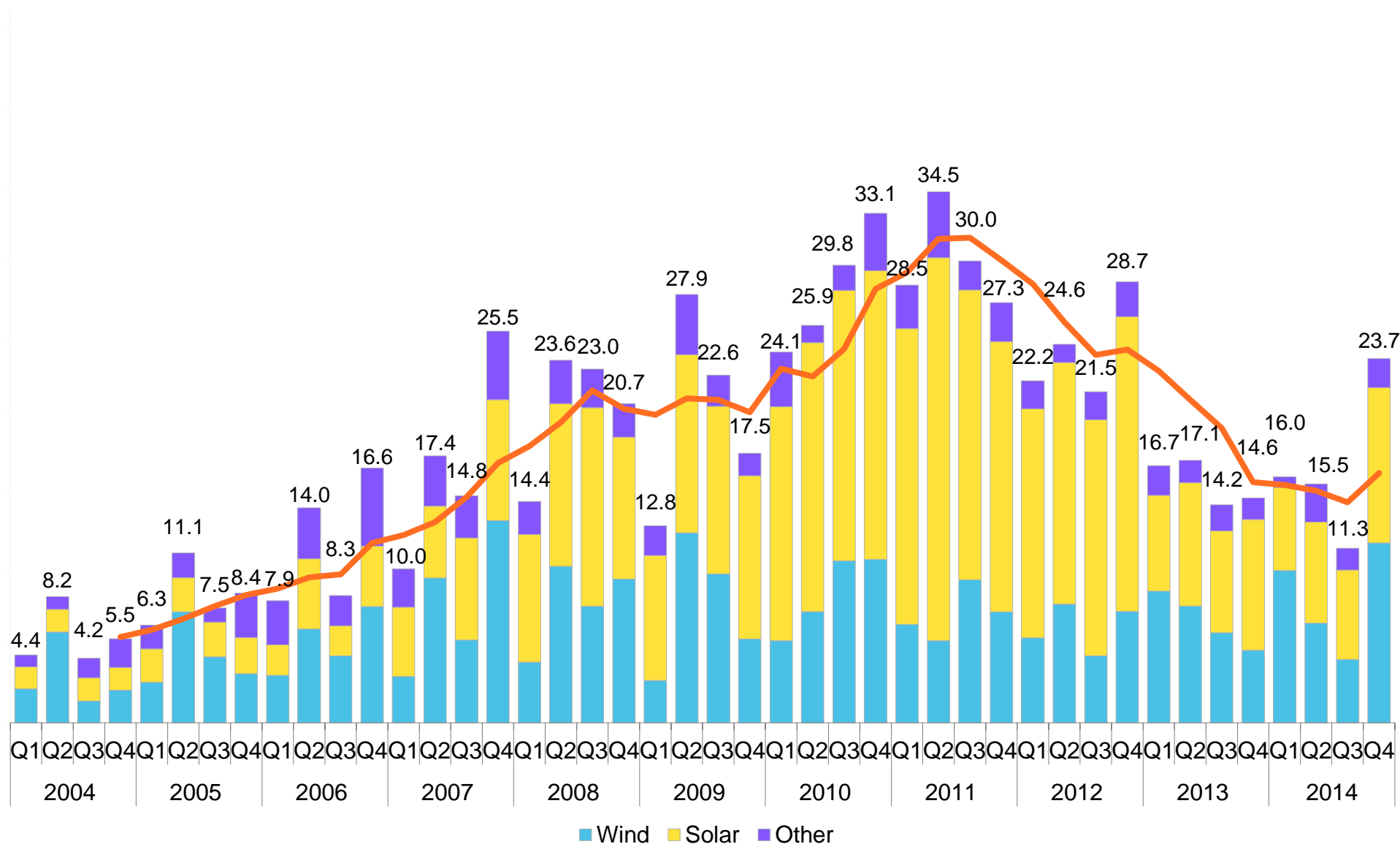
Q1 2004-Q4 2014 (\$BN)



Note: Total values include estimates for undisclosed deals. Excludes corporate and government R&D, and spending for digital energy and energy storage projects (reported in annual statistics only).

Source: Bloomberg New Energy Finance

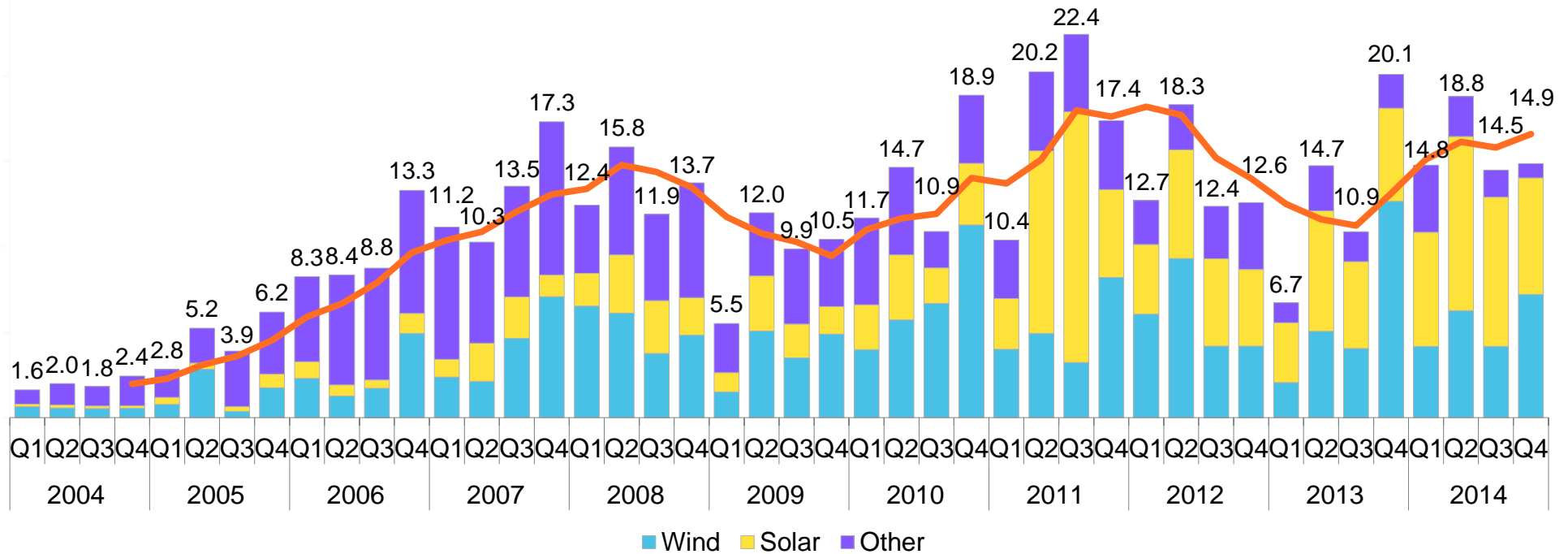
EMEA NEW INVESTMENT IN CLEAN ENERGY BY SECTOR Q1 2004-Q4 2014 (\$BN)



Note: Total values include estimates for undisclosed deals. Excludes corporate and government R&D, and spending for digital energy and energy storage projects (reported in annual statistics only).

Source: Bloomberg New Energy Finance

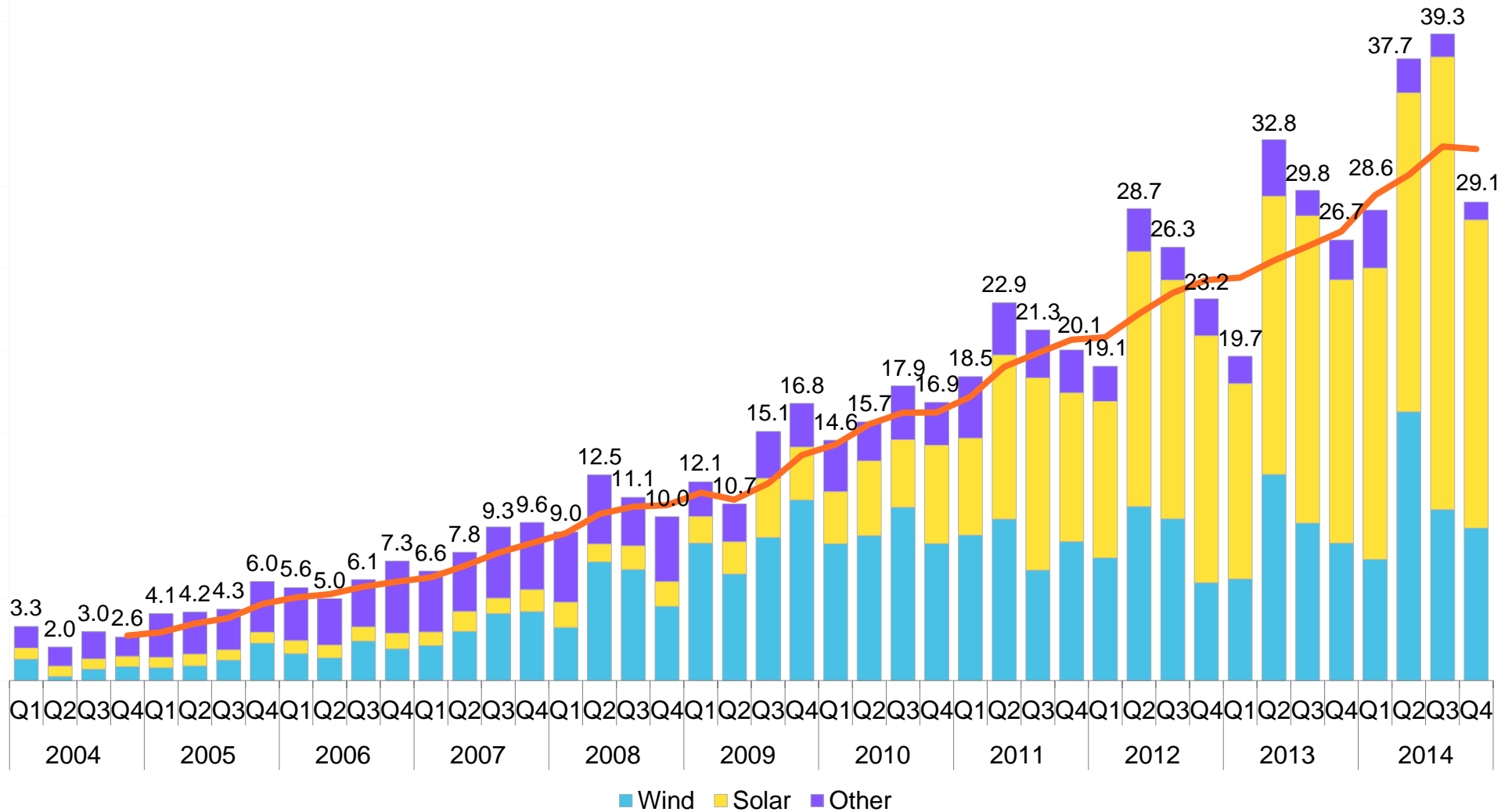
AMER NEW INVESTMENT IN CLEAN ENERGY BY SECTOR Q1 2004-Q4 2014 (\$BN)



Note: Total values include estimates for undisclosed deals. Excludes corporate and government R&D, and spending for digital energy and energy storage projects (reported in annual statistics only).

Source: Bloomberg New Energy Finance

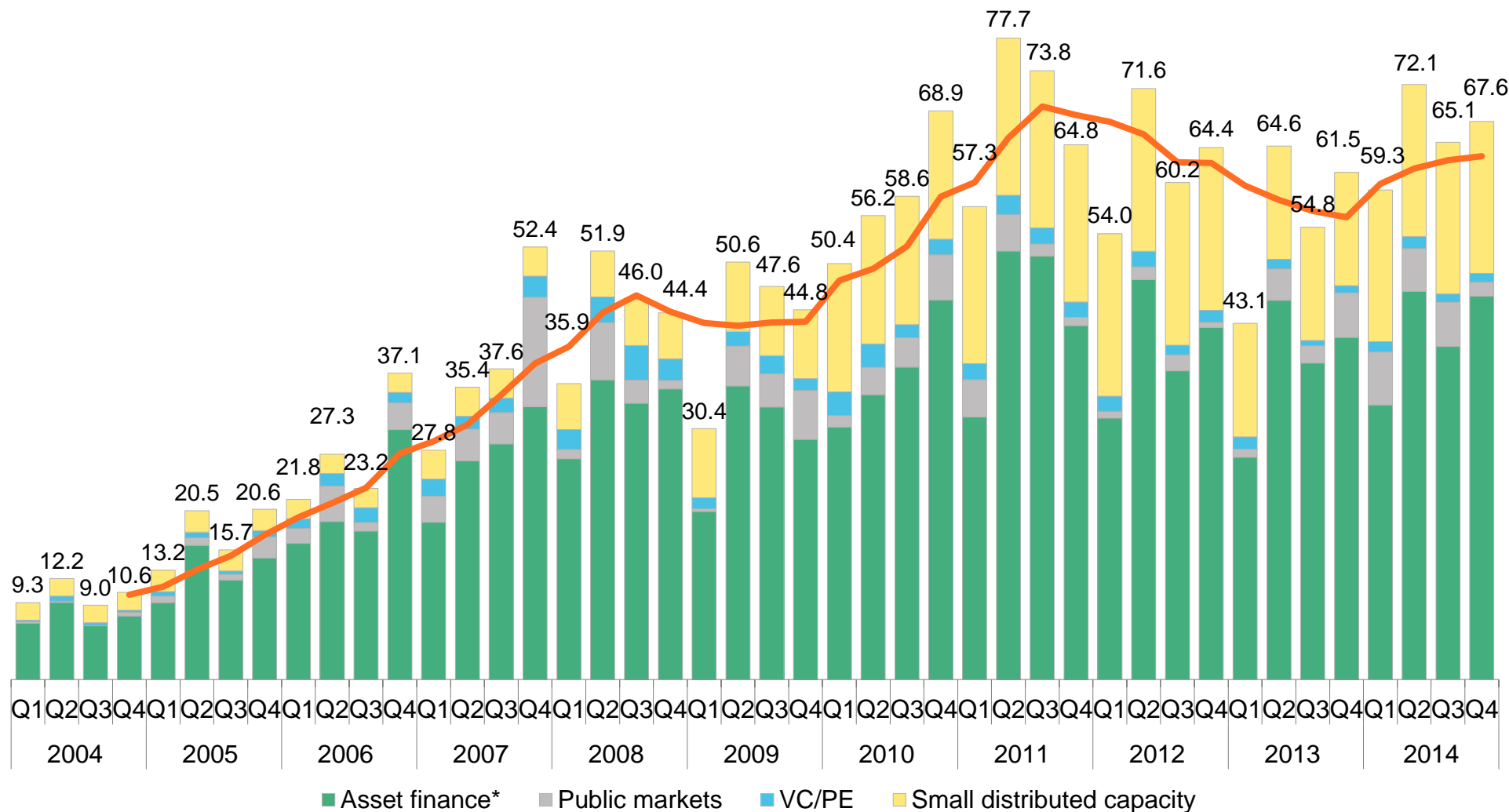
APAC NEW INVESTMENT IN CLEAN ENERGY BY SECTOR Q1 2004-Q4 2014 (\$BN)



Note: Total values include estimates for undisclosed deals. Excludes corporate and government R&D, and spending for digital energy and energy storage projects (reported in annual statistics only).

Source: Bloomberg New Energy Finance

NEW INVESTMENT IN CLEAN ENERGY BY ASSET CLASS Q1 2004-Q4 2014 (\$BN)

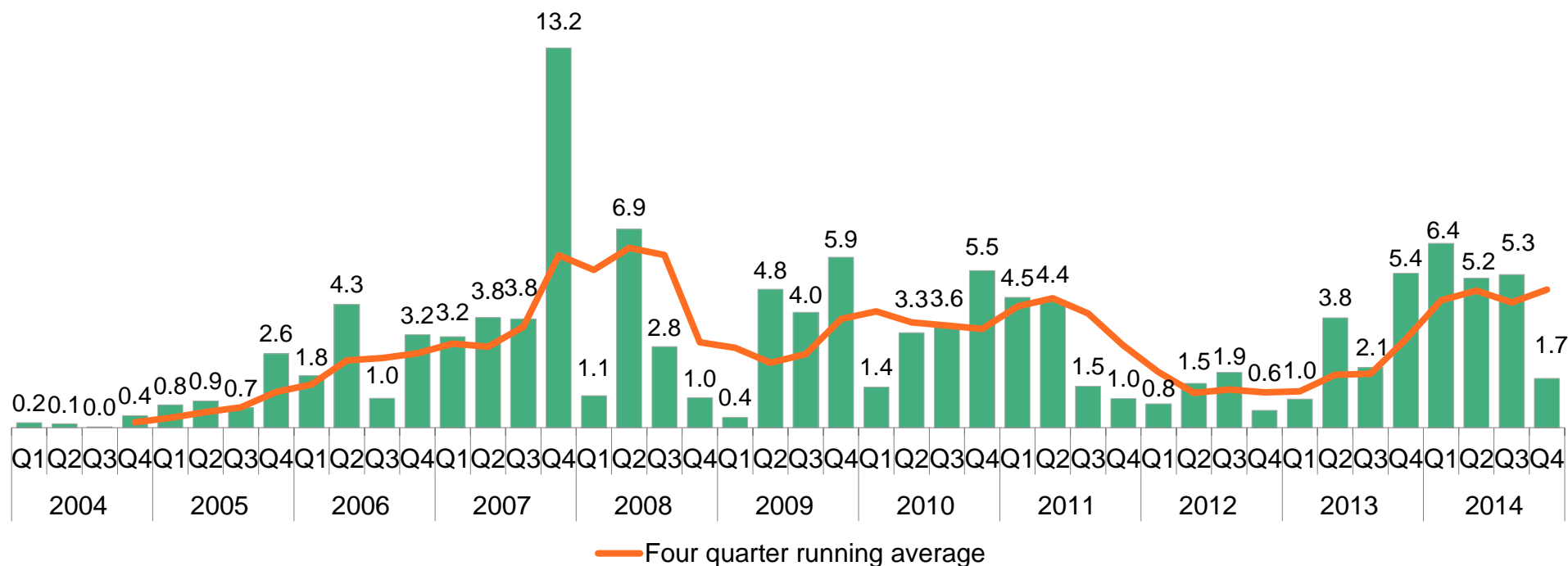


*Asset finance adjusted for re-invested equity

Note: Total values include estimates for undisclosed deals. Excludes corporate and government R&D, and spending for digital energy and energy storage projects (reported in annual statistics only).

Source: Bloomberg New Energy Finance

PUBLIC MARKET NEW INVESTMENT IN CLEAN ENERGY Q1 2004-Q4 2014 (\$BN)



Source: Bloomberg New Energy Finance

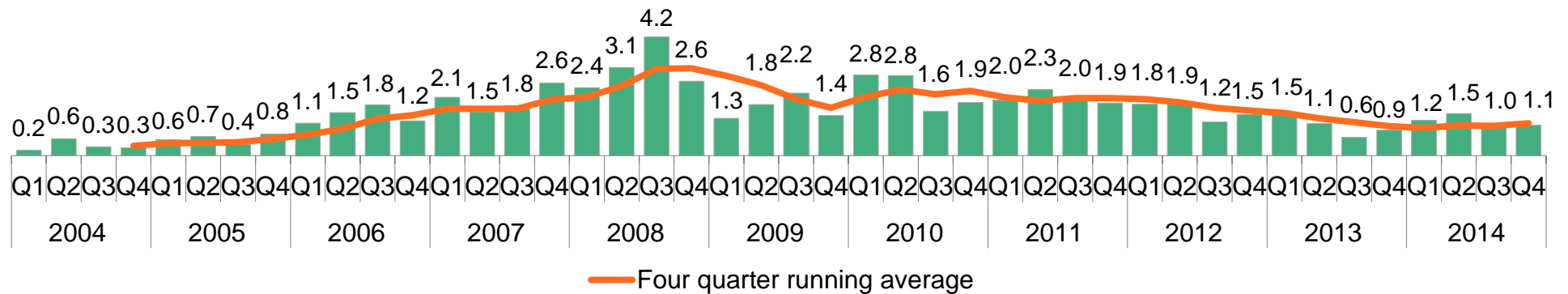
TOP PUBLIC MARKET TRANSACTIONS OF THE QUARTER Q4 2014

Organisation	Stock exchange	Sector	Type of transaction	New equity raised	Total offering size
CS Wind	Korea Stock Exchange (KOSPI)	Wind	IPO	\$231.9m	\$231.9m
Huaneng Renewables	Hong Kong Stock Exchange (HKEX)	Wind	Secondary	\$225.3m	\$225.3m
Greencoat UK Wind PLC/Fund	London Stock Exchange	Wind	Secondary	\$200.2m	\$200.2m
Bluefield Solar Income Fund	London Stock Exchange	Solar	Secondary	\$192.3m	\$192.3m
NextEnergy Solar Fund	London Stock Exchange	Solar	Secondary	\$149.2m	\$149.2m

Source: Bloomberg New Energy Finance

VC/PE NEW INVESTMENT IN CLEAN ENERGY

Q1 2004-Q4 2014 (\$BN)



Note: Total values include estimates for undisclosed deals.

Source: Bloomberg New Energy Finance

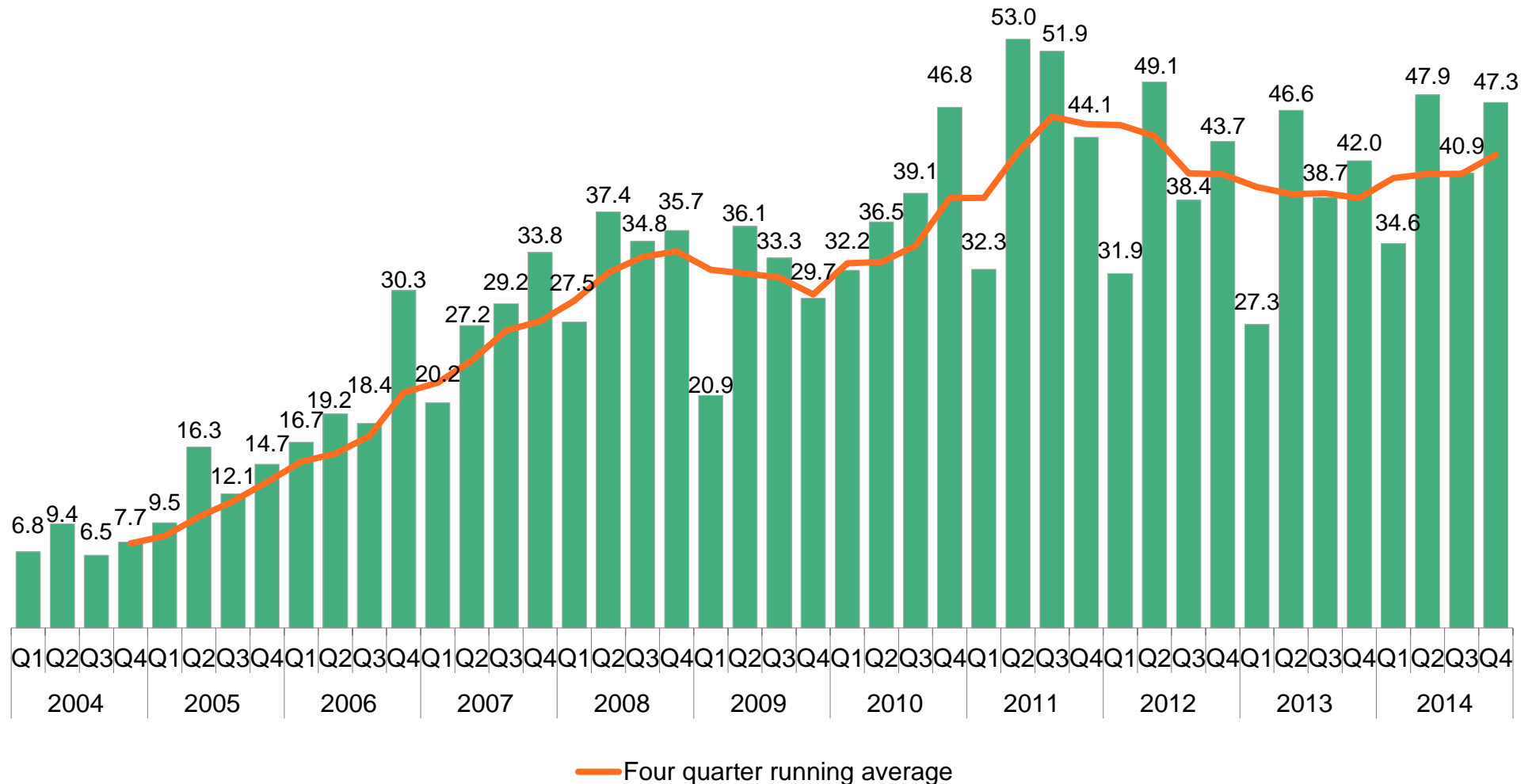
TOP VC/PE TRANSACTIONS OF THE QUARTER

Q4 2014

Organisation	Country	Sector	Type of transaction	Value
Sunnova Energy	United States	Solar	PE Expansion Capital	\$250.m
BluEarth Renewables	Canada	Wind	PE Expansion Capital	\$71.4m
Lanzatech NZ	New Zealand	Biofuels	VC Late Stage	\$60.m
Gebr Schmid	Germany	Solar	PE Expansion Capital	\$40.m
Digital Lumens	United States	Efficiency: Built Environment	VC Late Stage	\$23.m

Source: Bloomberg New Energy Finance

ASSET FINANCING FOR NEW BUILD RENEWABLE ENERGY ASSETS Q1 2004-Q4 2014 (\$BN)



Note: Total values include estimates for undisclosed deals. Excludes spending for digital energy and energy storage projects (reported in annual statistics only).

Source: Bloomberg New Energy Finance

TOP ASSET FINANCE TRANSACTIONS OF THE QUARTER Q4 2014

Project name	Country	Sector	Type of transaction	Capacity	Value
Dudgeon Offshore Wind Farm	United Kingdom	Wind	Balance Sheet	402MW	\$2573m
Wikinger Offshore Wind Farm	Germany	Wind	Balance Sheet	350MW	\$1712m
Sandbank Offshore Wind Farm	Germany	Wind	Balance Sheet	288MW	\$1428m
Burbo Bank Offshore Wind Farm Extension	United Kingdom	Wind	Balance Sheet	258MW	Undisclosed
Xina Solar One STEG Plant	South Africa	Solar	Term loan	100MW	\$1010m

Source: Bloomberg New Energy Finance

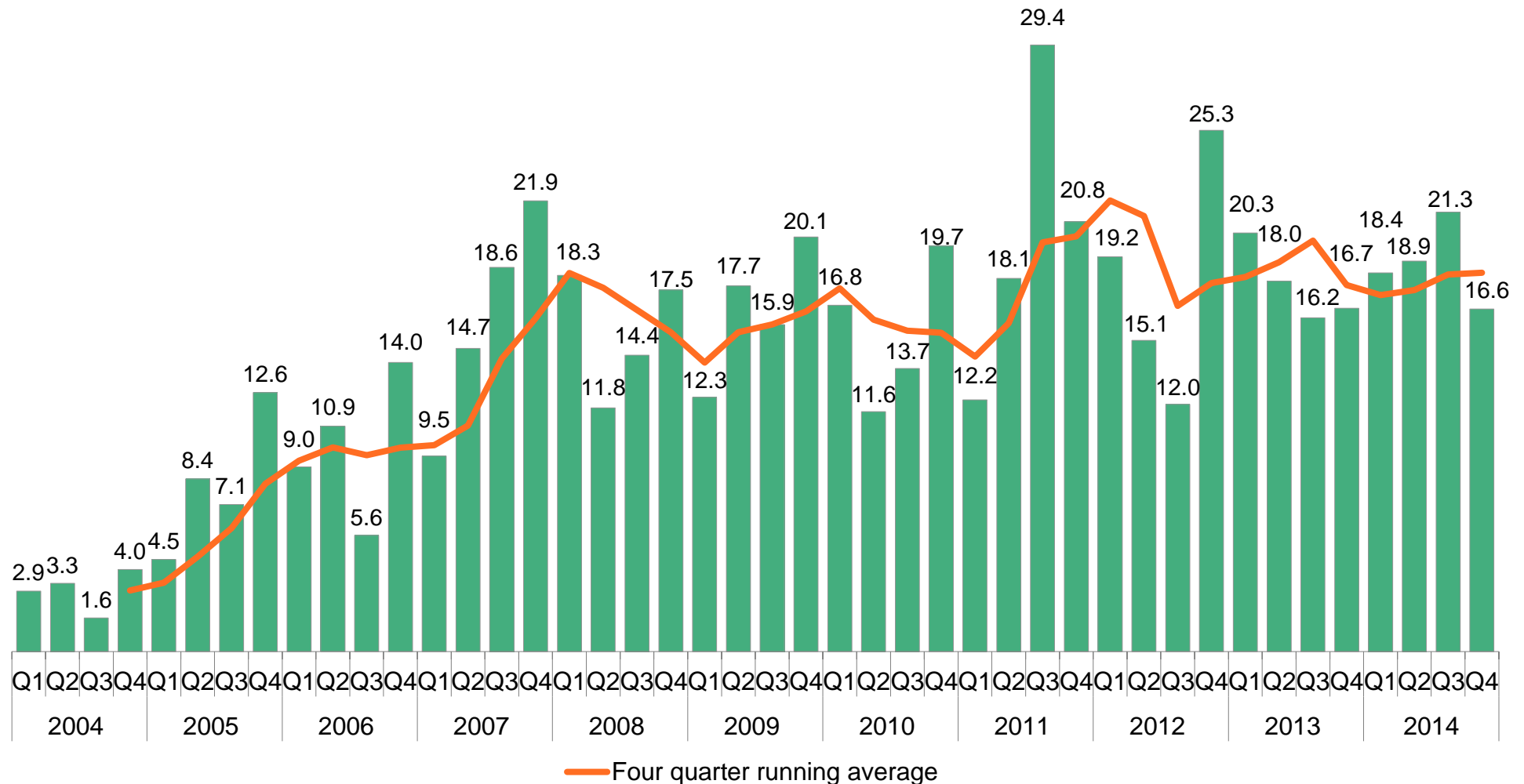


**QUARTERLY TRENDS
IN CLEAN ENERGY:
FUNDS IN
CIRCULATION**

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FUNDS IN CIRCULATION IN CLEAN ENERGY

Q1 2004-Q4 2014 (\$BN)



Note: Total values include estimates for undisclosed deals. Excludes spending for digital energy and energy storage projects (reported in annual statistics only).

Source: Bloomberg New Energy Finance

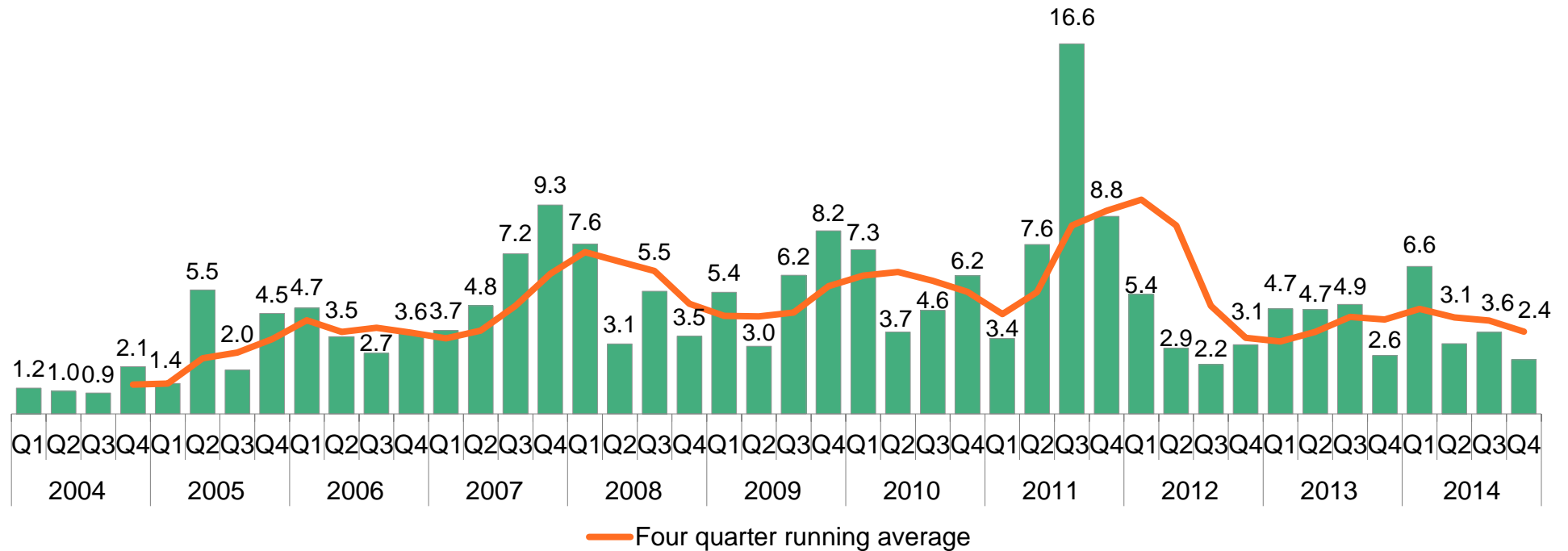
TOP TRANSACTIONS FOR FUNDS IN CIRCULATION

Q4 2014

Organisation	Country	Sector	Type of transaction	Acquirer	Value
E.ON US Wind Portfolio Enbridge Acquisition	United States	Wind	Balance Sheet	Enbridge	\$650m
Acciona Energia Internacional	Spain	Wind	PE - Buy-out / corp spinoff	KKR & Co	\$540m
Pinyon Pines Wind Portfolio Refinancing	United States	Wind	Term loan; Short term facility (revolver/LOC)	Berkshire Hathaway	\$406m
Enel Green Power France	France	Wind	Equity (company)	Boralex	\$344m
EDC Burgos Wind Farm Portfolio Refinancing	Philippines	Wind	Term loan	Energy Development Corp	\$315m

Source: Bloomberg New Energy Finance

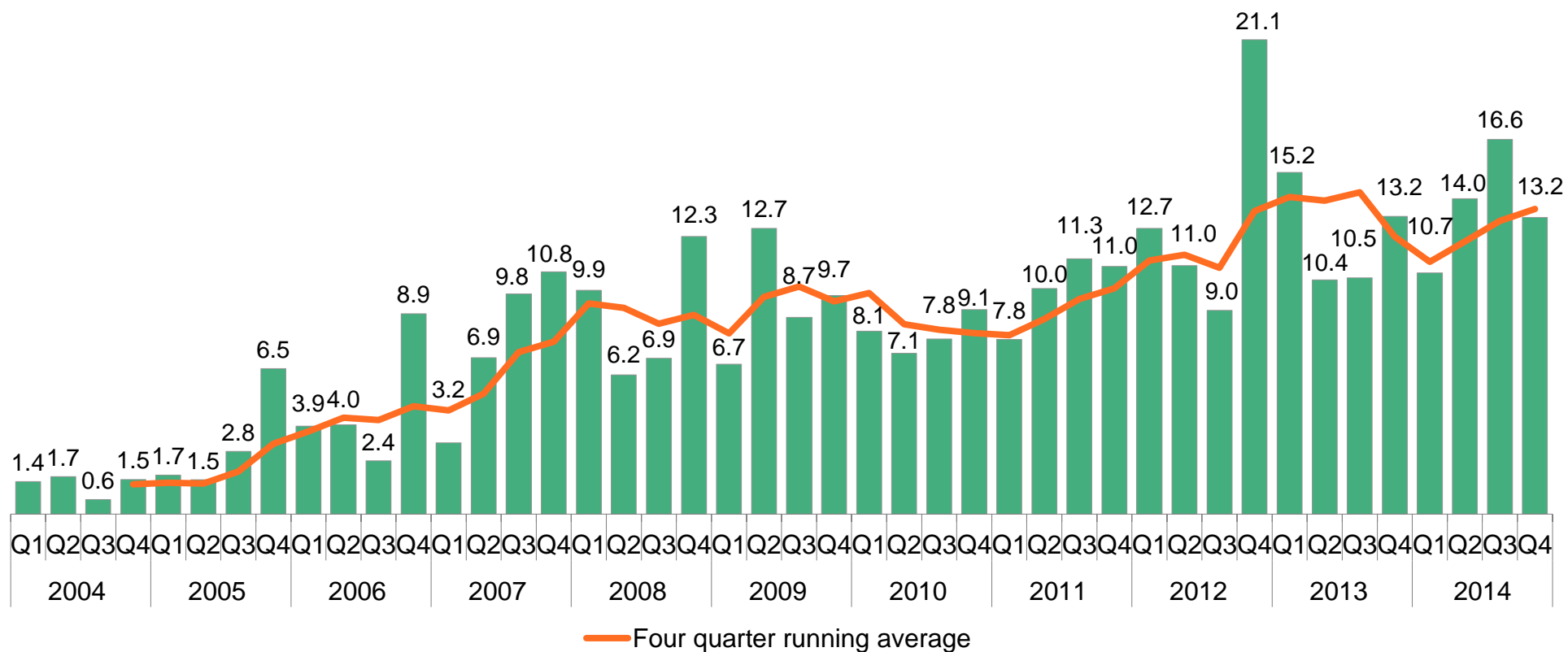
CORPORATE M&A TRANSACTIONS IN CLEAN ENERGY Q1 2004-Q4 2014 (\$BN)



Note: Total values include estimates for undisclosed deals

Source: Bloomberg New Energy Finance

RENEWABLE ENERGY ASSET ACQUISITIONS & REFINANCING Q1 2004-Q4 2014 (\$BN)



Note: Total values include estimates for undisclosed deals

Source: Bloomberg New Energy Finance



CLEAN ENERGY INDEXES

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NEX CLEAN ENERGY INDEX

2003–15 YTD



Note: Values as of 01 January 2015; NASDAQ and S&P 500 rebased to 100 on 1 Jan 2003

Source: Bloomberg New Energy Finance

NEX CLEAN ENERGY INDEX

2012–15 YTD

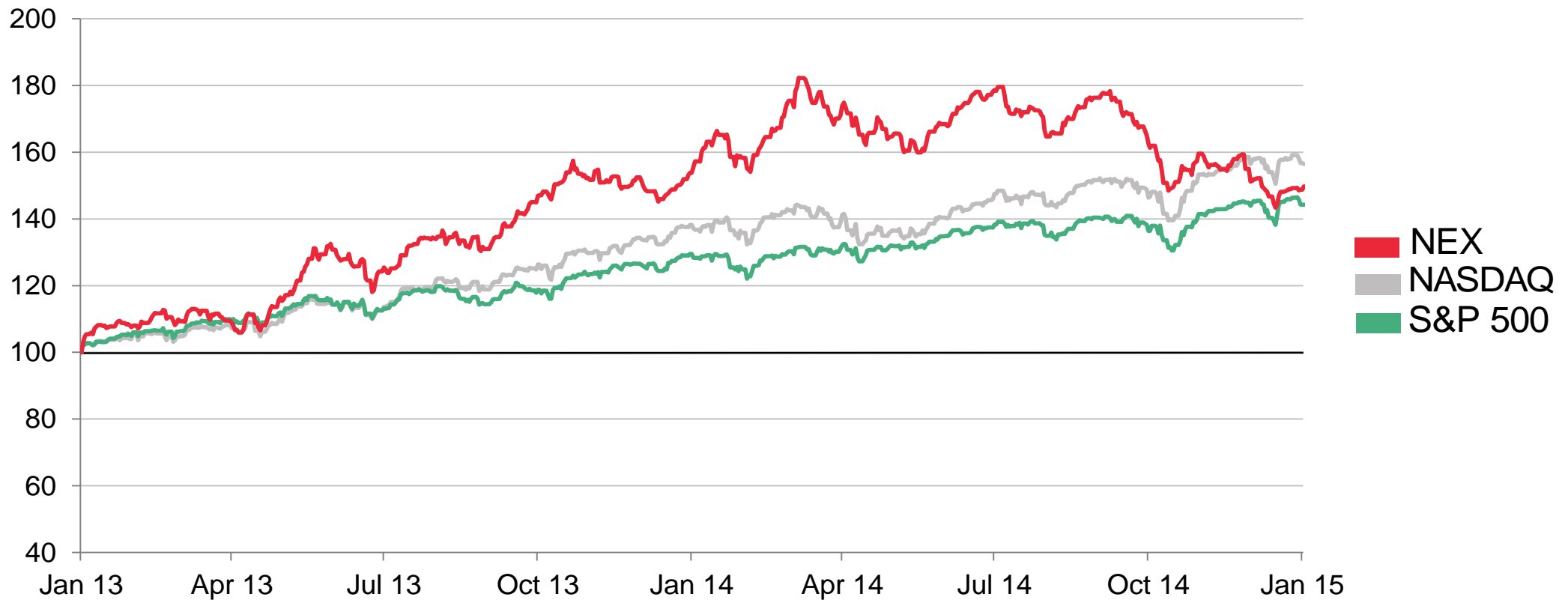


Note: Values as of 01 January 2015; NASDAQ and S&P 500 rebased to 100 on 1 Jan 2011

Source: Bloomberg New Energy Finance

NEX CLEAN ENERGY INDEX

2013–15 YTD

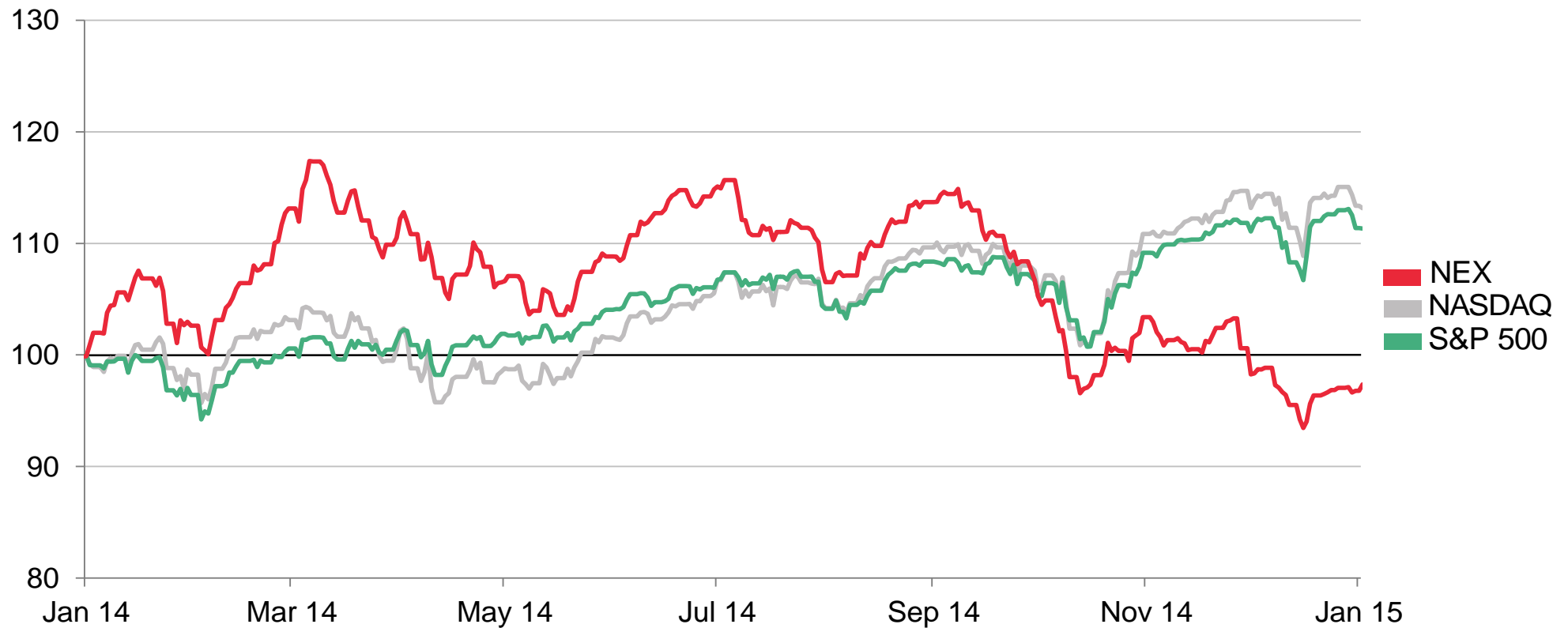


Note: Values as of 01 January 2015; NASDAQ and S&P 500 rebased to 100 on 1 Jan 2011

Source: Bloomberg New Energy Finance

NEX CLEAN ENERGY INDEX

2014–15 YTD

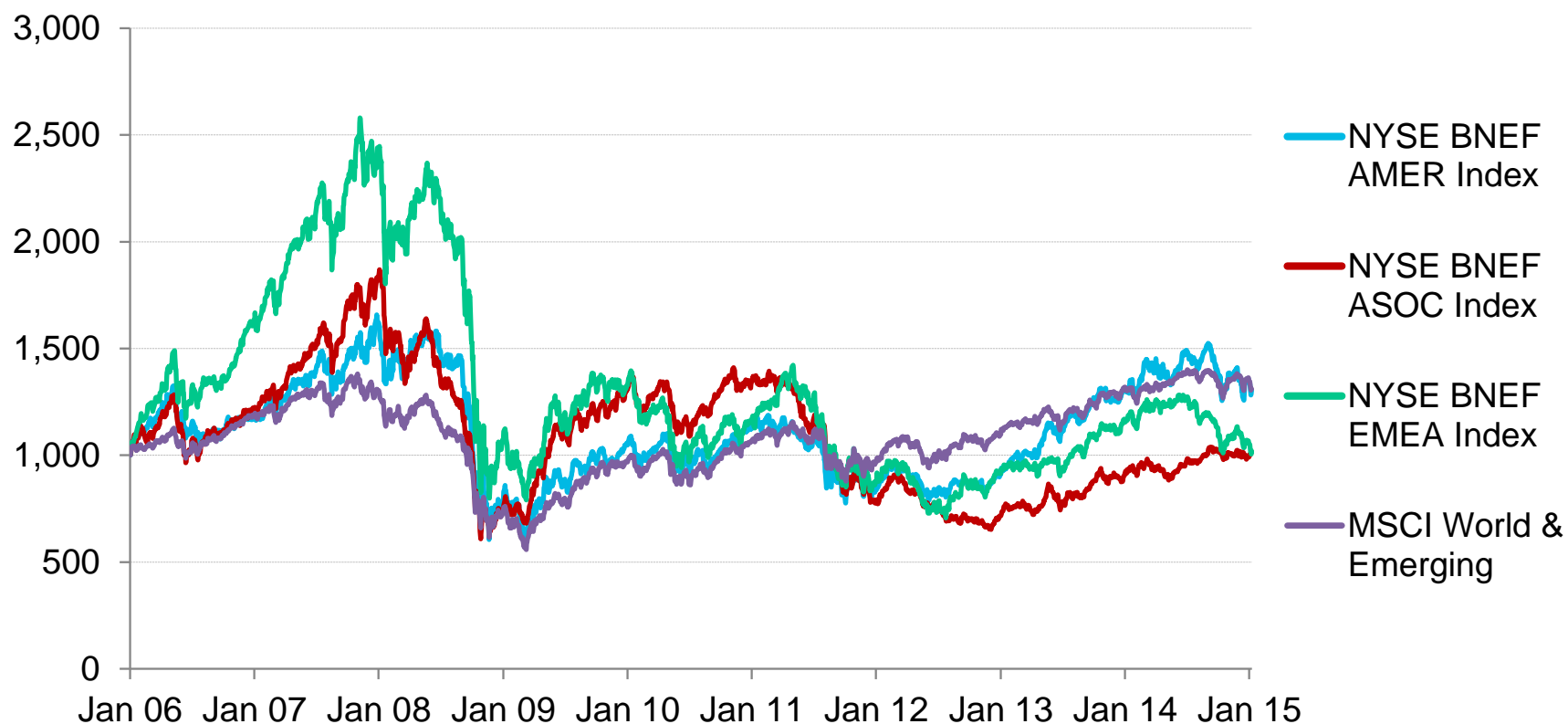


Note: Values as of 01 January 2015; NASDAQ and S&P 500 rebased to 100 on 1 Jan 2011

Source: Bloomberg New Energy Finance

NYSE BNEF REGIONAL CLEAN ENERGY INDEXES

2006-15 YTD

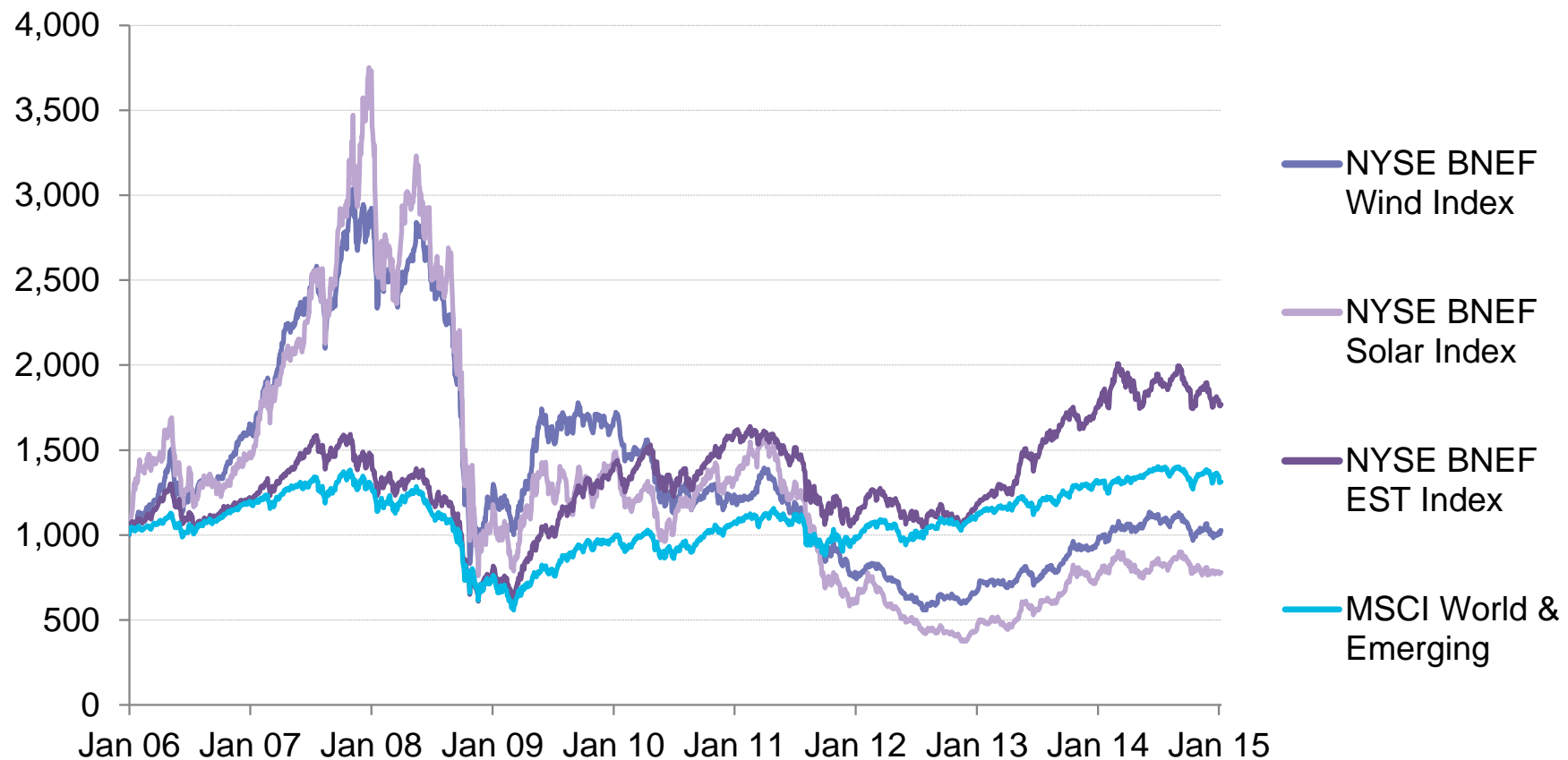


Note: Values as of 01 January 2015; NASDAQ and S&P 500 rebased to 100 on 30 December 2005

Source: Bloomberg New Energy Finance

NYSE GLOBAL CLEAN ENERGY SECTOR INDEXES

2006-15 YTD



Note: Values as of 01 January 2015; NASDAQ and S&P 500 rebased to 1,000 on 30 December 2005

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sales.bnef@bloomberg.net

Noemi Glickman

Marketing & Communications
nglickman@bloomberg.net
+44 (0)20 7392 0575

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