2012 NATIONAL NETWORK CONFERENCE ON THE BIOBASED ECONOMY IN THE NETHERLANDS

Overview of BioBased Economy in the U.S

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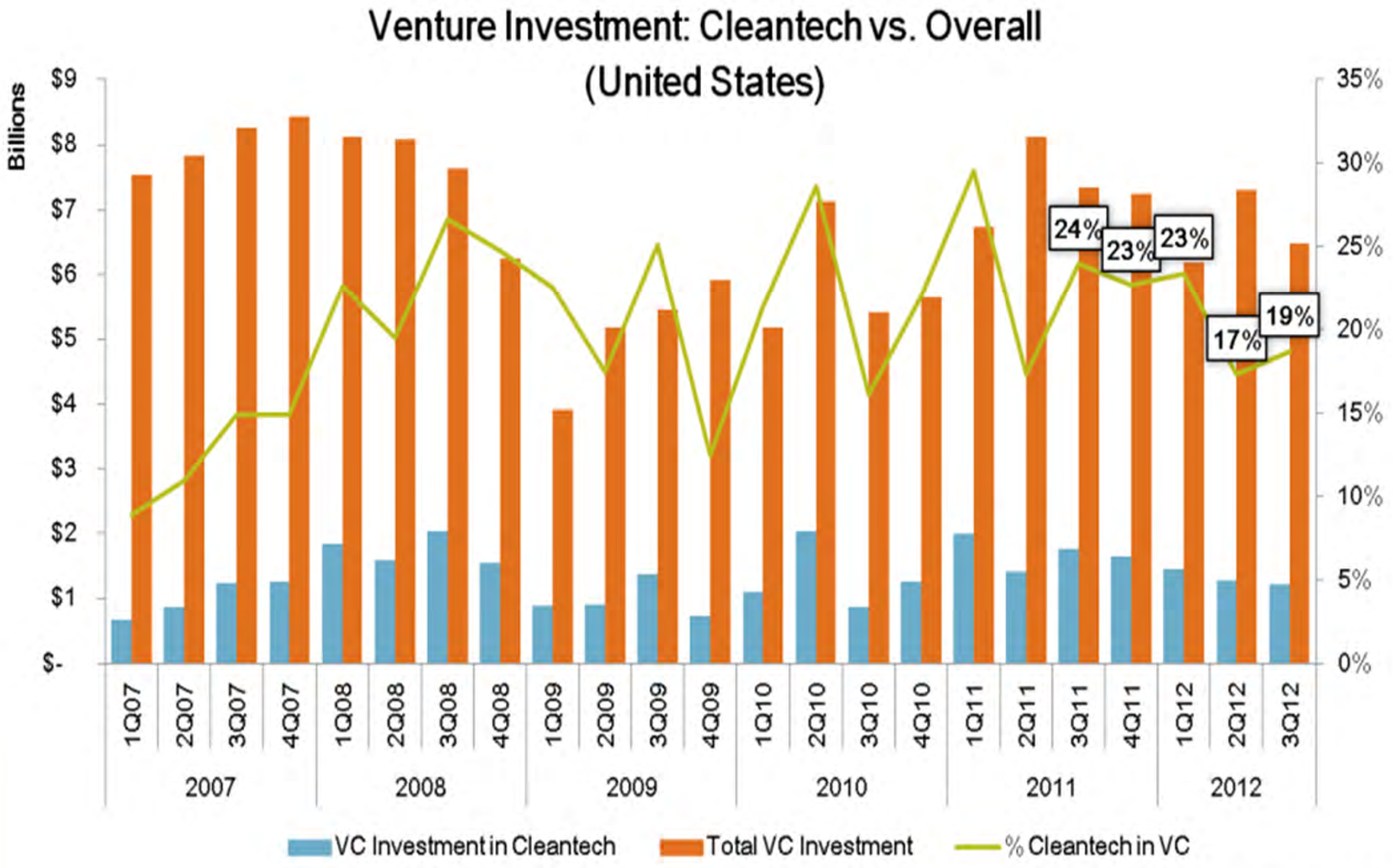
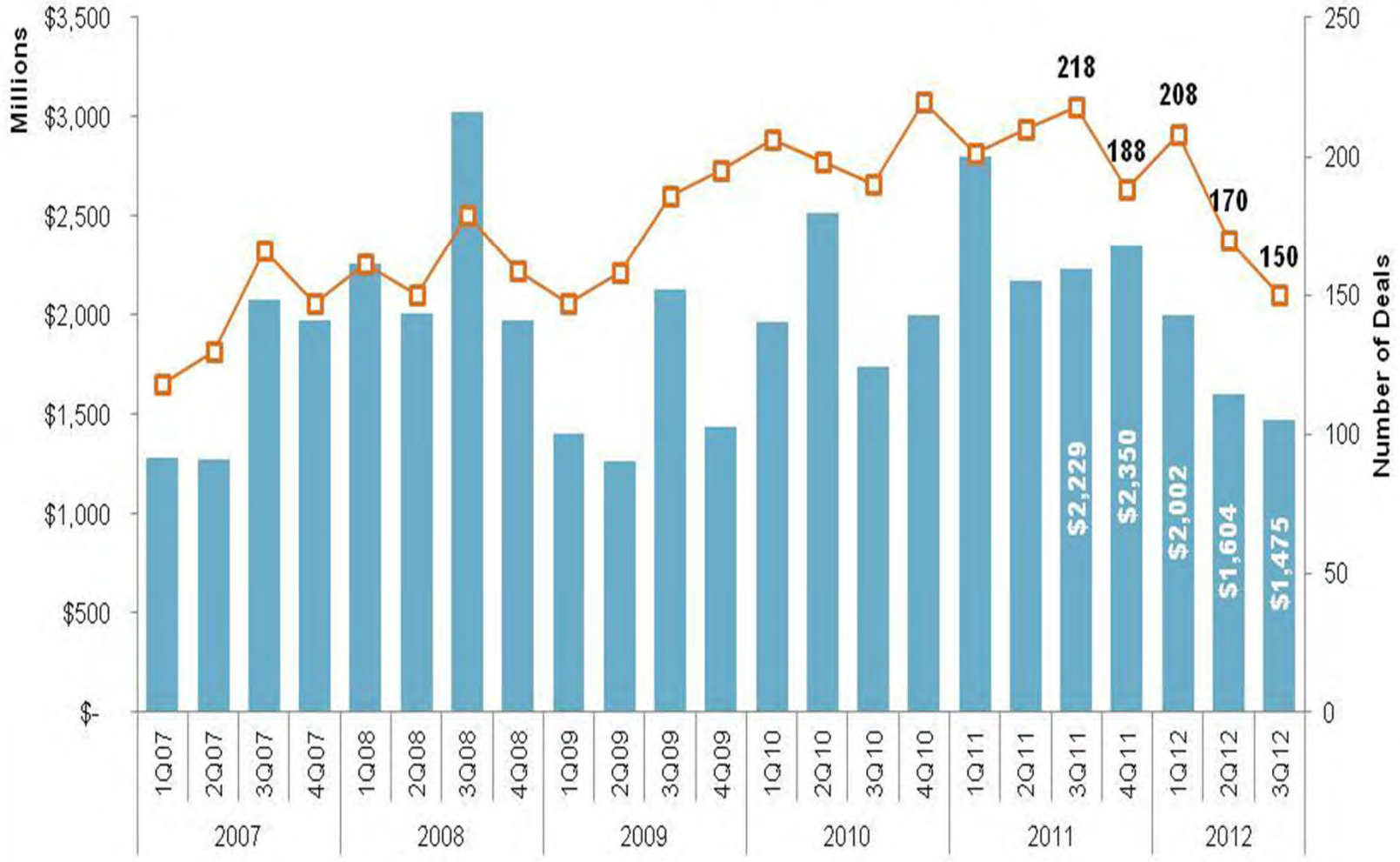
OVERVIEW OF BIOBASED CLEANTECH

- Overview of Cleantech investment for the last 5 years
- Breakdown of Biofuels and Biochemical investments.
- 3rd Quarter 2012 Investments in cleantech and Biobased
- Trends not favorable to investing in biobased companies
- Chemistries of Interest
- Potential Impact of Natural Gas/Shale Gas on growth & investment in Global biobased Economy

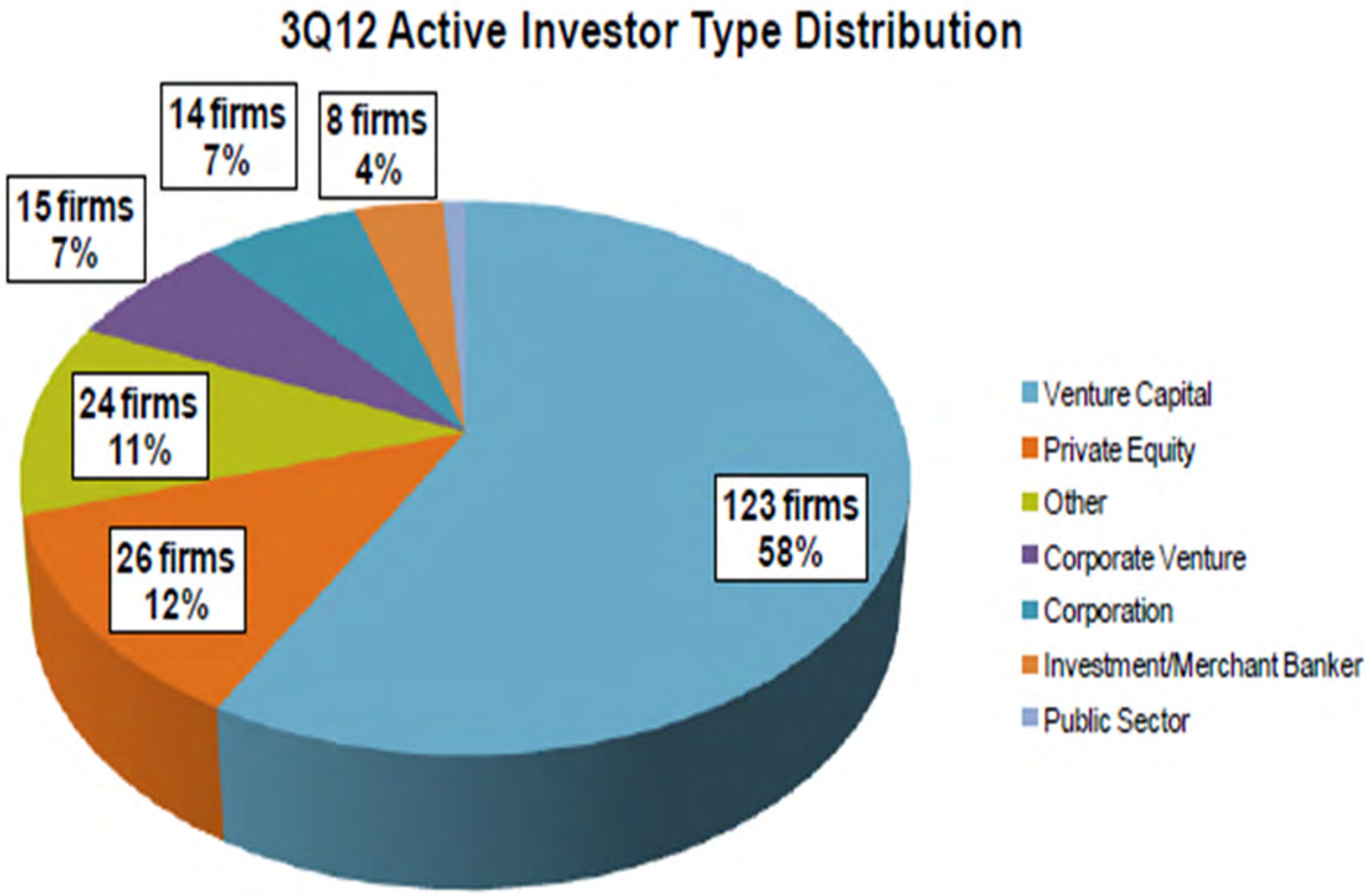


Source: Cleantech Group's i3 Platform, NVCA

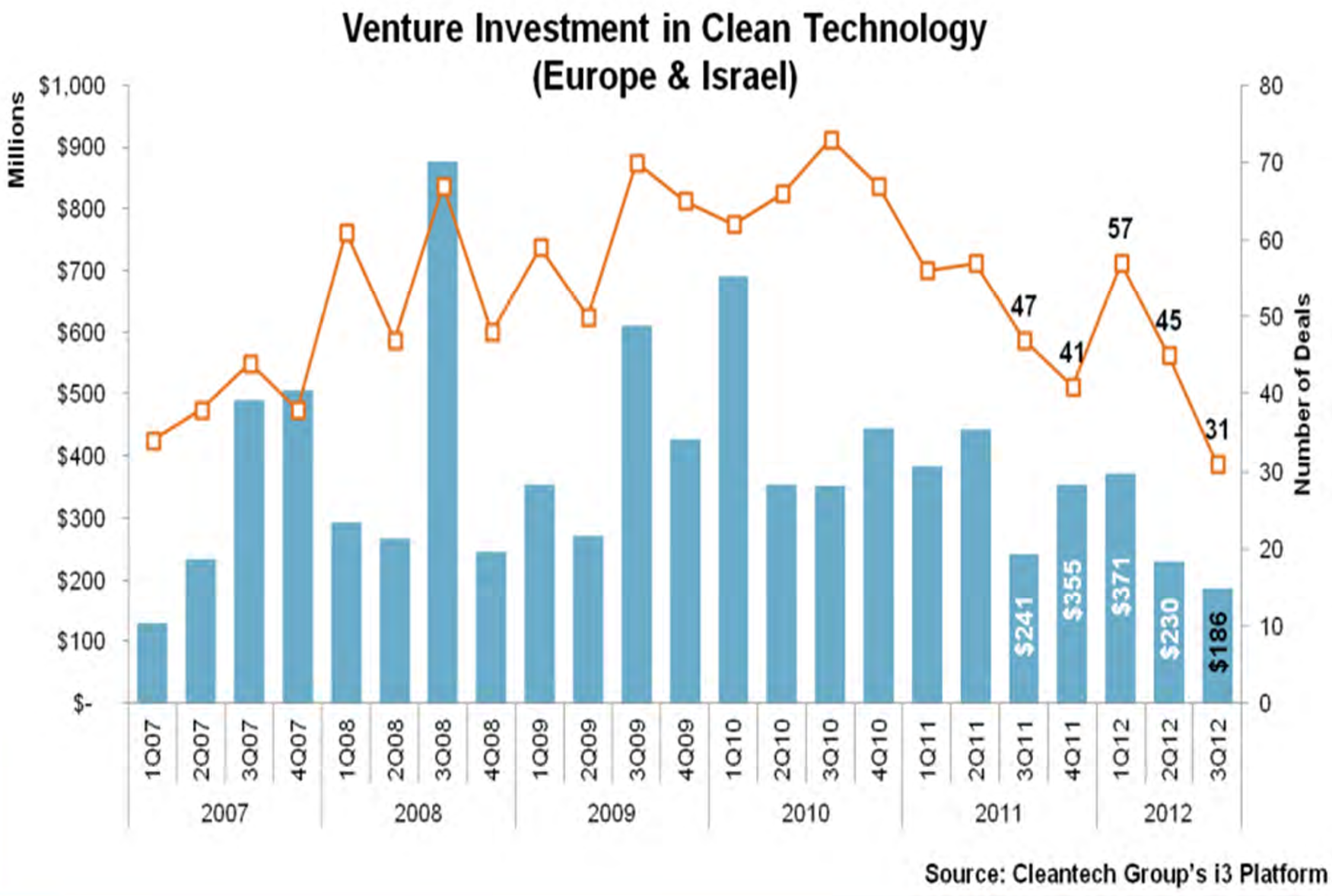
Venture Investment in Clean Technology



Source: Cleantech Group's i3 Platform



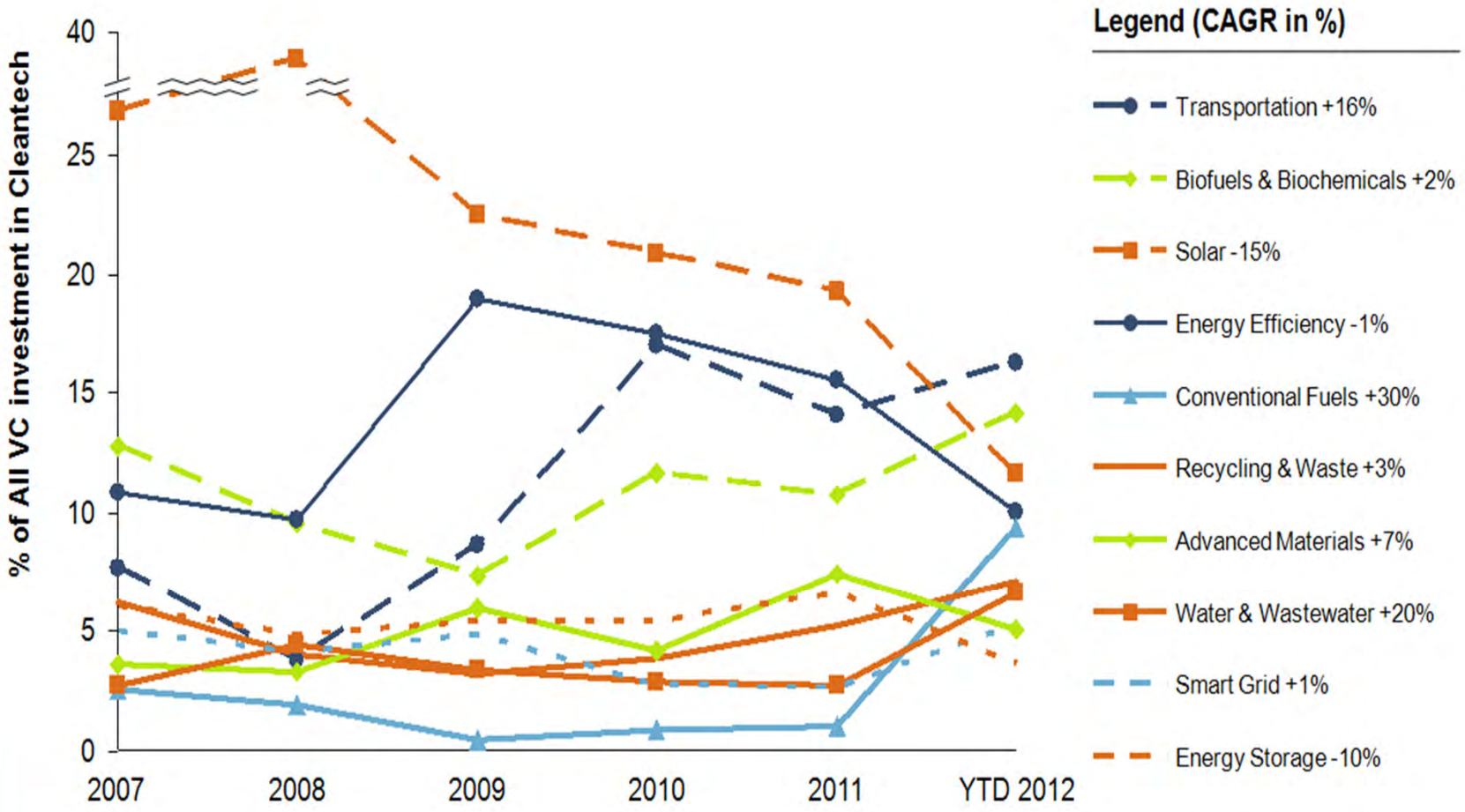
Source: Cleantech Group's i3 Platform



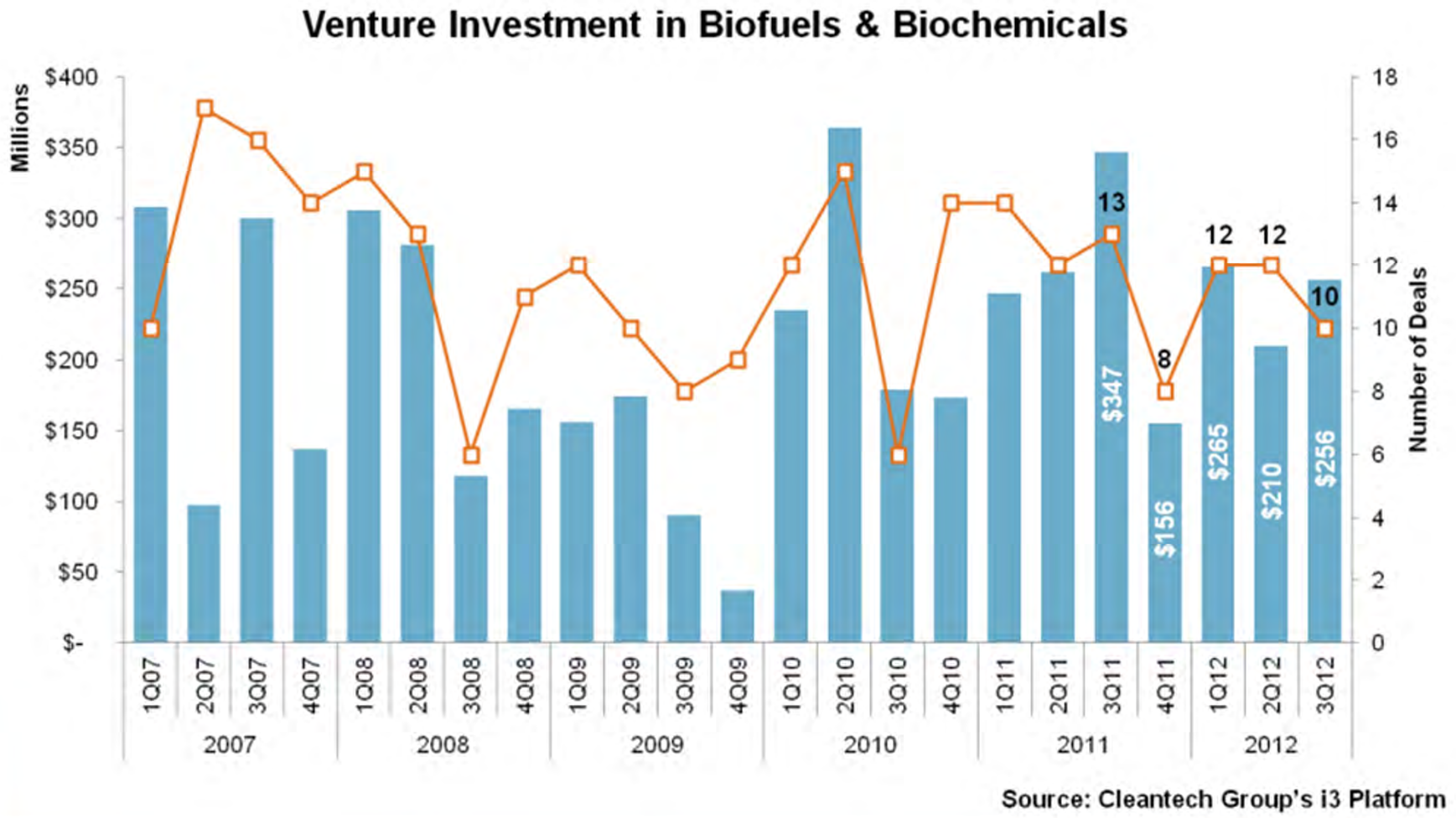
Source: Cleantech Group's i3 Platform

BIOFUELS AND BIOCHEMICALS

Cleantech VC Investment Breakdown, Top 10 Sectors YTD 2012



Source: Cleantech Group's i3 Platform


Venture Investment in Biofuels & Biochemicals
Millions
$400
$350
$300
$250
$200
$150
$100
$50
$-
Number of Deals
18
16
14
12
10
8
6
4
2
0
13
12
12
10
8
$347
$156
$265
$210
$256
1Q07
2Q07
3Q07
4Q07
1Q08
2Q08
3Q08
4Q08
1Q09
2Q09
3Q09
4Q09
1Q10
2Q10
3Q10
4Q10
1Q11
2Q11
3Q11
4Q11
1Q12
2Q12
3Q12
2007
2008
2009
2010
2011
2012
Source: Cleantech Group's i3 Platform

3RD QUARTER 2012 CLEANTECH US

The top ten deals in the quarter:

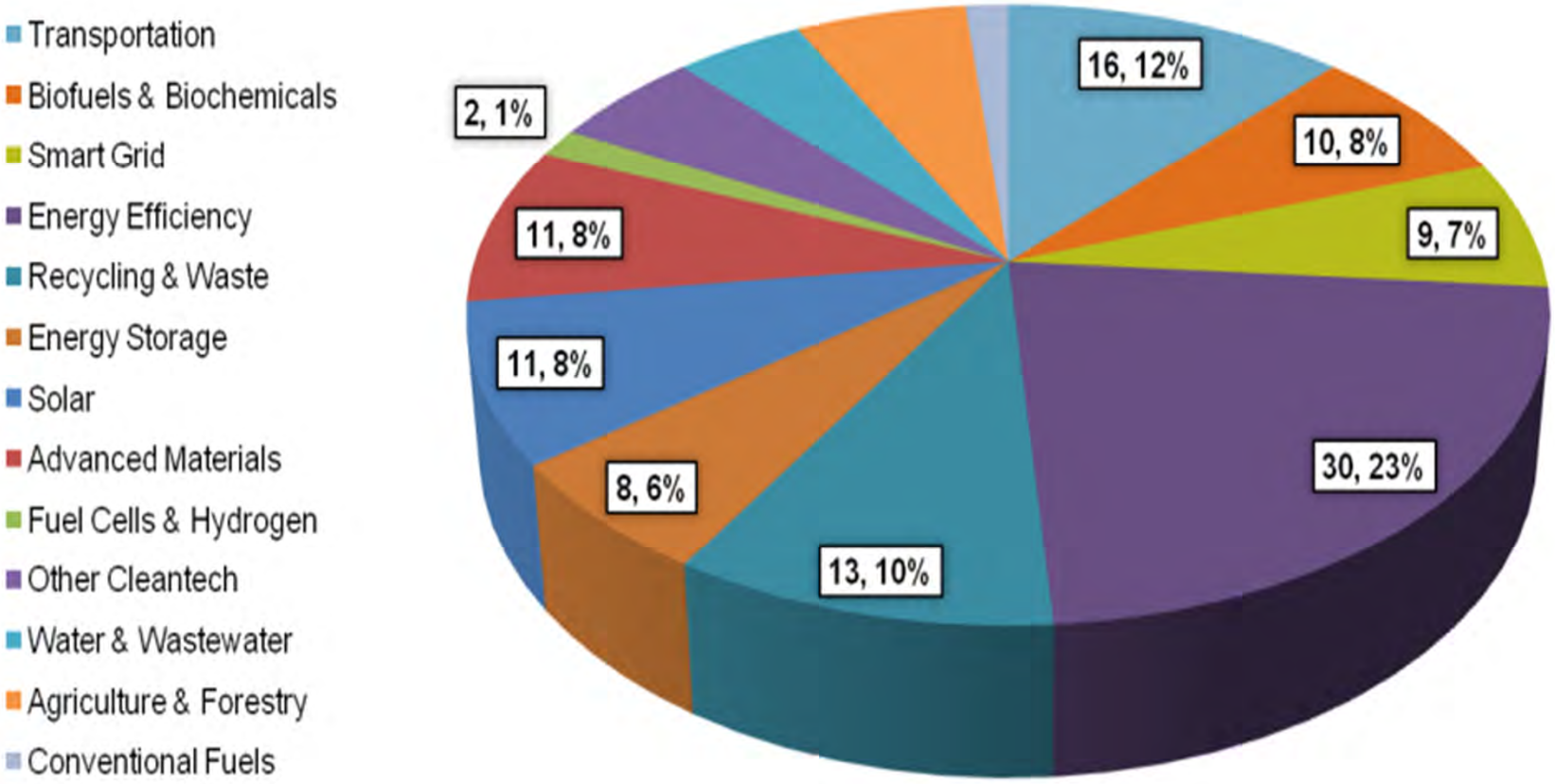
Company	Sector	Location	Round	Round Size	Total VCPE Raised	Latest Round % of Total Raised
Alarm.com	Smart Grid	VA, USA	2	$ 136,000,000	$ 136,832,500	99.4%
Bevance Renewable Sciences	Biofuels & Biochemicals	IL, USA	4	$ 104,000,000	$ 294,000,000	35.4%
Fisker Automotive	Transportation	CA, USA	11	$ 103,667,170	$1,112,074,314	9.3%
Protean Electric	Transportation	MI, USA	2	$ 84,000,000	$ 84,000,000	100.0%
Blu Homes	Energy Efficiency	MA, USA	2	$ 60,000,000	$ 67,000,000	89.6%
Genomatica	Biofuels & Biochemicals	CA, USA	4	$ 46,400,000	$ 131,800,000	35.2%
Lilliputian Systems	Fuel Cells & Hydrogen	MA, USA	8	$ 40,000,000	$ 160,372,395	24.9%
EcoMotors International	Transportation	MI, USA	3	$ 32,500,000	$ 71,250,000	45.6%
Solix BioSystems	Biofuels & Biochemicals	CO, USA	4	$ 31,000,000	$ 67,900,000	45.7%
Siluria Technologies	Conventional Fuels	CA, USA	4	$ 30,000,000	$ 66,600,000	45.0%
Average 3Q12 Top 10			**4.4**	**$ 66,756,717**	**$ 219,182,921**	**53.0%**
Average 2Q12 Top 10			*4.0*	*$ 75,501,059*	*$ 324,430,016*	*35.4%*
Median 3Q12 Top 10			**4.0**	**$ 53,200,000**	**$ 107,900,000**	**45.3%**
Median 2Q12 Top 10			*4.0*	*$ 57,500,000*	*$ 185,244,045*	*33.7%*

Source: Cleantech Group's i3 Platform

Venture Capital Firm	# of rounds	Companies	Sectors
Kleiner Perkins Caufield & Byers	9	Solexel Siluria Technologies Beyond Meat Upwind Solutions Lehigh Technologies Agrivida Lilliputian Systems SimpliVity Fisker Automotive	Solar Conventional Fuels Agriculture & Forestry Wind Recycling & Waste Biofuels & Biochemicals Fuel Cells & Hydrogen Energy Efficiency Transportation
I2BF Global Ventures	4	Solix BioSystems Epuramat ACAL Energy Utilight	Biofuels & Biochemicals Water & Wastewater Fuel Cells & Hydrogen Solar
Khosla Ventures	4	Sakti3 EcoMotors Segetis Blue River Technology	Energy Storage Transportation Advanced Materials Agriculture & Forestry
New Enterprise Associates	4	Svaya Nanotechnologies Trishe Qbotix Fisker Automotive	Advanced Materials Other Cleantech Solar Transportation
Bright Capital	4	Siluria Technologies Epuramat Agrivida Ener-G-Rotors	Conventional Fuels Water & Wastewater Biofuels & Biomaterials Energy Efficiency

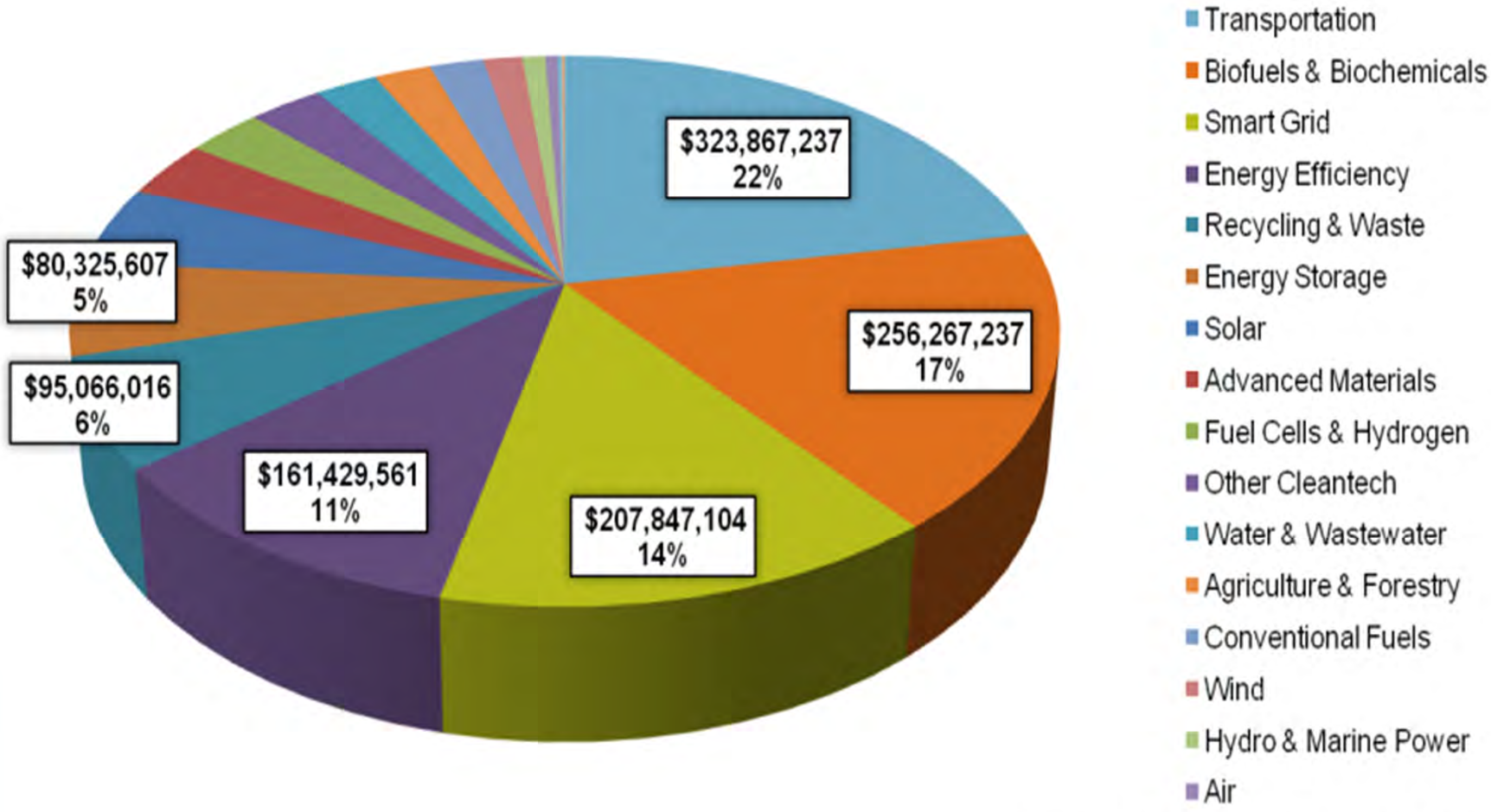
Source: Cleantech Group's i3 Platform

3Q12 Cleatech Sector Share by VC Deal Count



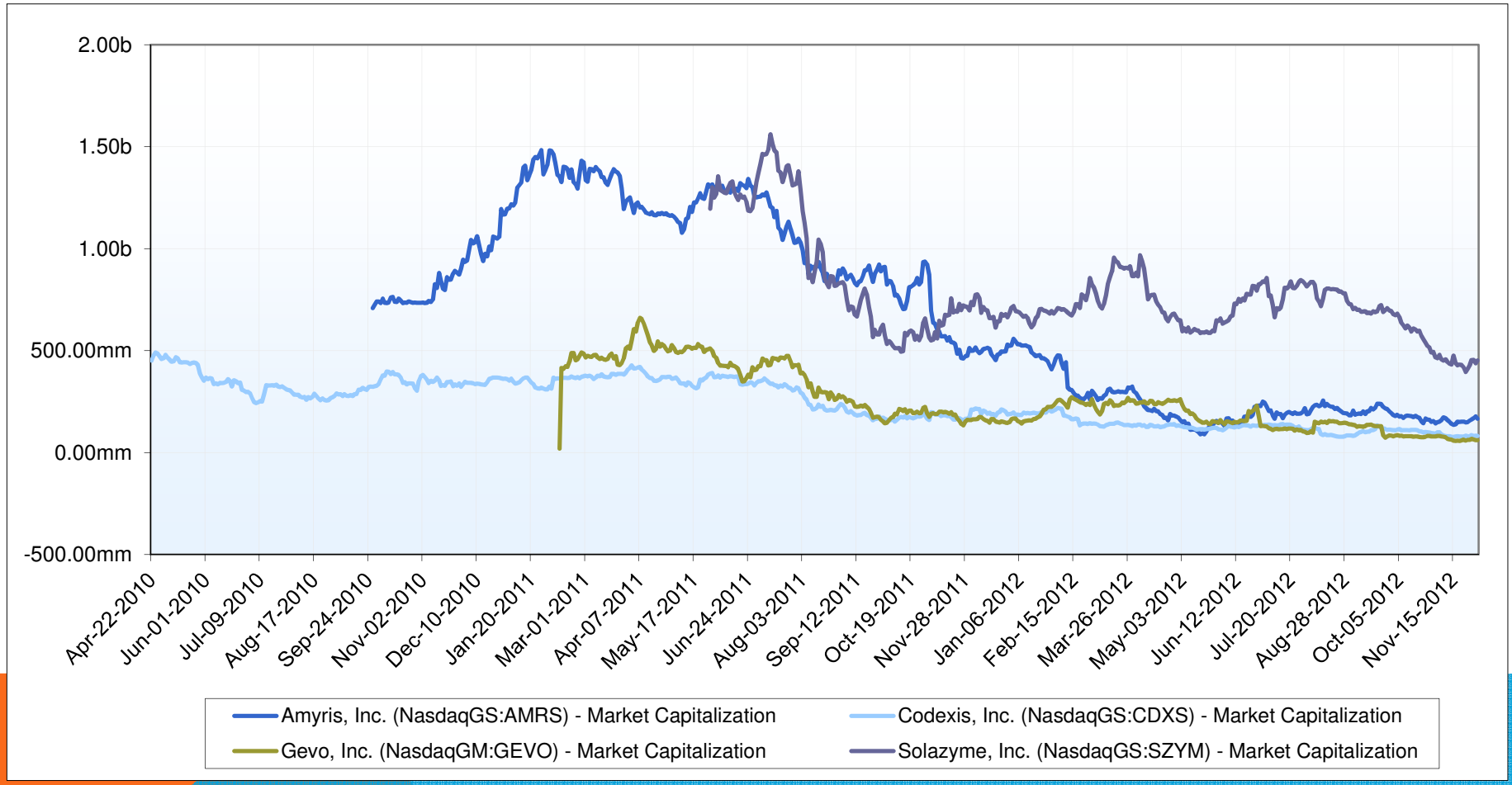
Source: Cleantech Group's i3 Platform

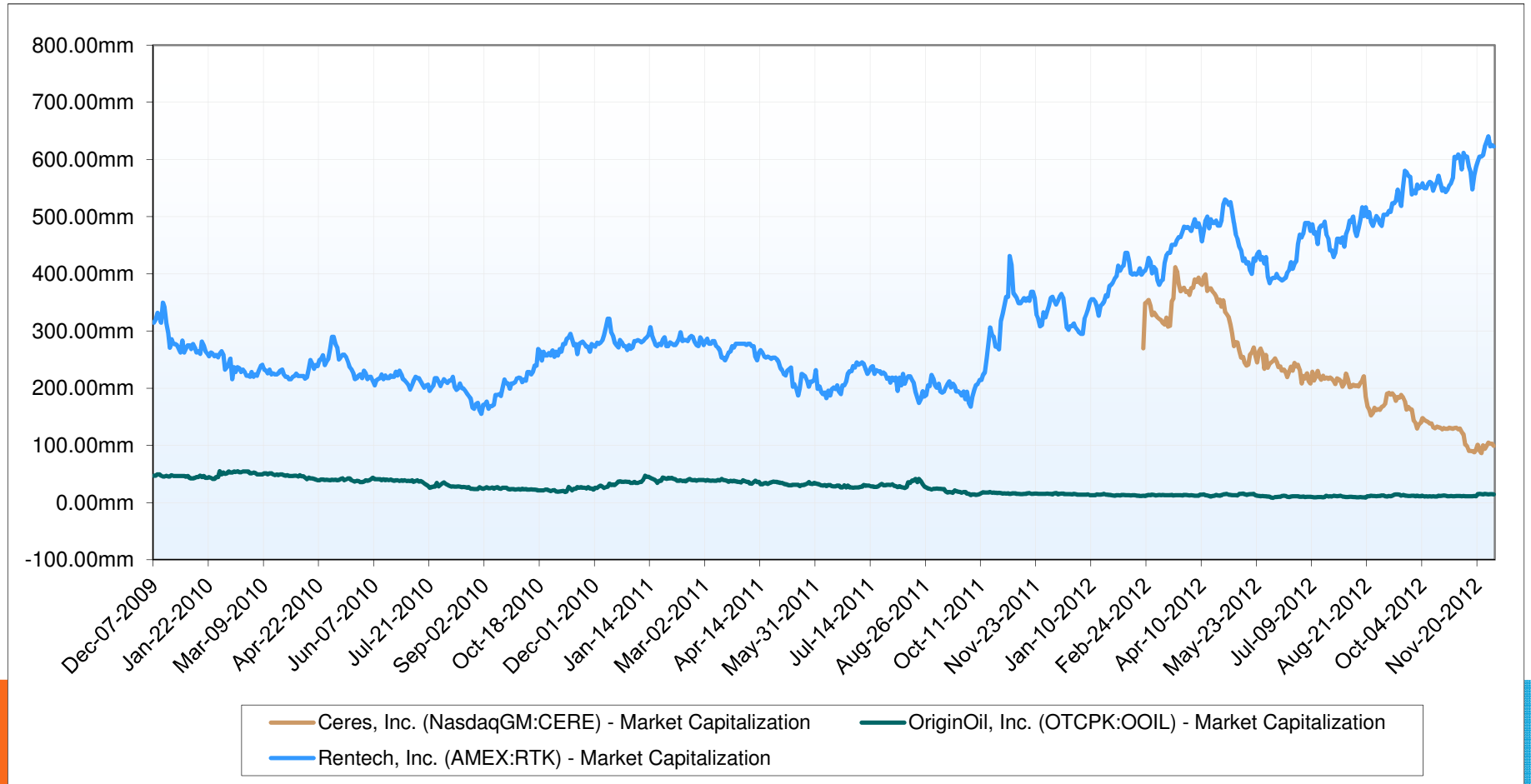
3Q12 Cleatech Sector Share by VC Amount



Source: Cleantech Group's i3 Platform

INVESTMENT TRENDS NOT FAVORABLE TO INVESTING IN BIOBASED COMPANIES


2.00b
1.50b
1.00b
500.00mm
0.00mm
-500.00mm
Apr-22-2010
Jun-01-2010
Jul-09-2010
Aug-17-2010
Sep-24-2010
Nov-02-2010
Dec-10-2010
Jan-20-2011
Mar-01-2011
Apr-07-2011
May-17-2011
Jun-24-2011
Aug-03-2011
Sep-12-2011
Oct-19-2011
Nov-28-2011
Jan-06-2012
Feb-15-2012
Mar-26-2012
May-03-2012
Jun-12-2012
Jul-20-2012
Aug-28-2012
Oct-05-2012
Nov-15-2012
Amyris, Inc. (NasdaqGS:AMRS) - Market Capitalization
Codexis, Inc. (NasdaqGS:CDXS) - Market Capitalization
Gevo, Inc. (NasdaqGM:GEVO) - Market Capitalization
Solazyme, Inc. (NasdaqGS:SZYM) - Market Capitalization


800.00mm
700.00mm
600.00mm
500.00mm
400.00mm
300.00mm
200.00mm
100.00mm
0.00mm
-100.00mm
Dec-07-2009
Jan-22-2010
Mar-09-2010
Apr-22-2010
Jun-07-2010
Jul-21-2010
Sep-02-2010
Oct-18-2010
Dec-01-2010
Jan-14-2011
Mar-02-2011
Apr-14-2011
May-31-2011
Jul-14-2011
Aug-26-2011
Oct-11-2011
Nov-23-2011
Jan-10-2012
Feb-24-2012
Apr-10-2012
May-23-2012
Jul-09-2012
Aug-21-2012
Oct-04-2012
Nov-20-2012
Ceres, Inc. (NasdaqGM:CERE) - Market Capitalization
OriginOil, Inc. (OTCPK:OOIL) - Market Capitalization
Rentech, Inc. (AMEX:RTK) - Market Capitalization

North American Venture-backed Cleantech IPO Withdrawals in 2012

Company	Sector	State/Prov.	Quarter	Amount Raised	Notes
BrightSource Energy	Solar	CA	2Q12	$182,510,000	Raised $80M in Oct.
Luca Technologies	Conventional Fuels	CO	2Q12	$125,000,000	
Enerkem	Biofuels & Biochemicals	QC	2Q12	$125,000,000	
Coskata	Biofuels & Biochemicals	IL	3Q12	$100,000,000	Will seek private funding
Elevance Renewable Sciences	Biofuels & Biochemicals	IL	3Q12	$100,000,000	Raised $104M in Jul.
Genomatica	Biofuels & Biochemicals	CA	3Q12	$100,000,000	Raised $46M in Aug.
Smith Electric Vehicles (USA)	Transportation	MO	3Q12	$77,000,000	Will seek private funding

Source: Cleantech Group's i3 Platform

CHEMISTRIES OF INTEREST

2009 MCKINSEY ULRICH BIOPOLYMER STUDY

Polymer	Sales 2007 USD billion	Biotechnology inroad
• Polyurethane	~27	• Soy-based polyols
• Unsaturated polyester resins	~13	• Maleic anhydride from succinic acid
• Nylon 6	~13	• Caprolactam from fermentation
• ABS*	~11	• Butadiene from succinic acid
• Polyacrylamide**	~7	• Acrylonitrile from 3HP
• Polybutadiene	~6	• Adipic acid from fermented succinic acid
• Acrylic fibers	~5	• Acrylamide from 3HP
• Nylon 6.6	~5	• Butadiene from succinic acid

A number of bio-based building blocks and biopolymers are either in late stage R&D or early commercialization

Bio-based product*	Producers	End-products/applications
Ethylene	• Solvay/Copersucar • Braskem • Dow/Crystalsev	Ethanol-to-ethylene for PVC, HDPE, LLDPE HDPE
Lactic acid	• Cargill/Teijin • Tate&Lyle/Codexis • Total/Galactic • Tohcello • Cereplast	Polylactic acid (PLA)
1,3-PDO	• DuPont/Tate&Lyle/ Genencor • Metabolic Explorer/IFP • Dow/Huntsman	PTT (Sorona™) – textile, industrial fibers, cosmetics, liquid detergents, antifreeze
PHA	• Metabolix/ADM • Meredian*** • Tianjin Green Bio-Science	Bio-based polymer family with multiple applications
Succinic acid	• DSM/Roquette/DNP • Mitsubishi Chemical/ Ajinomoto • BioAmber** • BASF	Adipic acid, 1,4-butanediol, THF, maleic-, fumaric acid, pharmaceutical and food applications
3-HPA	• Cargill/Novozymes/ Codexis	Acrylic acid (plastics, fibers, coatings, paints, superabsorbers), acrylamide, 1,3-propanediol

On hold (due to crisis)

- Direct fermentation of bio-based chemical intermediates and polymers

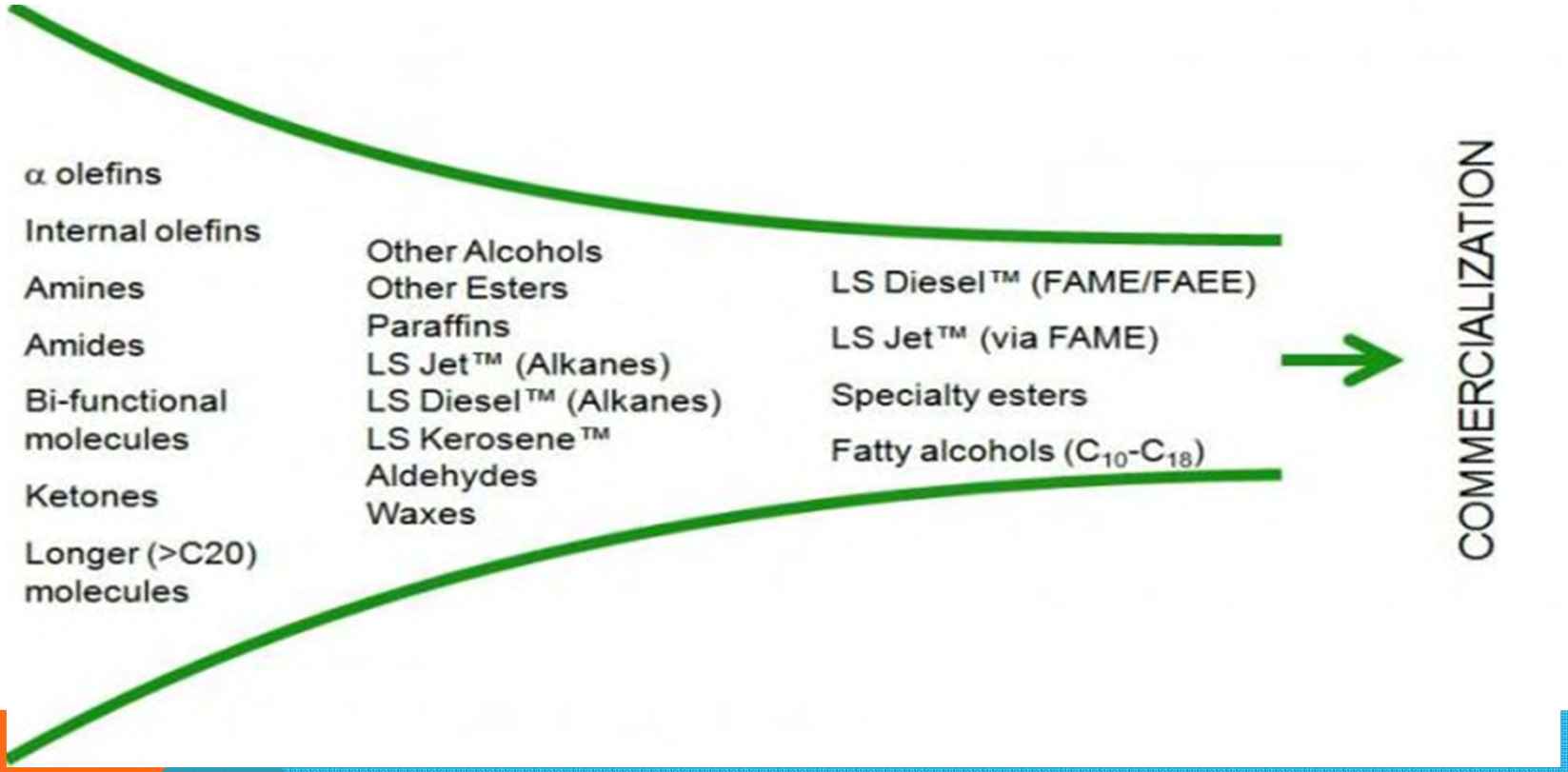
or

- Chemical conversion of bio-based intermediates

2012 BIOPOLYMER STATUS

- A number of biobased companies that received funding for biofuels are migrating to higher value biochemicals for cosmetics, detergents, and other chemical applications.
- Examples are new publically traded companies such as Solazyme, Amyris, and Codexis. Gevo, and privately funded companies such as Synthetic Genomics and LS9
- Succinic acid seems to be gaining more interest
- Desire to see more biochemicals based on sustainable source waste and non-food plants

LS9's Platform Technology enables a diverse portfolio of chemicals and fuels.

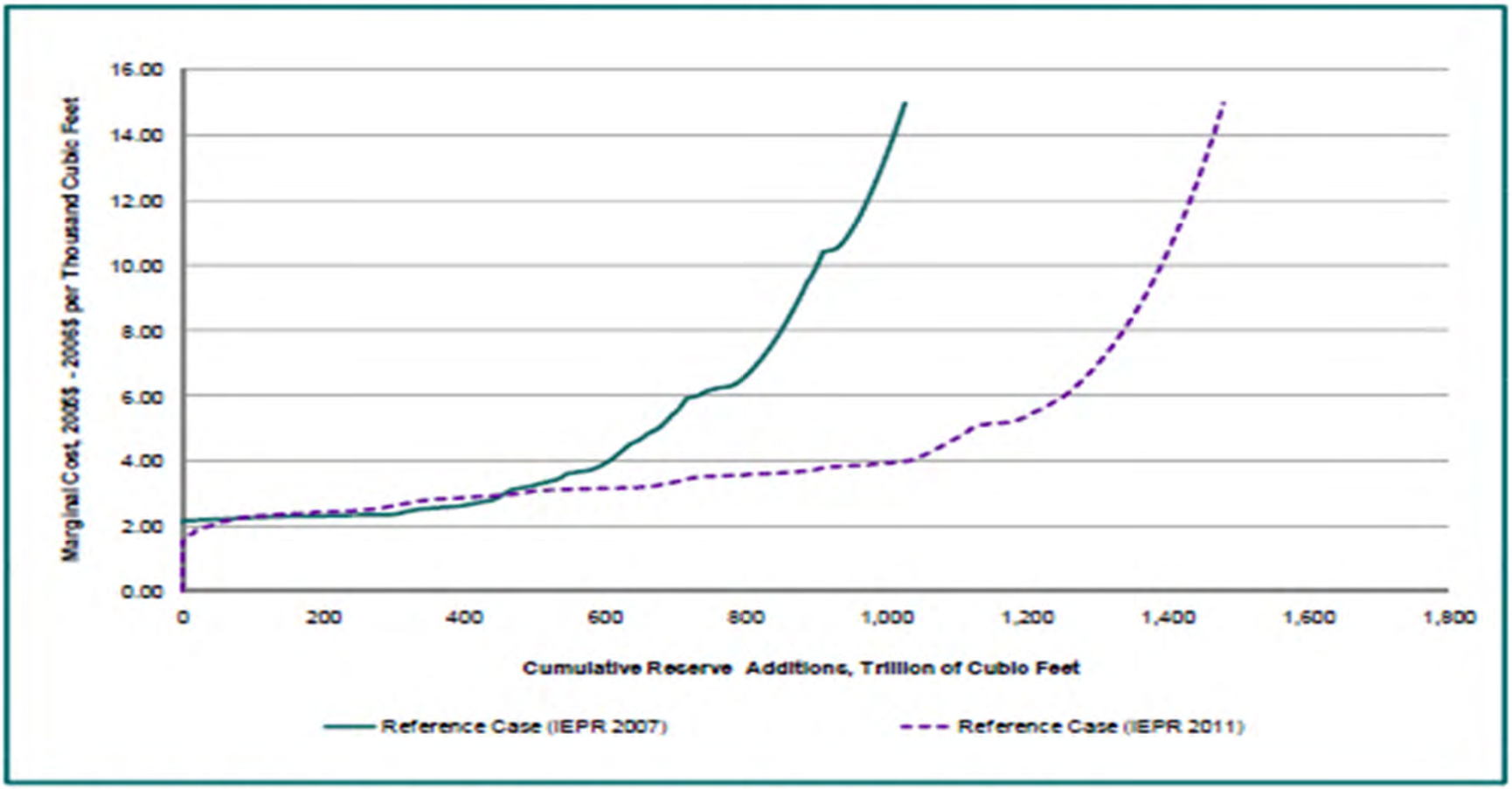


Potential Impact of Natural Gas/Shale Gas on Growth & Investment in Global Biobased Economy

OIL, GAS OUTPUT IN U.S. ON THE RISE

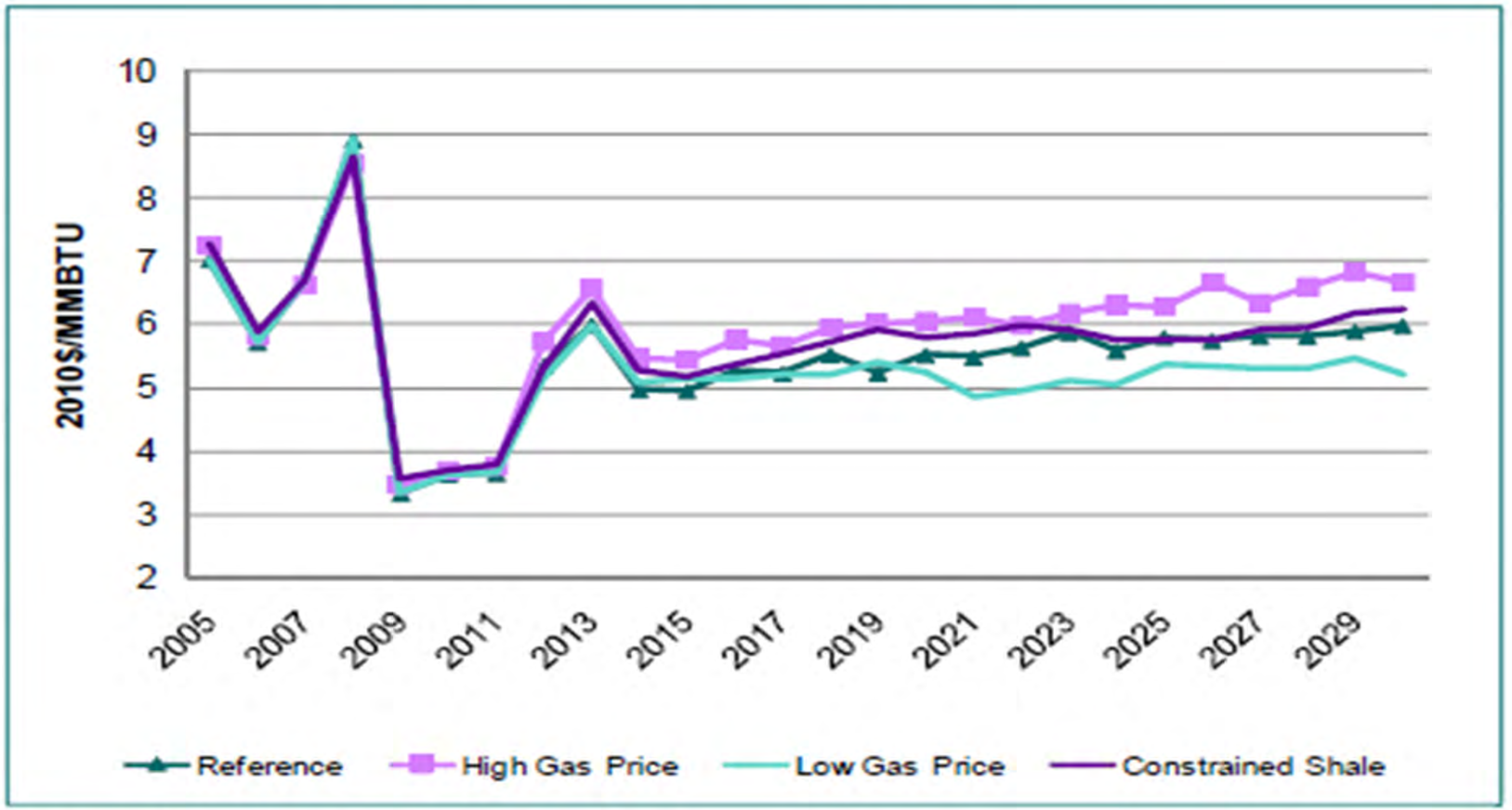
By 2020, the U.S. is projected to be the world's largest oil producer, and by 2030, it will become a net oil exporter, according to a new study by the International Energy Agency. The profound change is driven in large part by unconventional oil-field production technologies used in shale and tight sand deposits, the report says, coupled with more efficient use of oil. The report also says output will surge for natural gas production, with the nation becoming a net exporter of natural gas by 2020. In its annual World Energy Outlook, IEA forecasts that fossil fuels will remain dominant in the global energy mix, supported by significant worldwide subsidies of $523 billion, which is six times greater than global subsidies for renewable energy. Global coal use will continue to grow by about 21% by 2035, mostly because of demand in China and India. However, by that time, renewable energy will nearly equal coal as the primary source of electricity, the report says.—JJ

Figure ES-1: Change in Outlook of Gas Supply Costs, 2011 vs. 2007



Source: Rice World Gas Trade Model and California Energy Commission staff analysis.

Figure ES-3: Henry Hub Daily Spot Market Natural Gas Prices Across Cases Designed to Move Gas Prices



Source: California Energy Commission staff analysis.

STRANGE PARTNERS RESISTING LNG EXPORT FROM US

- Dow Chemical is leading the charge for chemical producers in support of restriction on export of LNG from US.
- The chemical companies are partnered with environmental groups such as the Sierra Club, which has been in lawsuits with Dow for years.
- Pushing for <10% of U.S. Natural gas being exported
- Lobbying with EPA and other groups to limit permits for export LNG terminals. There are only two approved and/or in operation as of June 2012.
- There are 22 requests for permits for LNG gas export farms including for modifying 9 out of the 11 existing import farms

DOW TO PRODUCE CHEMICALS FROM NATURAL GAS IN US GULF COAST PLANTS

- Dow is the first US industrial energy user in the U.S. to commit to LNG terminal capacity on a long-term basis (20 years) for up to 500 million cubic feet (14 million cubic meters) per day (mmcf/d) of throughput capacity at Freeport Texas LNG's proposed liquefied natural gas (LNG) receiving terminal.
- Dow facilities in Texas and Louisiana consume nearly 600 million cubic feet (17.6 million cubic meters) per day of natural gas.
- To put into Dutch perspective, the Dow natural gas usage represents 14% of all of Holland's daily natural gas consumption and7% of Holland production capacity

NATURAL GAS/SHALE GAS DEVELOPING IN NEW GLOBAL GEOGRAPHICAL AREAS

- Shell buys Marshall, Pennsylvania company for $4.7 billion to access Marcellus Gas shale land and has started an environmental study on building an ethylene cracker in this western Pennsylvania area.
- Shell and GE have acquired two of the 10 private licenses to commercialize natural gas in China including shale gas.
- China has announced in June 2012 that country plans to start producing shale gas on a commercial basis by end of 2015 (highly optimistic)
- First Poland shale gas project is announced in early December 2012

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