



# Slides to accompany testimony to the Select Committee for Energy Independence & Global Warming

Washington DC, 22 September 2010



## The Global Clean Energy Race

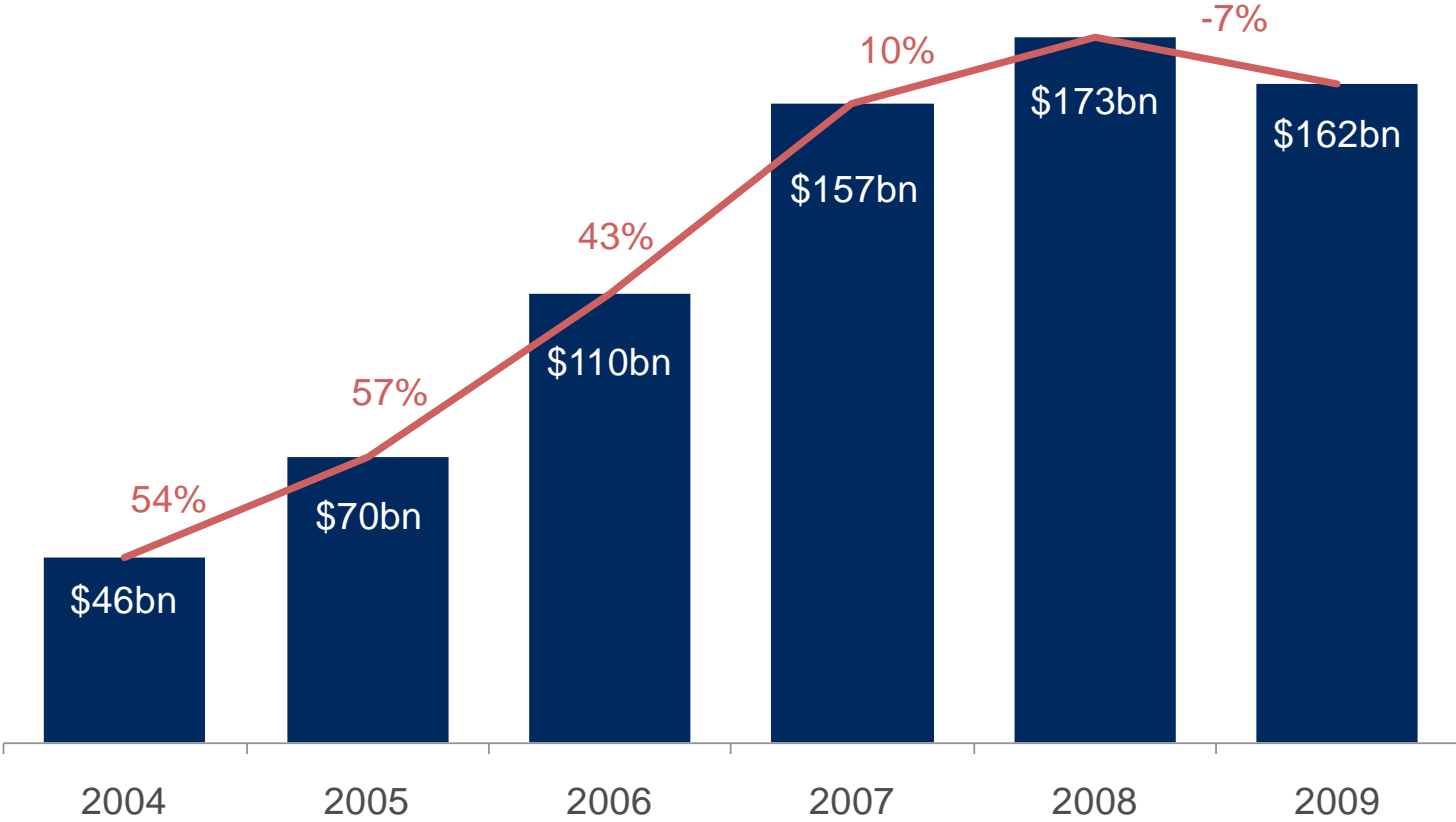


Michael Liebreich  
Chief Executive



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



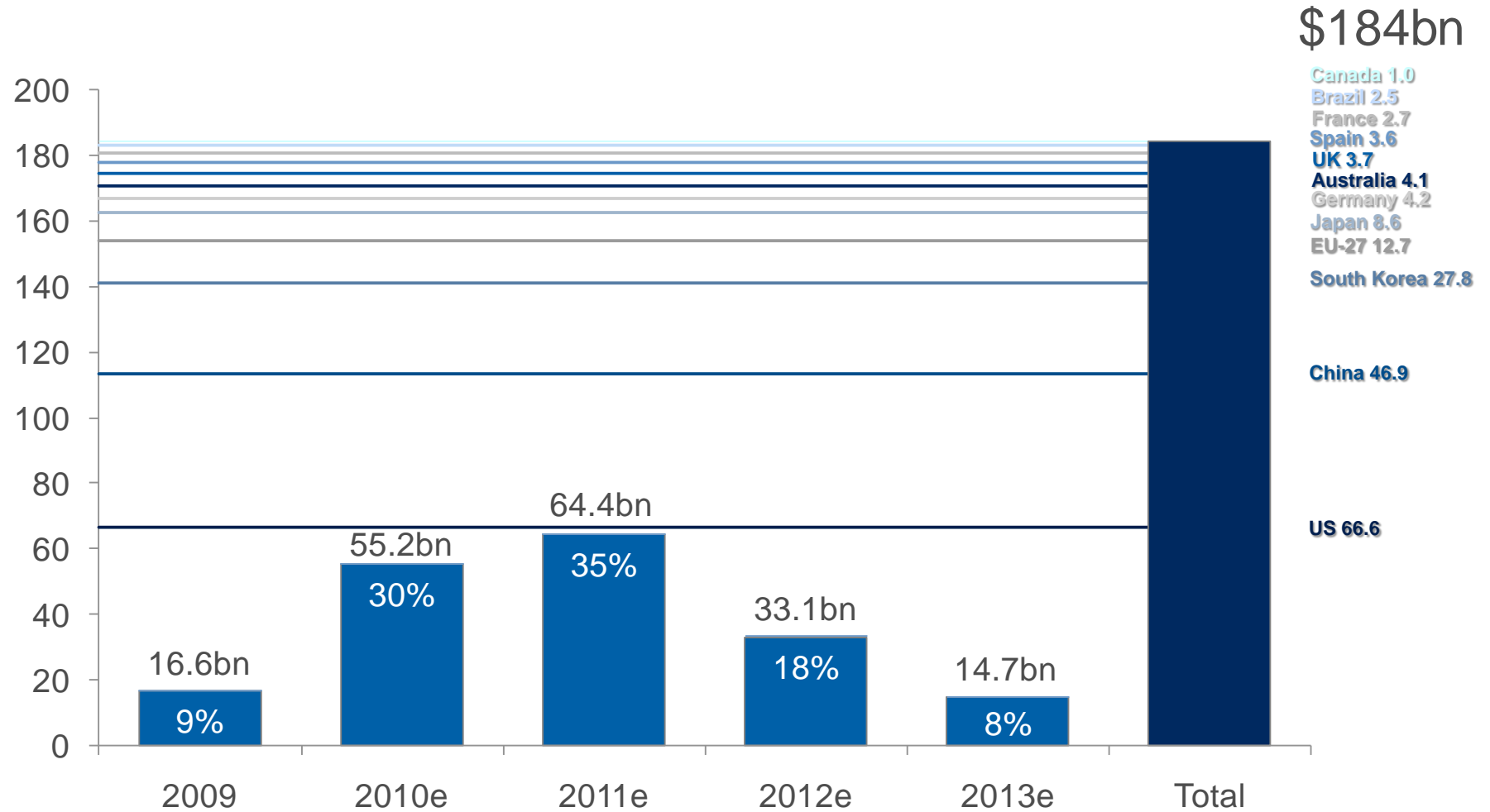
Source: Bloomberg New Energy Finance  
Note: Total values include estimates from undisclosed deals

# Wilderhill Global Energy Innovation Index (NEX) performance 2003 – 2010 YTD (1 Jan 2003 = 100)



Source: Bloomberg New Energy Finance  
Note: Values as of 10 Sep 2010

# Annual Global stimulus spending & stimulus components target at clean energy (\$bn)



Source: Bloomberg New Energy Finance, government agencies  
 Note: Estimates based on disclosed information, as of 12 February 2010

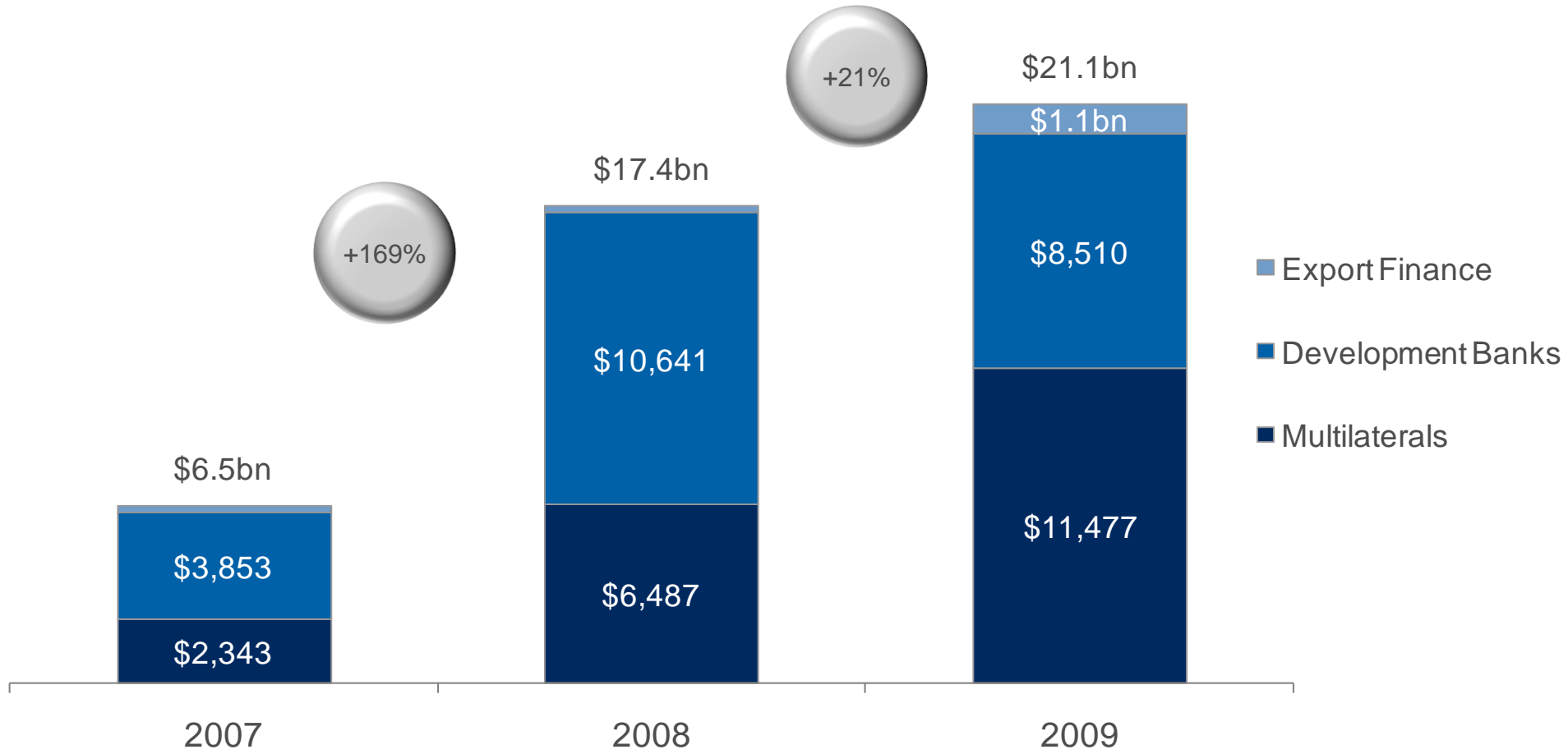
# New financial investment in clean energy: United States

## Q1 2004 – Q2 2010(\$bn)



Source: Bloomberg New Energy Finance  
 Note: Financial sector investment only (excludes corporate and government R&D; small distributed capacity). Not adjusted for re-invested equity. Includes estimates for undisclosed deals.

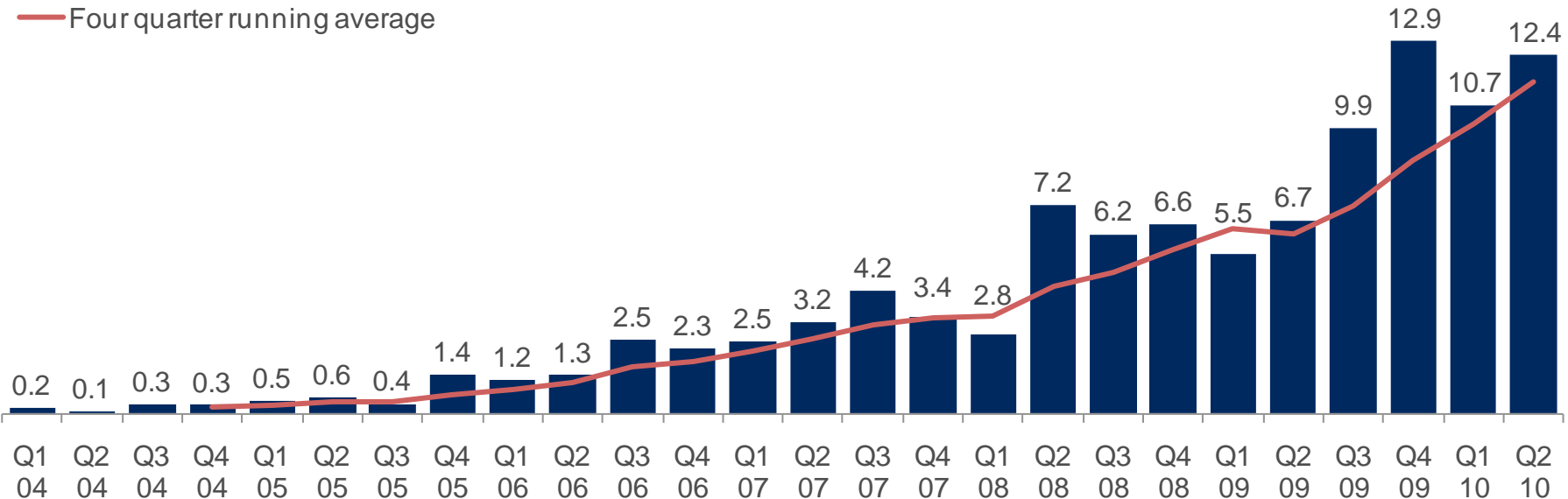
# Multilateral and development bank lending (\$bn)



Source: Bloomberg New Energy Finance

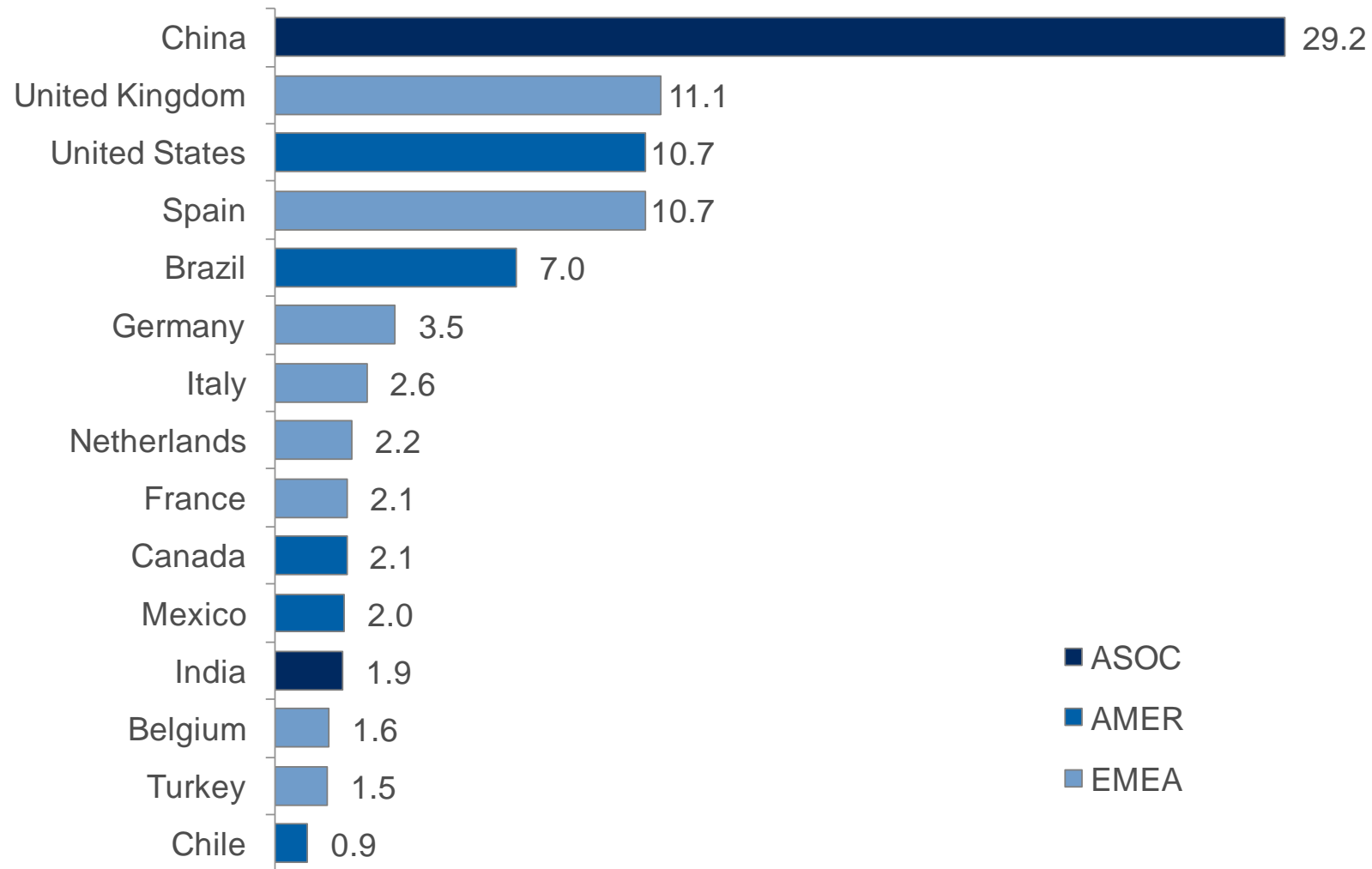
# New financial investment in clean energy: China

## Q1 2004 – Q2 2010(\$bn)



Source: Bloomberg New Energy Finance  
 Note: Financial sector investment only (excludes corporate and government R&D; small distributed capacity). Not adjusted for re-invested equity. Includes estimates for undisclosed deals.

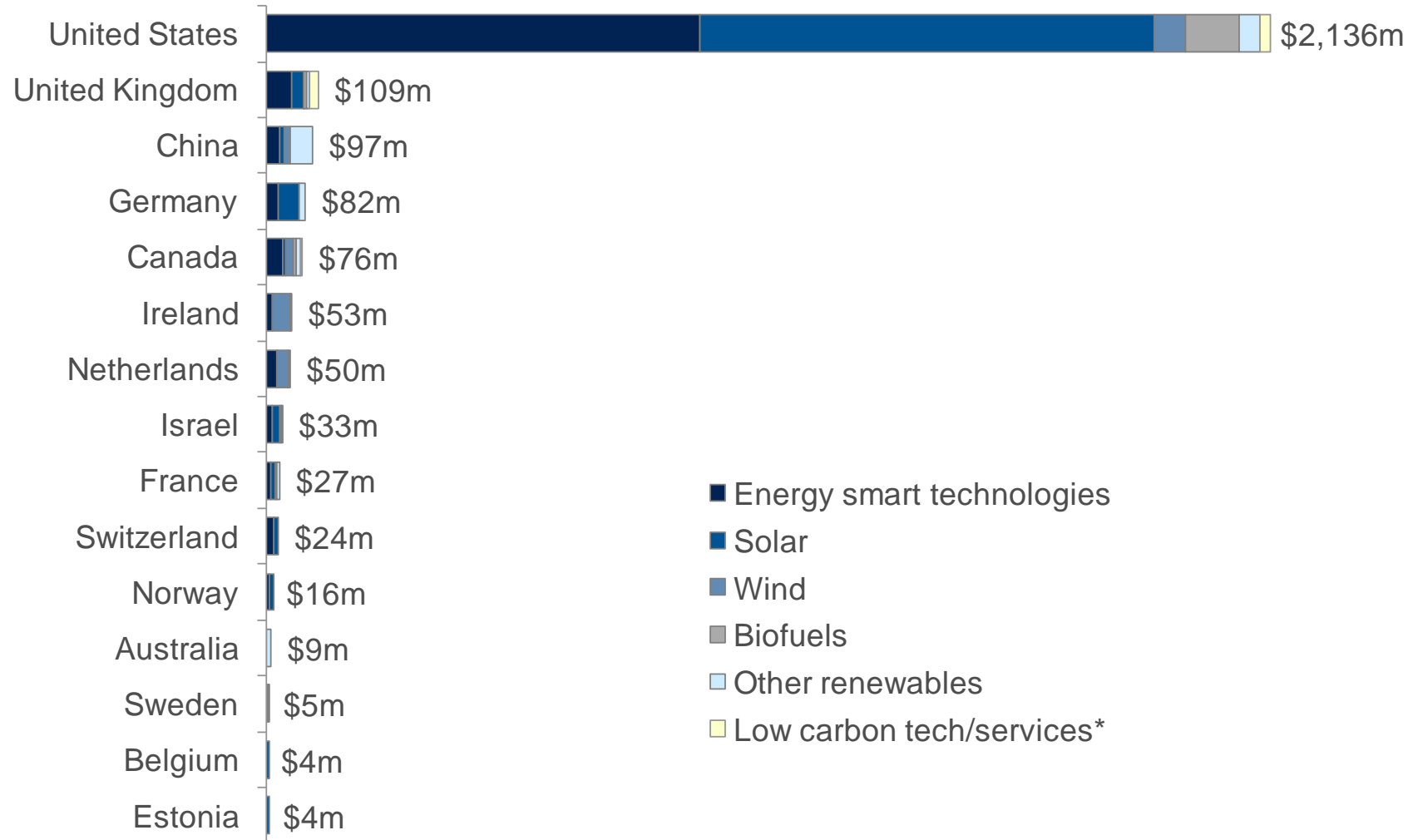
# Asset finance for new build clean energy assets - top 15 countries 2009 (\$bn)



Source: Bloomberg New Energy Finance  
Note: Total values include estimates for undisclosed deals



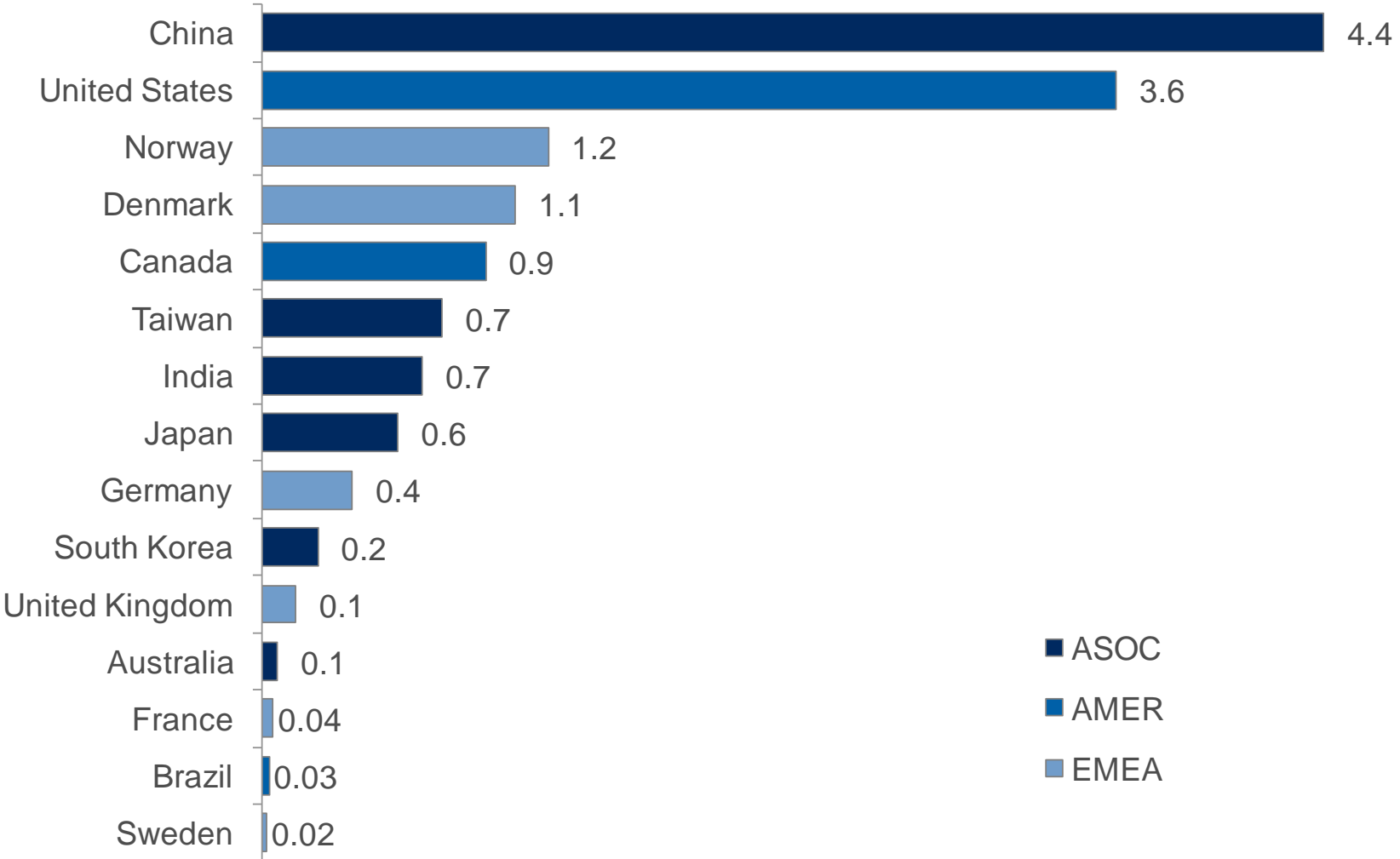
# VC new investment in clean energy by sector – top 15 countries: 2009 (\$m)



Source: Bloomberg New Energy Finance

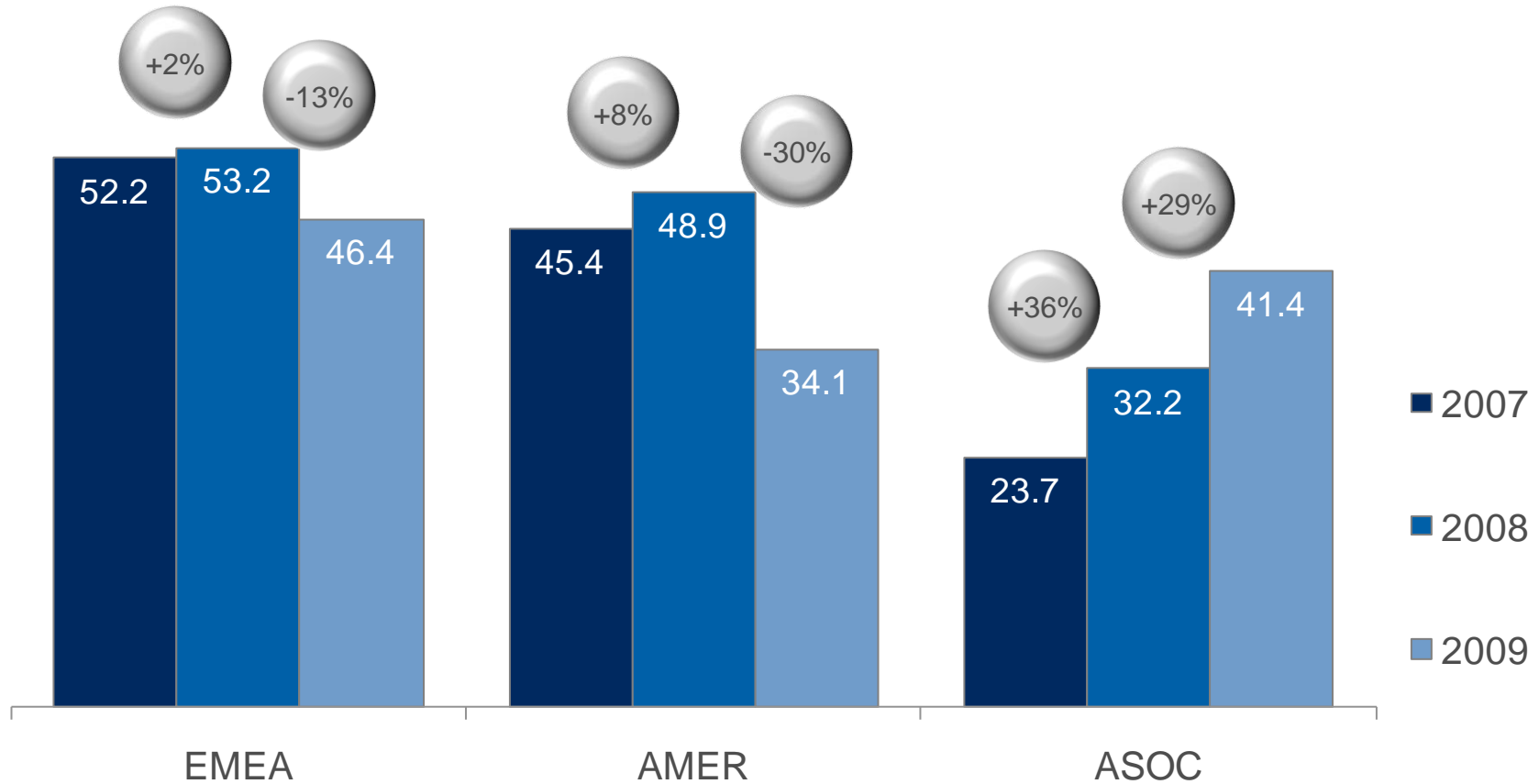
Note: : Total values include estimates from undisclosed deals. \*includes CCS

# Public markets new equity raised for clean energy - top 15 countries 2009 (\$bn)



Source: Bloomberg New Energy Finance

# New financial investment in clean energy by region: 2007, 2008 & 2009 (\$bn)



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

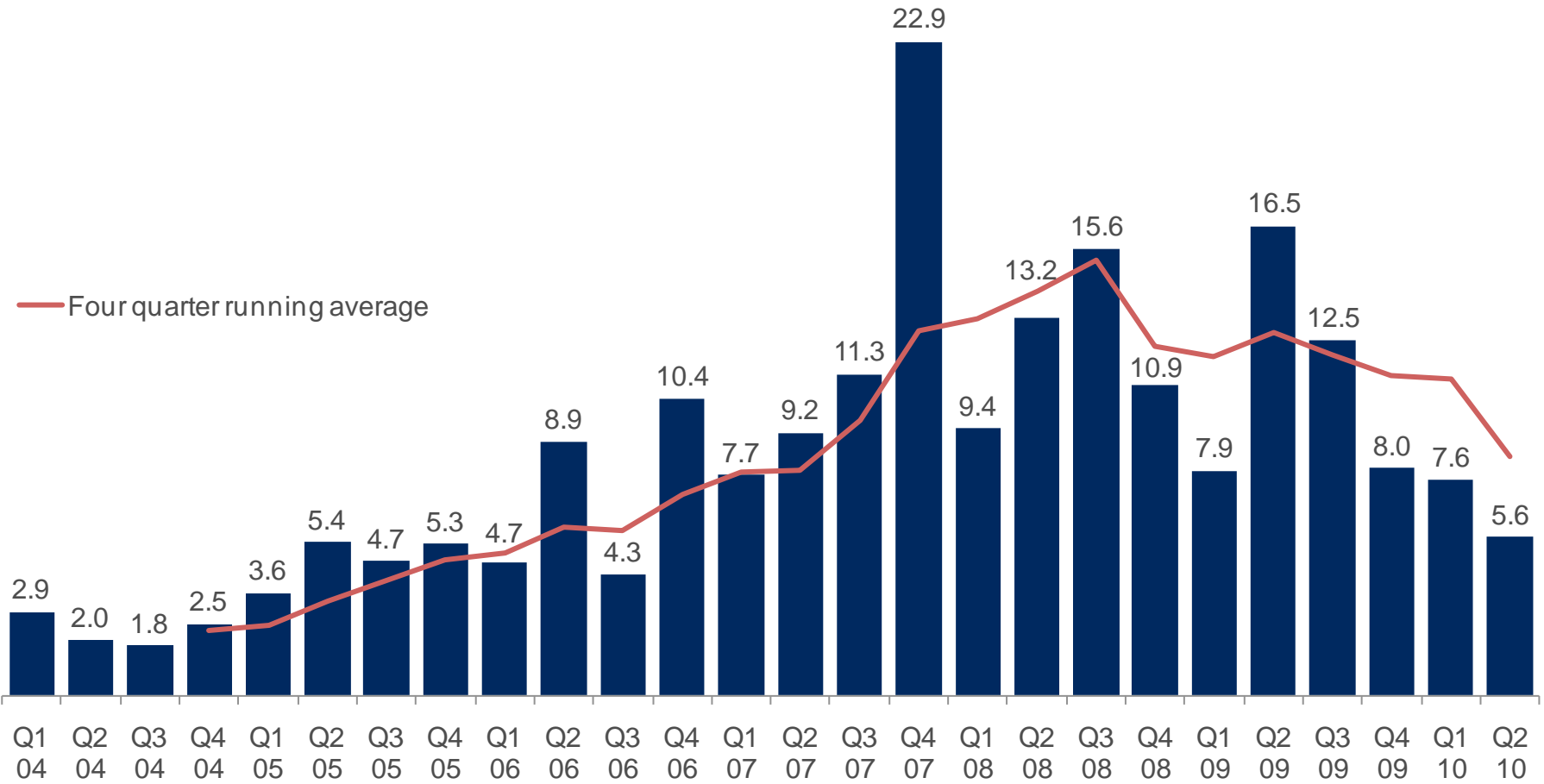
Source: Bloomberg New Energy Finance

Additional slides

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# New financial investment in clean energy: Europe

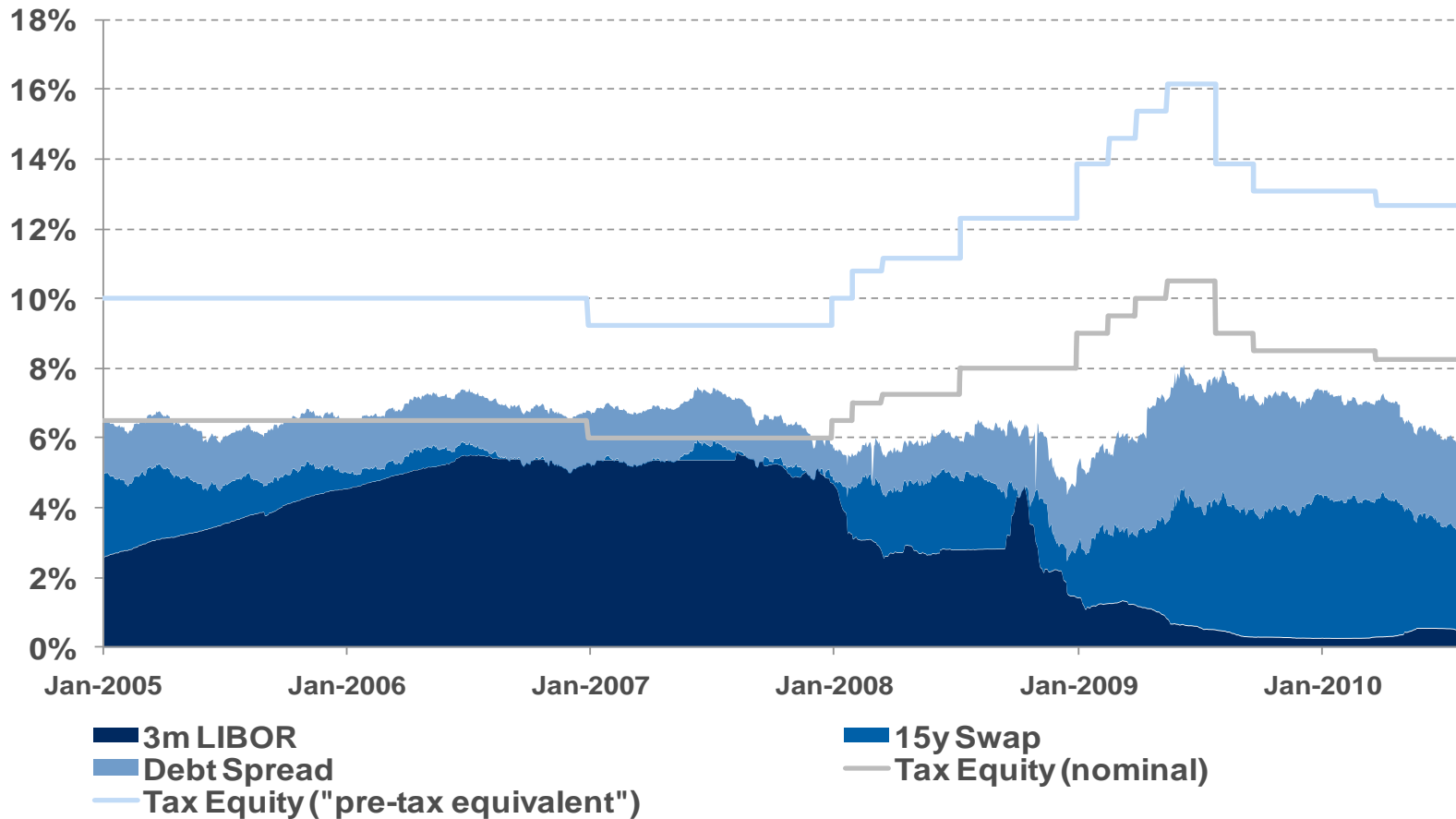
## Q1 2004 – Q2 2010(\$bn)



Source: Bloomberg New Energy Finance

Note: Financial sector investment only (excludes corporate and government R&D; small distributed capacity). Not adjusted for re-invested equity. Includes estimates for undisclosed deals.

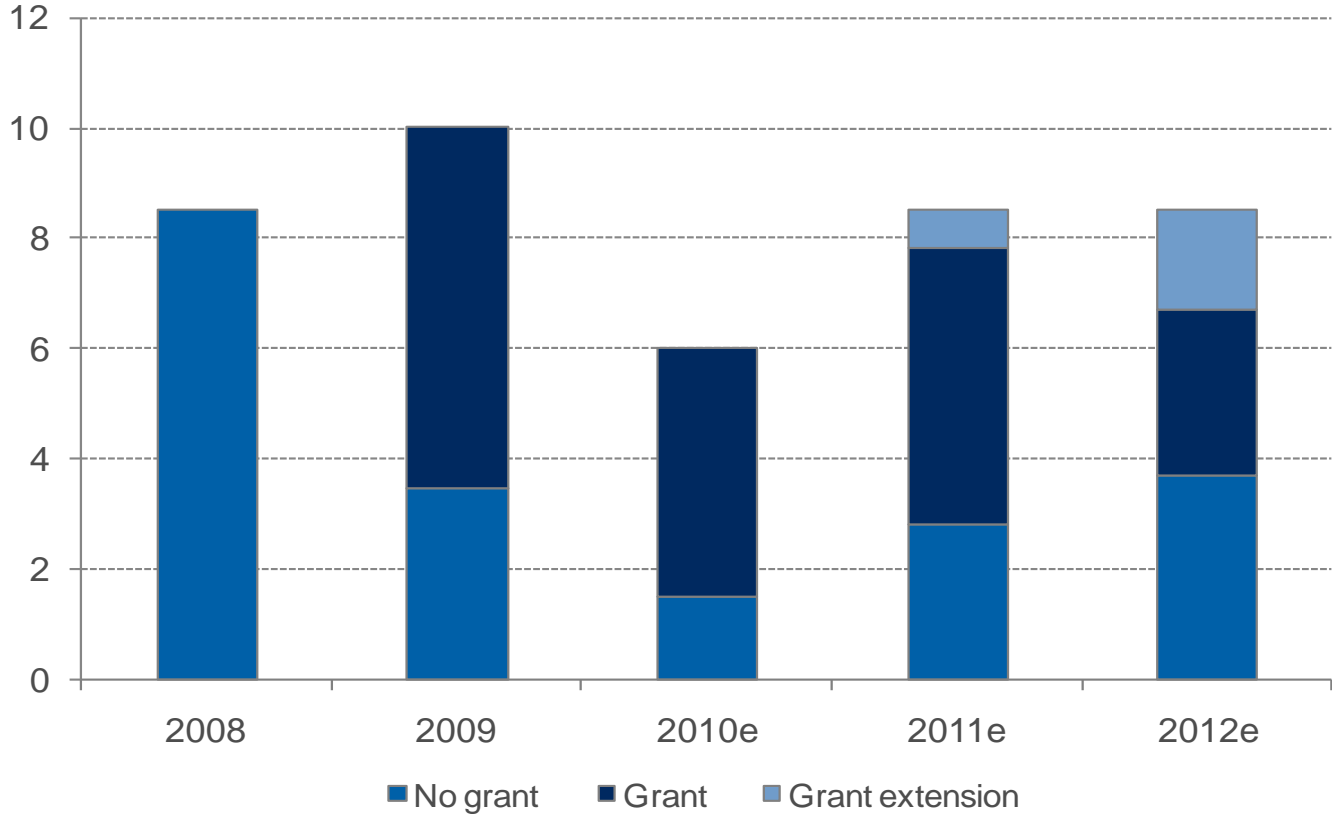
# Tax equity and project debt markets - US



Note: "pre-tax-equivalent" tax equity is an academic construct designed to compare tax equity pricing with pre-tax debt instruments; it is calculated by backing out a 35% tax rate.

Source: Bloomberg New Energy Finance, Bloomberg Data

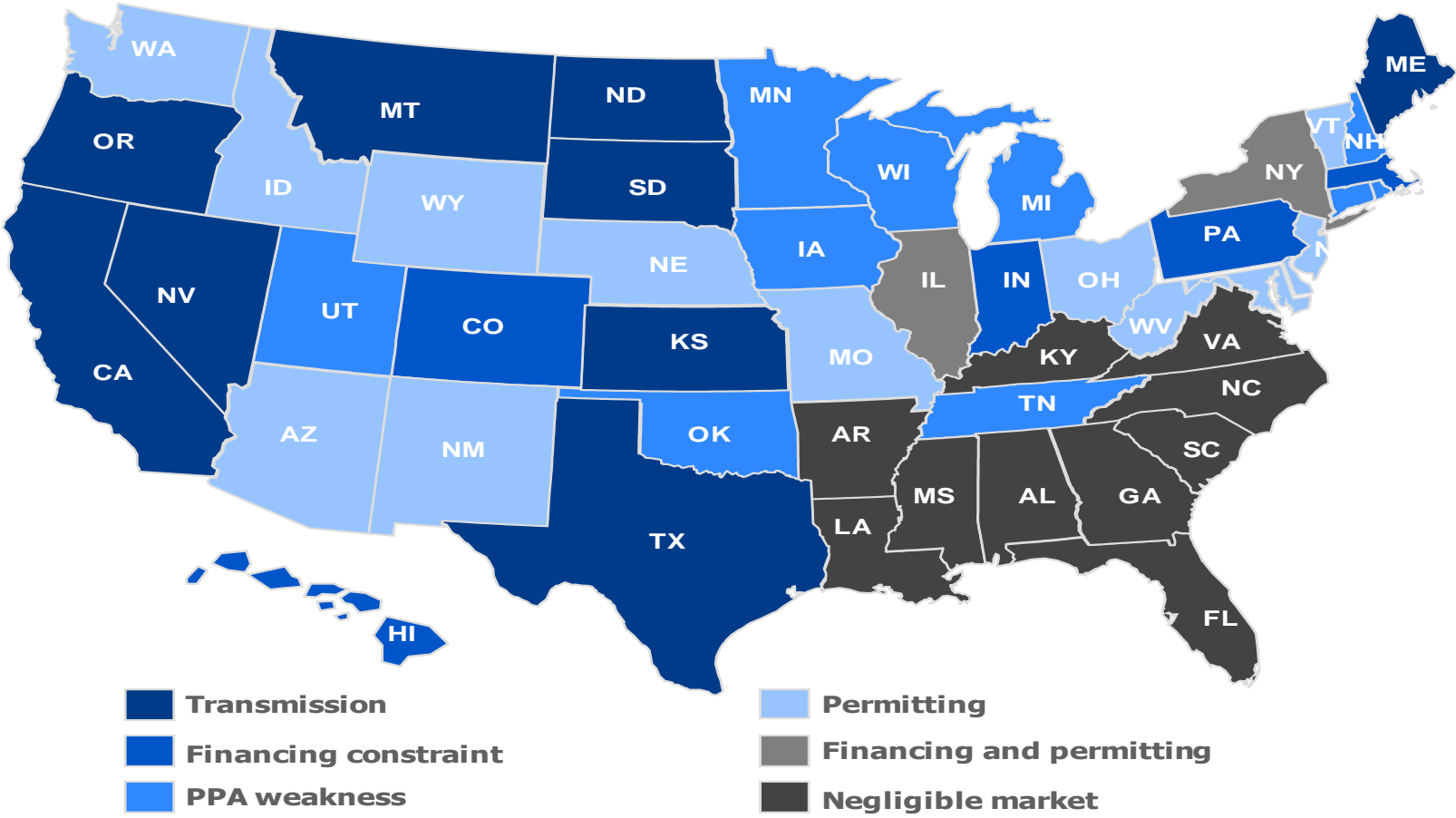
# US wind build with and without Treasury grants (GW)



Note: The "Grant" portions represent MWs that have either been awarded a grant already or we expect will receive grants under current rules. The "Grant extension" portions represent projects that we believe will only be built if the grant programme is extended through 2012.

Source: Bloomberg New Energy Finance

# Principal regional causes of project delay



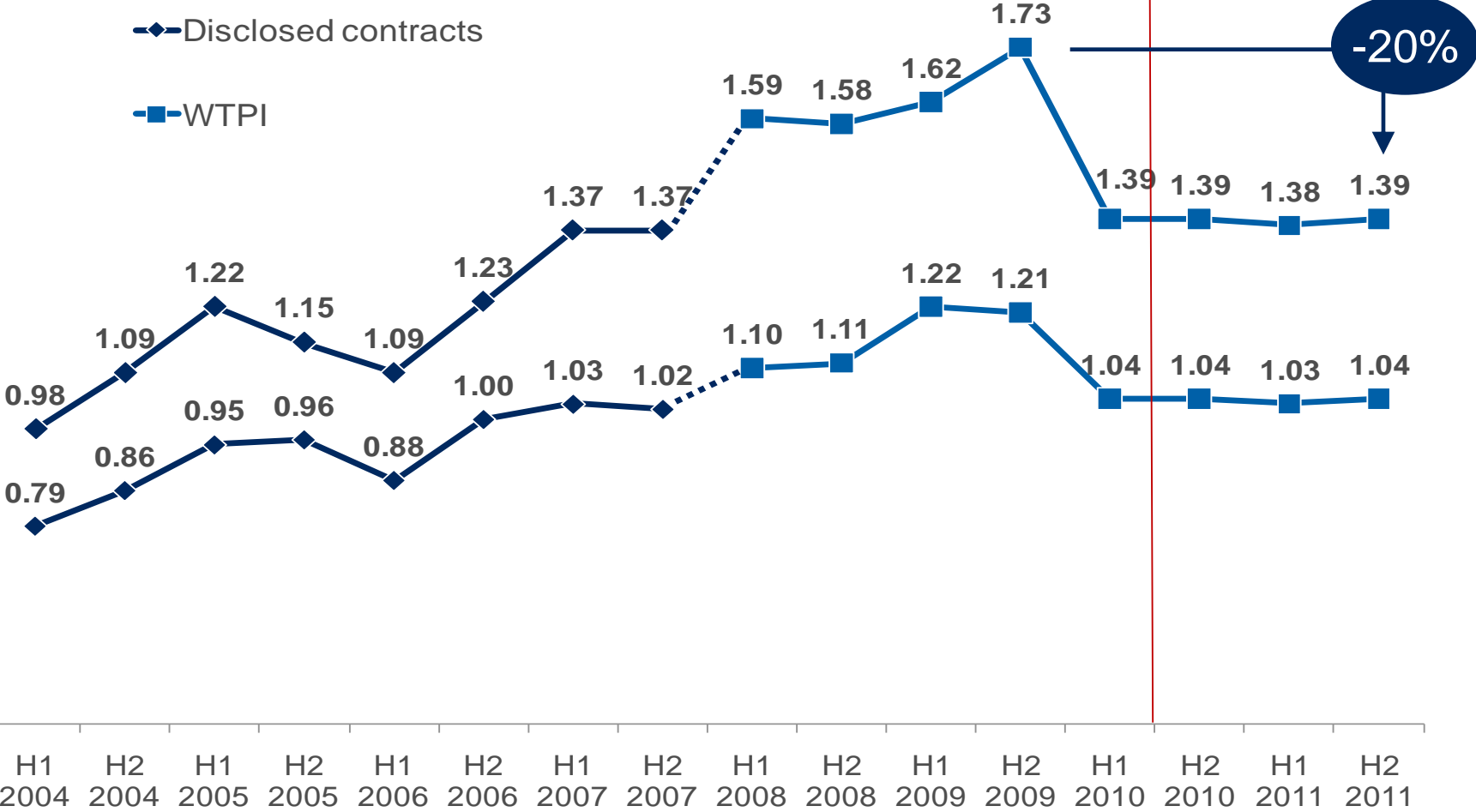
Note: States are coloured by leading cause of delay.

Source: Bloomberg New Energy Finance



# Turbine prices by delivery date, 2004 –2010 (\$m & €m/MW)

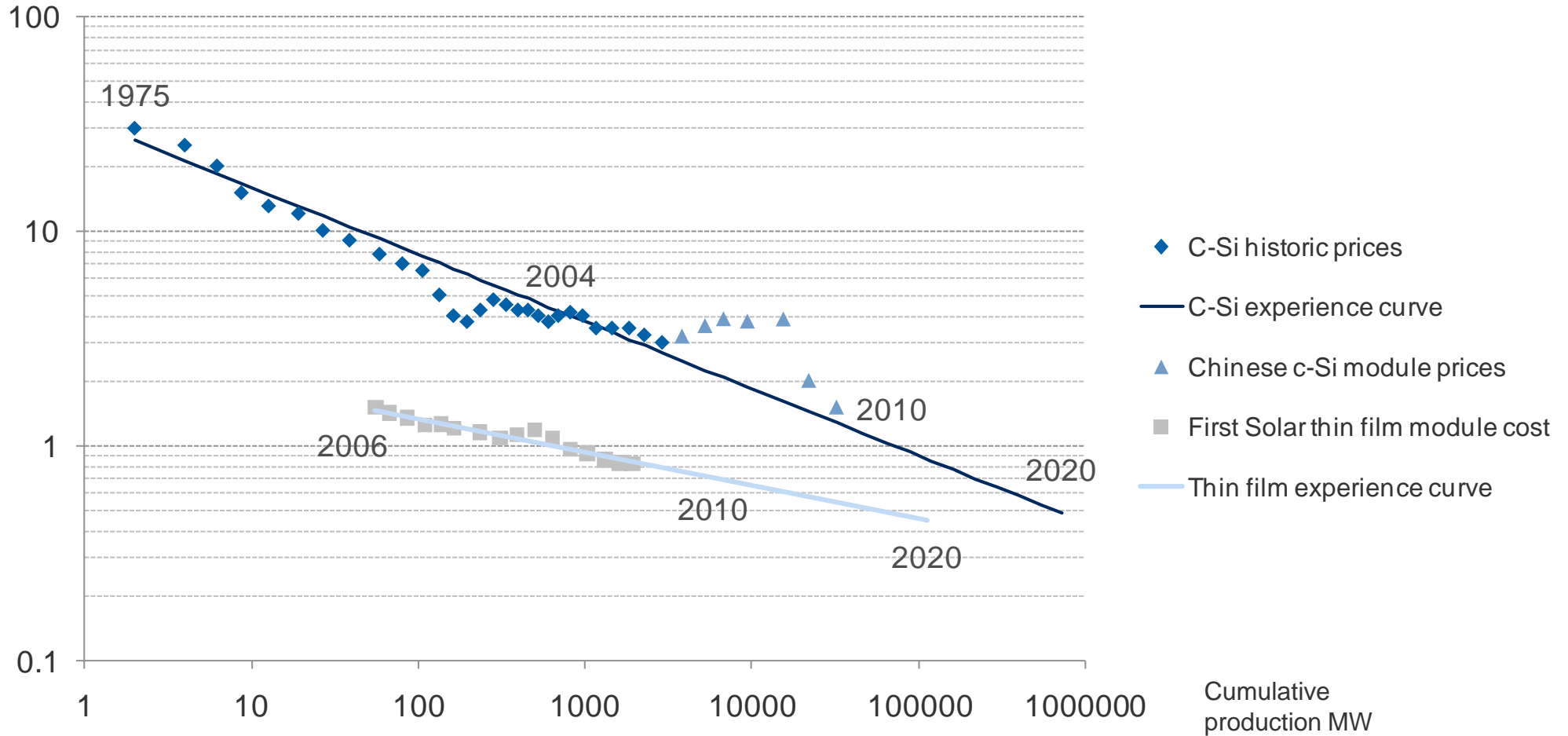
## Public data & NEF Wind Turbine Price Index



Note: Prices include towers & transport, exclude civil engineering. € denominated contracts converted to \$ at the average exchange rate for the semester. Extract from H2 2010 New Energy Finance WTPI participant report covering 62 contracts over the period

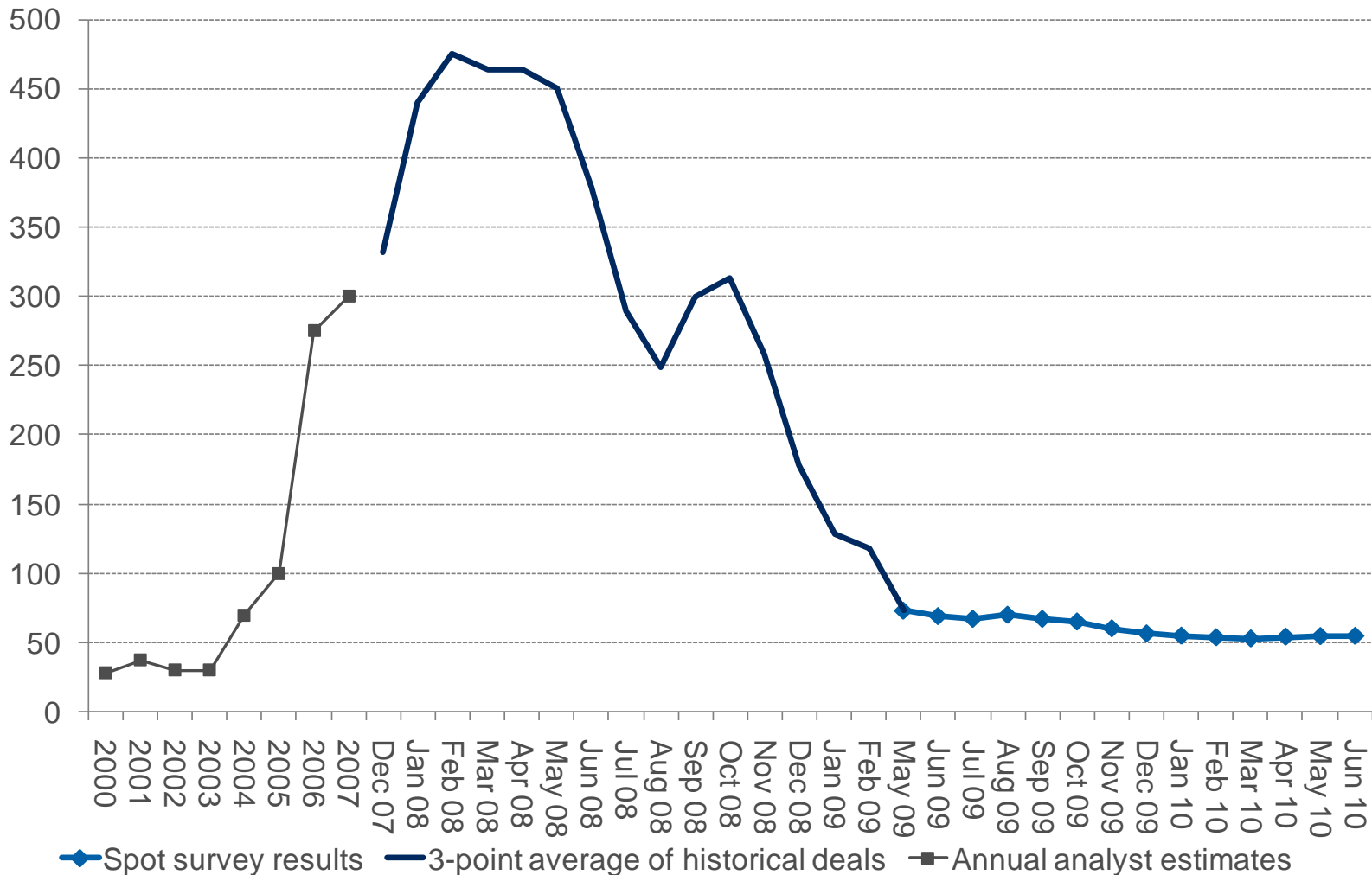
Source: Bloomberg New Energy Finance

# Solar PV module prices 1975 - 2010 (\$/Wp)



Source: Bloomberg New Energy Finance  
 Note: 1975 – 2003, Paul Maycock; 2004 – 2010, Chinese c-Si module prices

# Spot price of solar-grade silicon, 2000 – June 2010 (\$/kg)



Source: Various, Bloomberg New Energy Finance Spot Survey

Note: Annual data 2000-2007 from various industry sources. Data November 2007 – May 2009 based on a 3-point moving average of actual spot deals. Consistent monthly data collection using the Spot Survey began in May 2009, and this has been used May 2009-June 2010.

# Top 10 manufacturers of photovoltaic cells (Rank order by MW)

2005

Company	Country	Production (MW)
1. Sharp	Japan	375
2. Kyocera	Japan	142
3. Q-Cells	Germany	131
4. Schott Solar	Germany	95
5. BP Solar	USA	86
6. Mitsubishi Electric	Japan	85
7. Sanyo	Japan	84
8. Shell Solar	USA	55
9. Motech	Taiwan	45
10. Isofoton	Spain	39

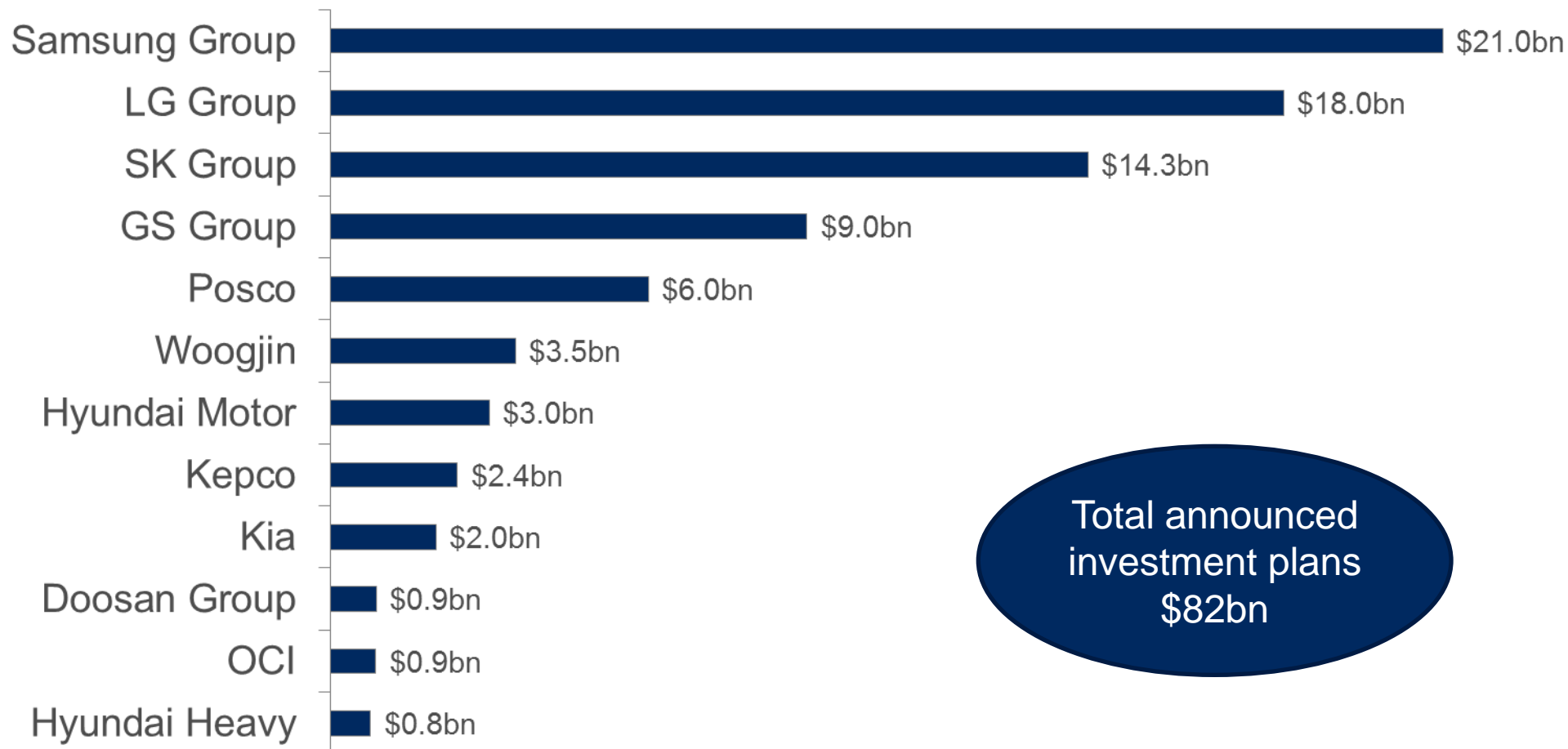
■ Japan   
 ■ Europe   
 ■ USA   
 ■ China   
 ■ Other Asia

2010(e)

Company	Country	Production (MW)
1. First Solar	USA	1,322
2. Suntech	China	1,090
3. Q-Cells	Germany	1,000
4. JA Solar	China	800
5. SolarWorld	Germany	710
6. Sharp	Japan	695
7. Trina Solar	China	600
8. Yingli	China	600
9. Gintech Energy	Taiwan	600
10. Kyocera	Japan	440

Source: Bloomberg New Energy Finance; company announcements  
Note: TF = Thin Film; 2010 figures are for estimated annual production

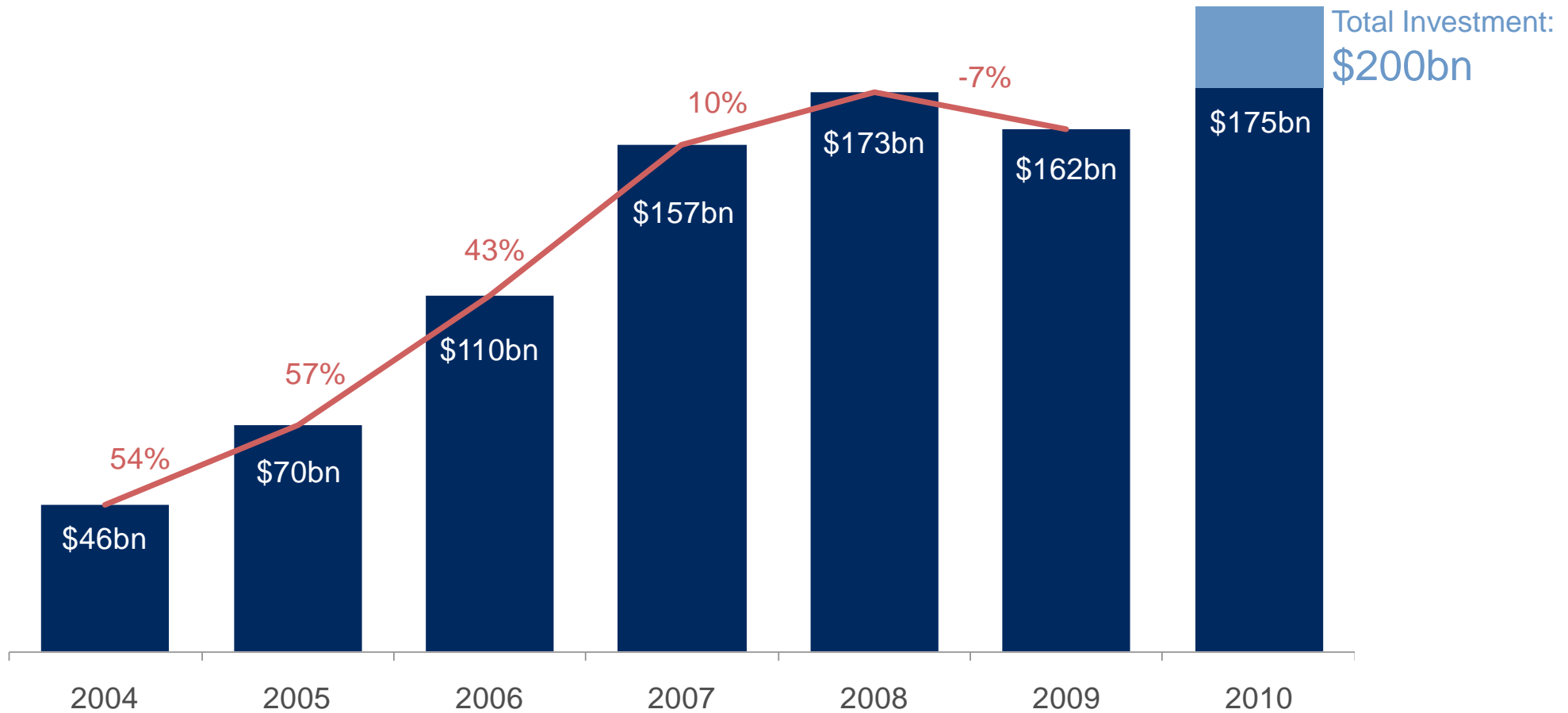
# Leading Korean industrial companies, planned clean energy investment through 2020 (\$bn)



Source: Bloomberg New Energy Finance

Note: includes announcements from January 2009 to September 2010 of investment to year 2020 in renewable energy and energy efficiency

# Global total new investment in clean energy – 2010 expected 2004 – 2010 (\$bn)



Source: Bloomberg New Energy Finance  
Note: Total values include estimates from undisclosed deals

Thanks!

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