



Joined at the hip: the US-China clean energy relationship



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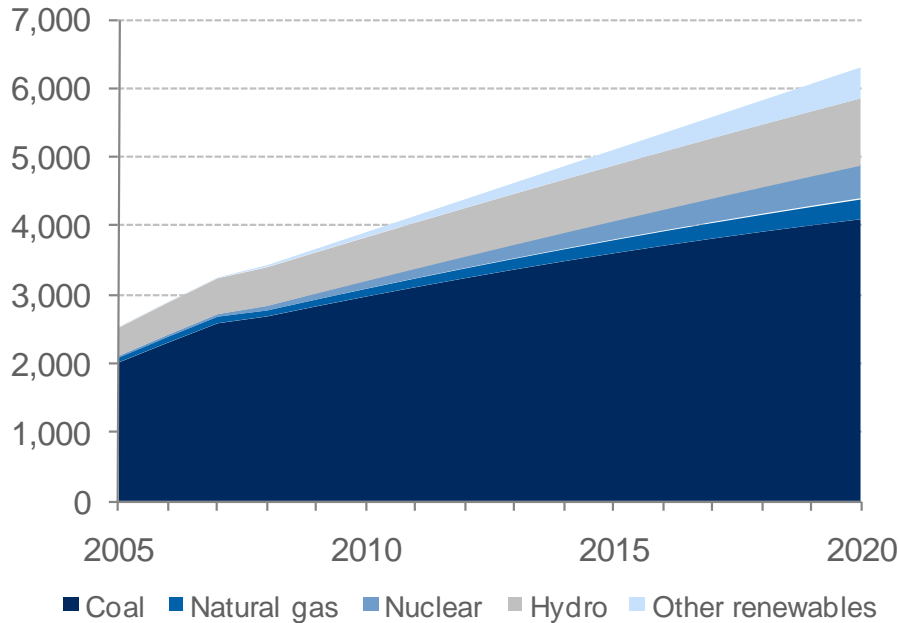
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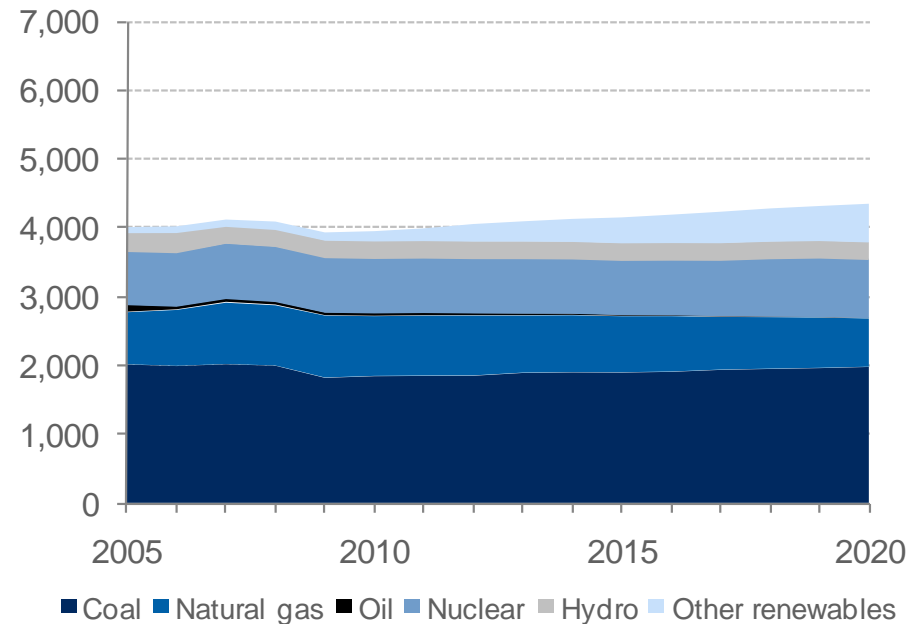
US and China power production, 2005–20e (GWh)

China



5% annual electricity growth
2011–20

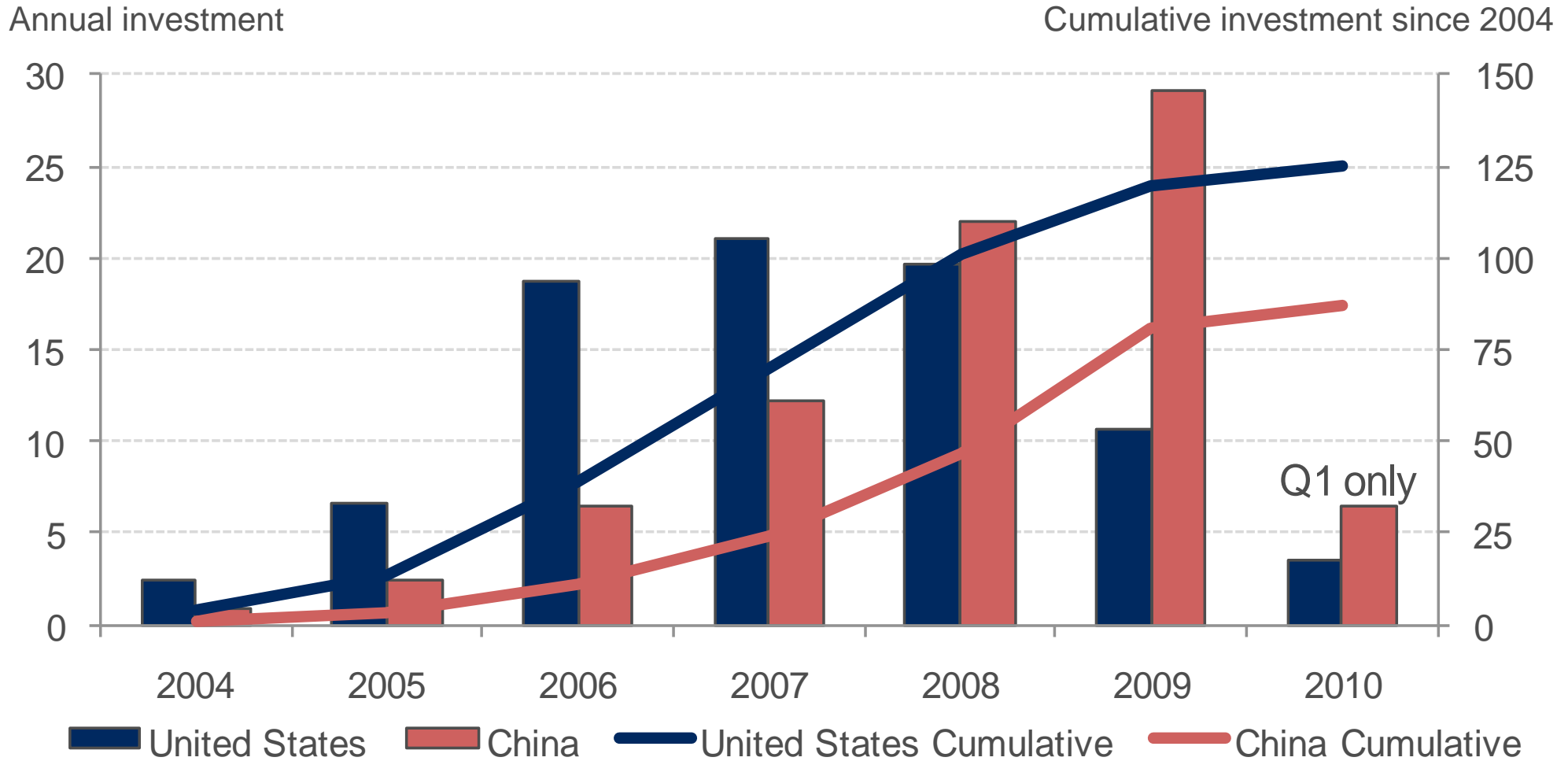
US



1% annual electricity growth
2011–20

Note: For US, coal includes a small but growing amount of new CCS generation from 2011. Assumes a USD 6.90mmbtu natural gas price 2010–20. A lower natural gas price would result in less coal generation and more natural gas generation.

Clean energy asset finance new build in US and China, 2004–Q1 2010 (USD bn)



Source: Bloomberg New Energy Finance Note: All figures are grossed and buffered to include estimates for undisclosed and unknown deals

Top 10 Tier 1 c-Si cell manufacturers and top 15 wind turbine manufacturers, end-2009

Top 10 PV cell manufacturers, 2009

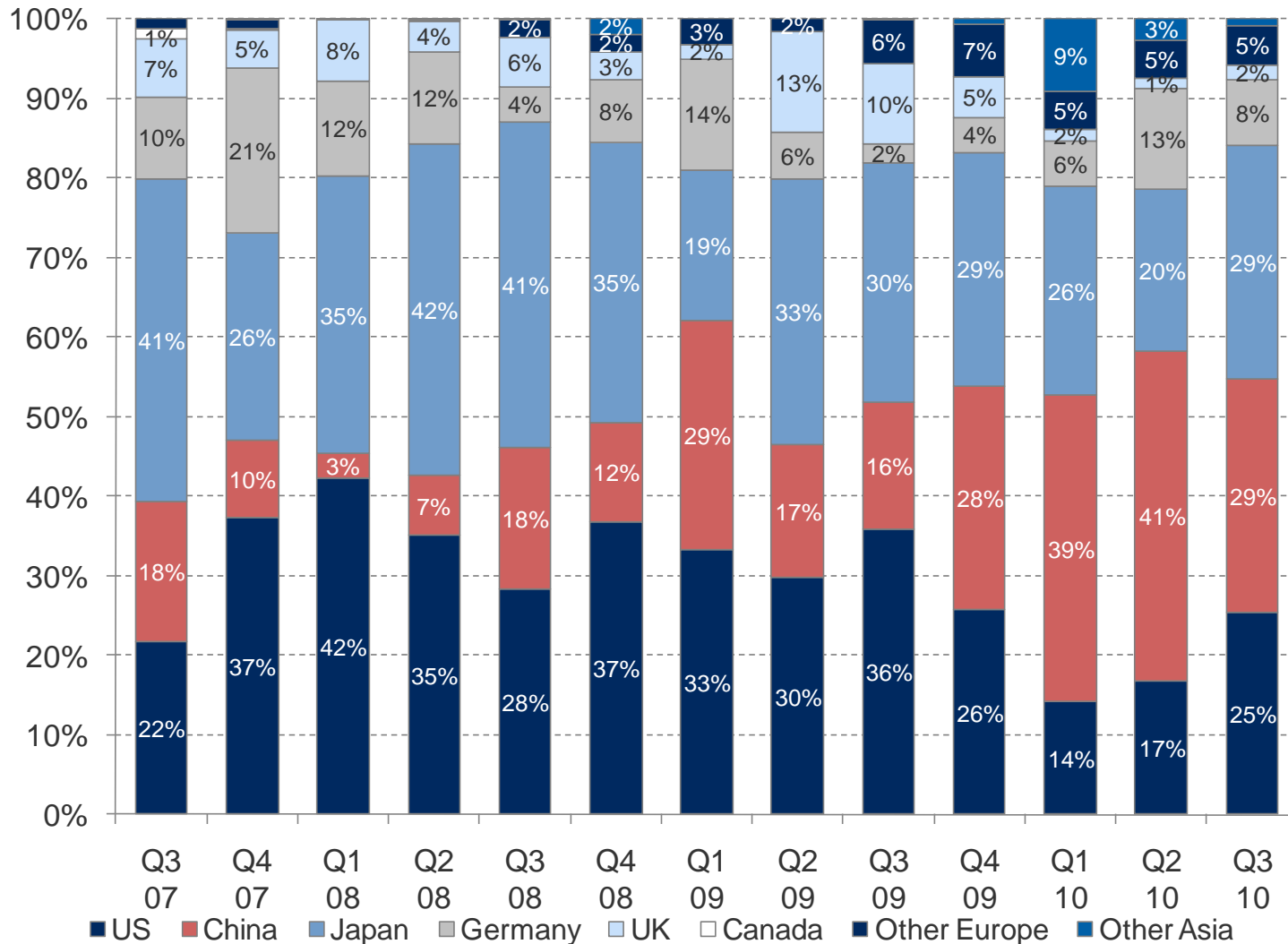
Name (Country)	Current capacity (MW)
Suntech (China)	1,090
Q-Cells (Germany)	1,000
JA Solar (China)	800
SolarWorld (Germany)	710
Sharp (Japan)	695
Trina Solar (China)	600
Yingli (China)	600
Canadian Solar (China)	420
SunPower (US)	414
Solarfun (China)	360

Top 15 wind turbine producers, 2009

Name (Country)	Production (GW)
Vestas (Denmark)	6.3
GE Wind (US)	5.8
Sinovel (China)	5.8
Gamesa (Spain)	4.4
Suzlon (India)	3.5
Goldwind (China)	3.4
Enercon (Germany)	3.3
Dongfang (China)	3.3
Repower (Germany)	2.9
Nordex (Germany)	2.5
Acciona (Spain)	2.5
Siemens (Germany)	2.2
Mitsubishi (Japan)	1.6
XEMC (China)	1.2
Clipper (US)	1.0

Source: Bloomberg New Energy Finance

California Solar Initiative photovoltaic module suppliers by country of corporate headquarters, Q3 2007–Q3 2010 (% of total)



Source: Bloomberg New Energy Finance, CSI

US dollar to Chinese renminbi, January 2005–October 2010



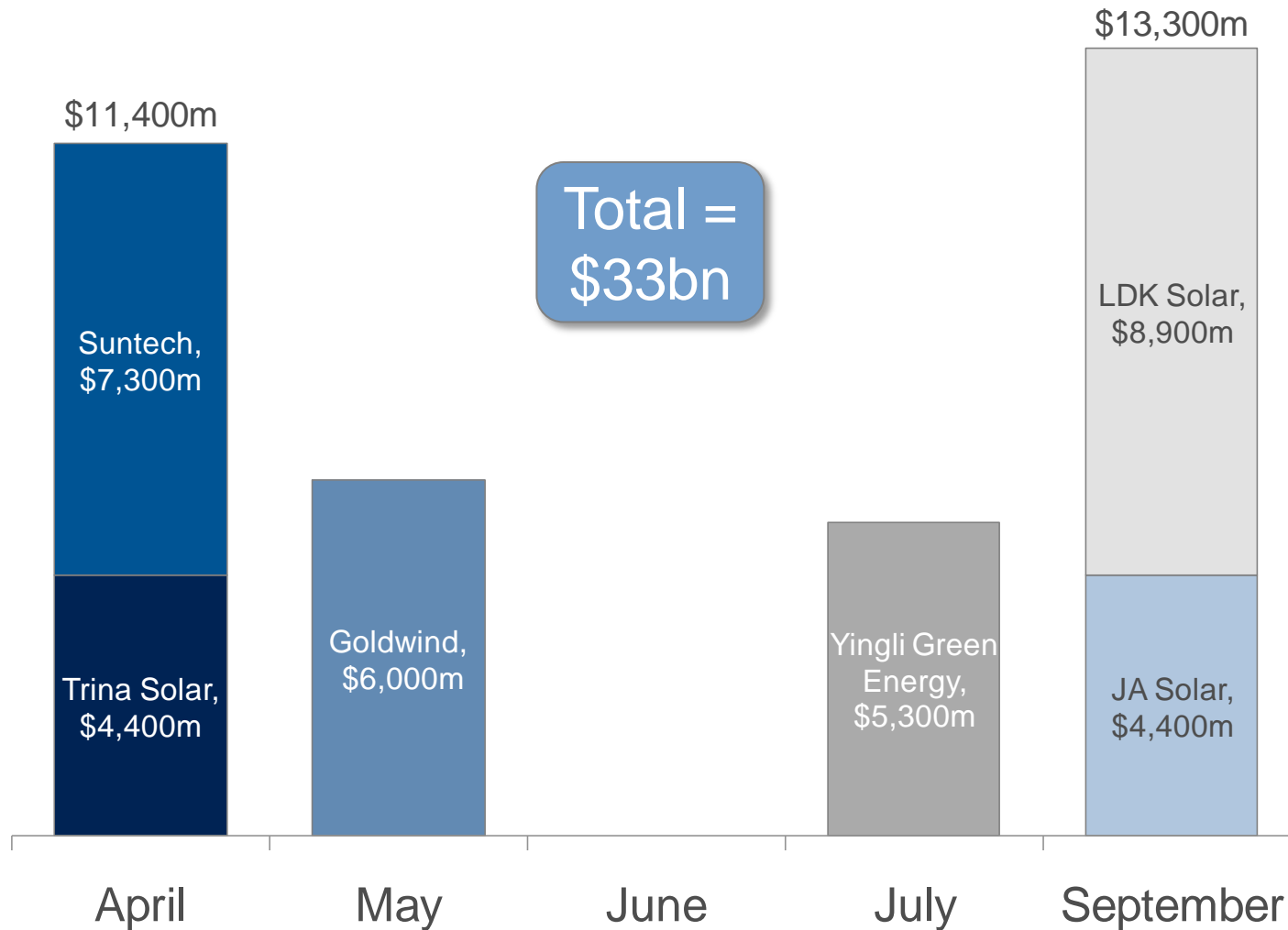
Source: Bloomberg

US dollar to euro, January 2005–October 2010



Source: Bloomberg

China Development Bank loans to clean energy manufacturers, April-September 2010 (USD m)

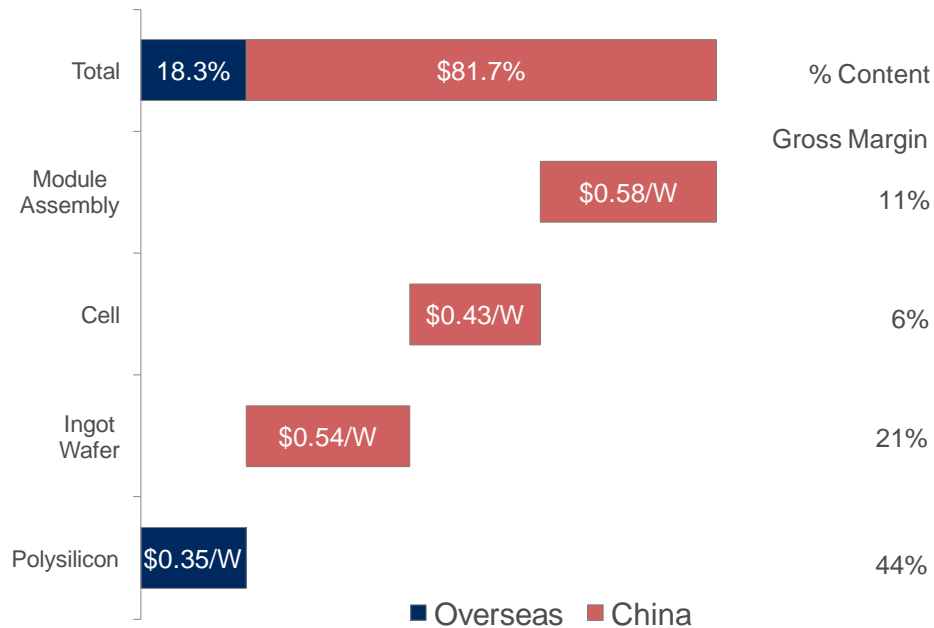


Source: Bloomberg New Energy Finance

Note: PV manufacturing companies encompasses raw material, wafer and module producers

Value breakdown of PV modules from leading Chinese and US manufacturers, mid-2010

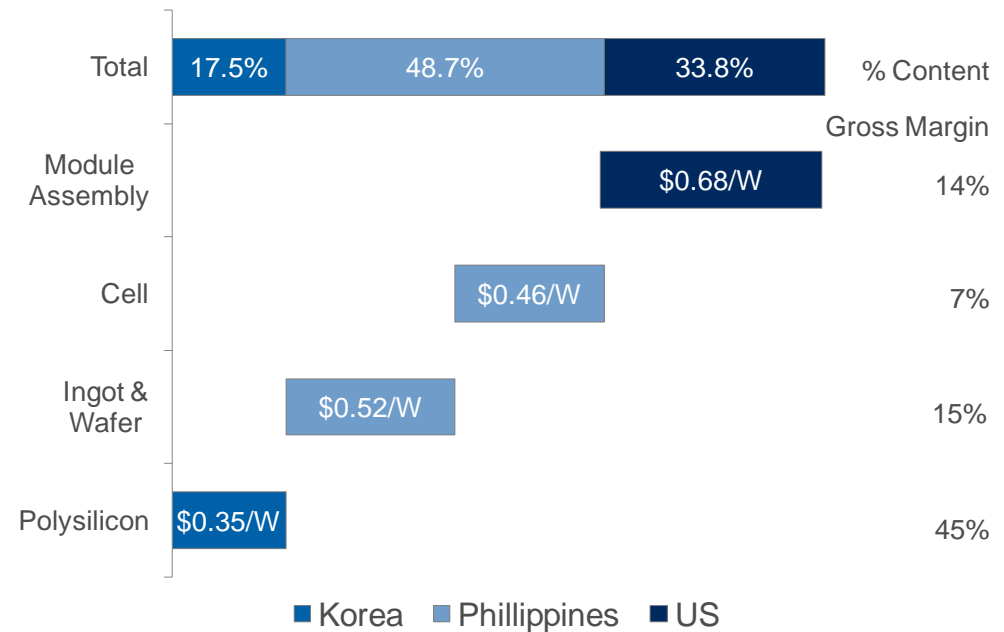
Value breakdown by company country of origin, Suntech module



Source: Bloomberg New Energy Finance

Note: Based on where the product is manufactured. Polysilicon production for Suntech is provided by US-based MEMC.

Value breakdown by manufacturing country of origin, SunPower module

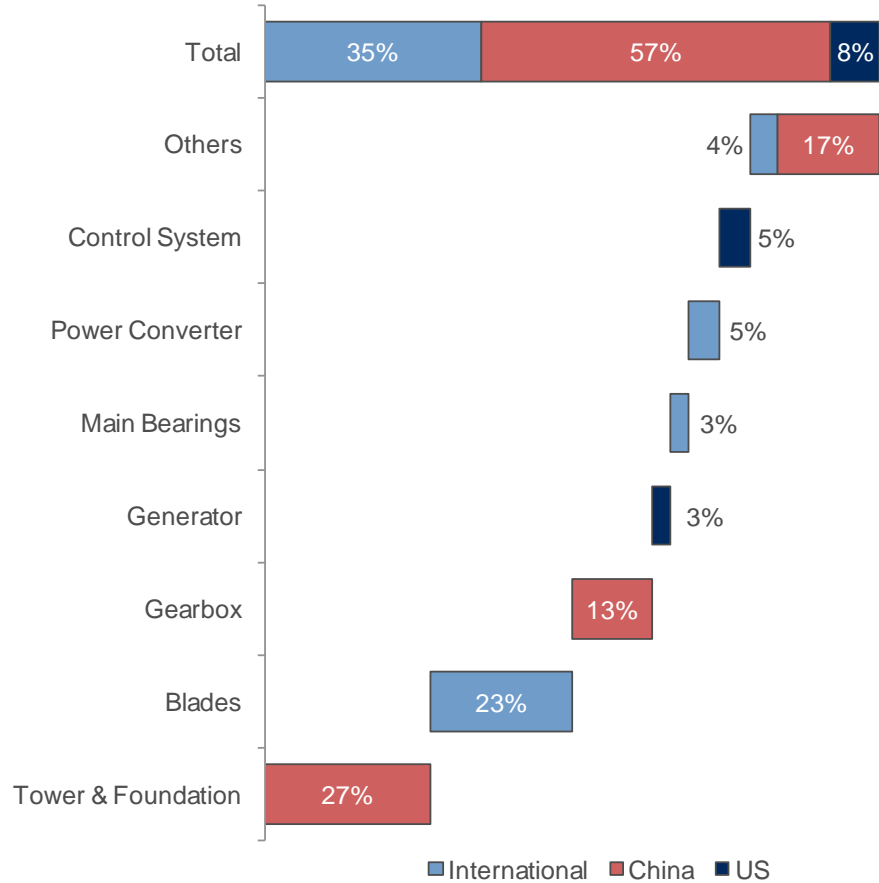


Source: Bloomberg New Energy Finance

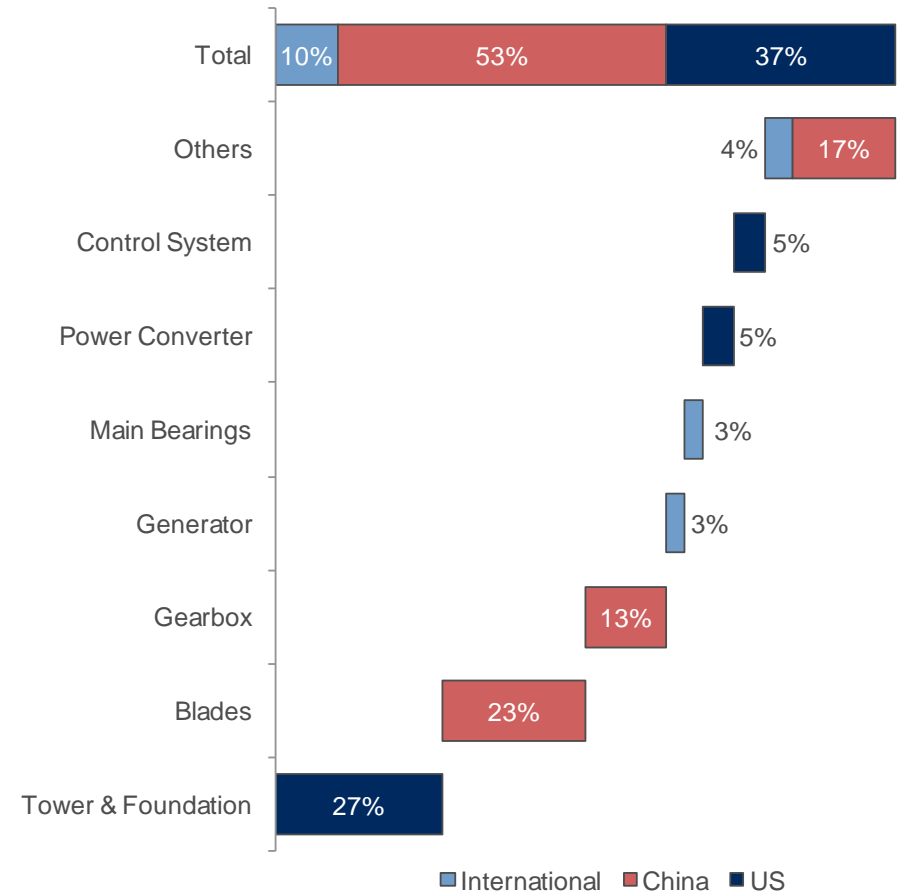
Note: Based on where the product is manufactured. Polysilicon from Korean DC Chemical, wafers by a Phillipines-based First Philec-SunPower JV, cells in a Phillipines SunPower factory, and module assembly in Mexico or Poland.

Value breakdown of wind project using equipment from leading US and Chinese manufacturers, mid-2010

Value breakdown by company country of origin, GE 1.5MW turbine installed in China



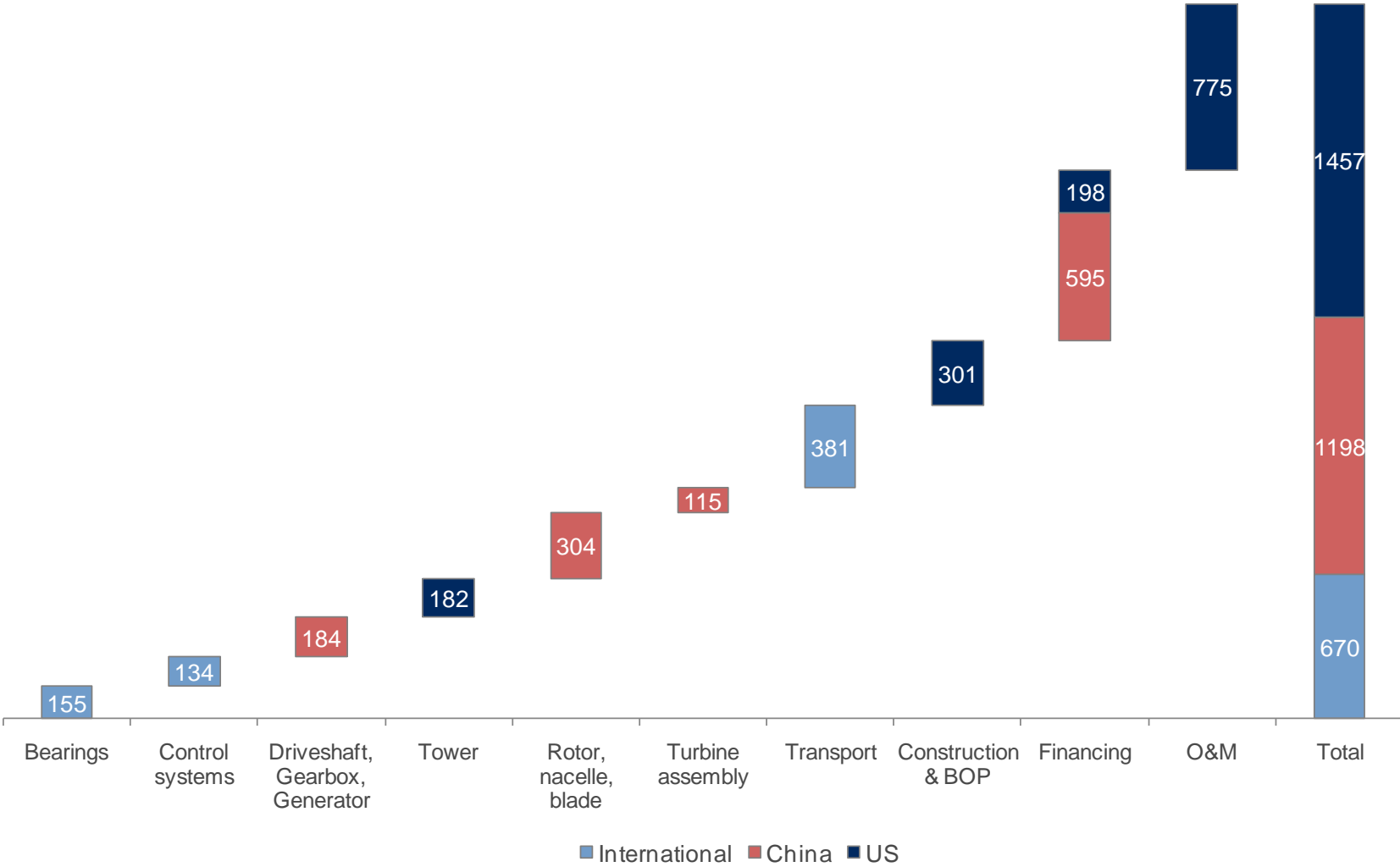
Value breakdown by company country of origin, Sinovel 3MW turbine installed in US



Source: Bloomberg New Energy Finance

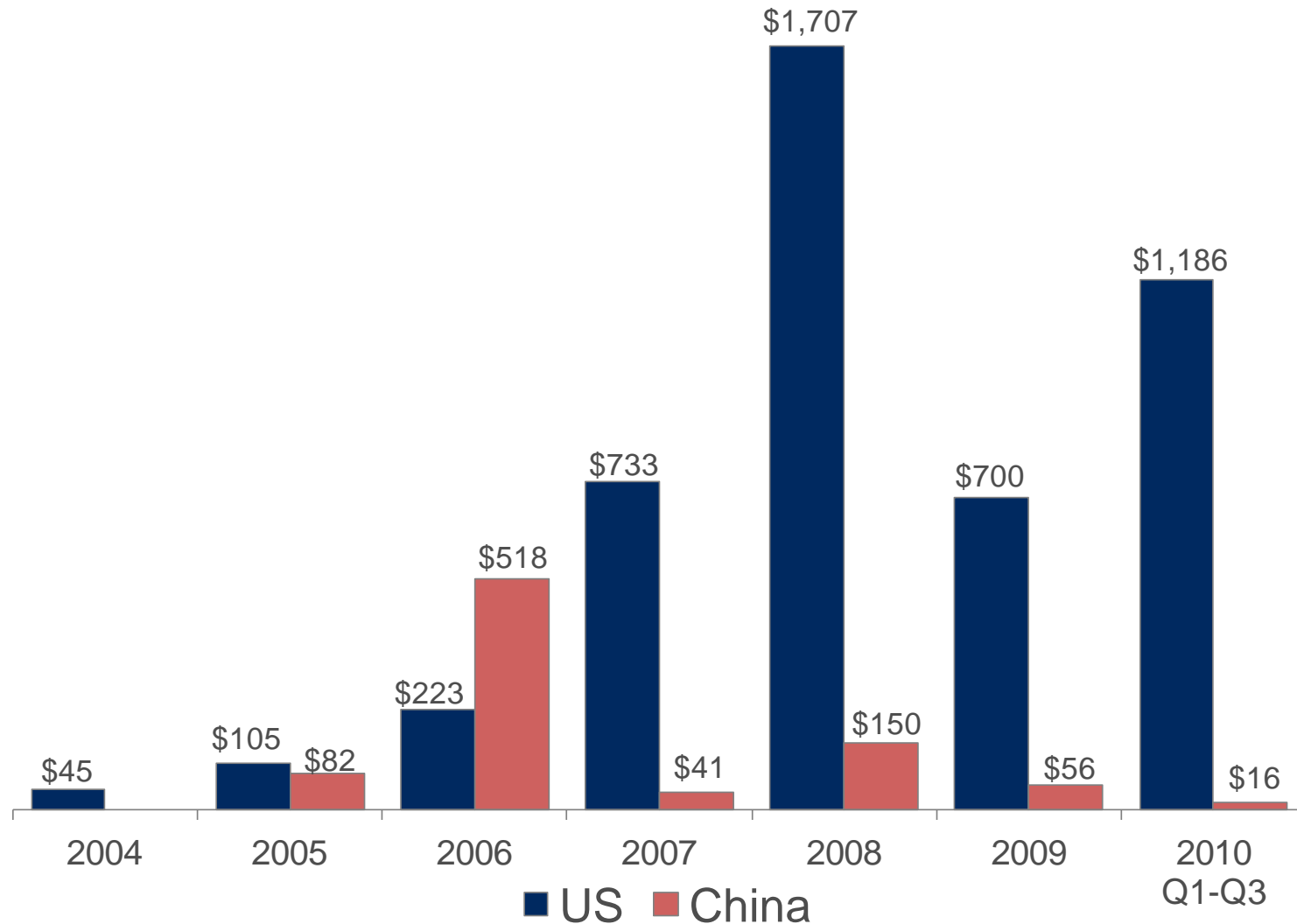
Note: Based on the country of origin for the company producing the product, not necessarily where the product was produced.

Estimation of value creation for a hypothetical Texas wind farm (USD 000/MW)



Source: CSI, Bloomberg New Energy Finance Note: Assumed to be using 3MW turbine from China, 75%/25% China/US financing, blades may end up being produced in the US.

VC/PE investment in US and China PV manufacturing companies, 2004–Q3 2010 (USD m)



Source: Bloomberg New Energy Finance

Note: PV manufacturing companies encompasses raw material, wafer and module producers

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