

FINANCING THE ENERGY TRANSITION

CLEAN ENERGY INVESTMENT TRENDS: HISTORY AND PROSPECTS

GUY TURNER

CHIEF ECONOMIST



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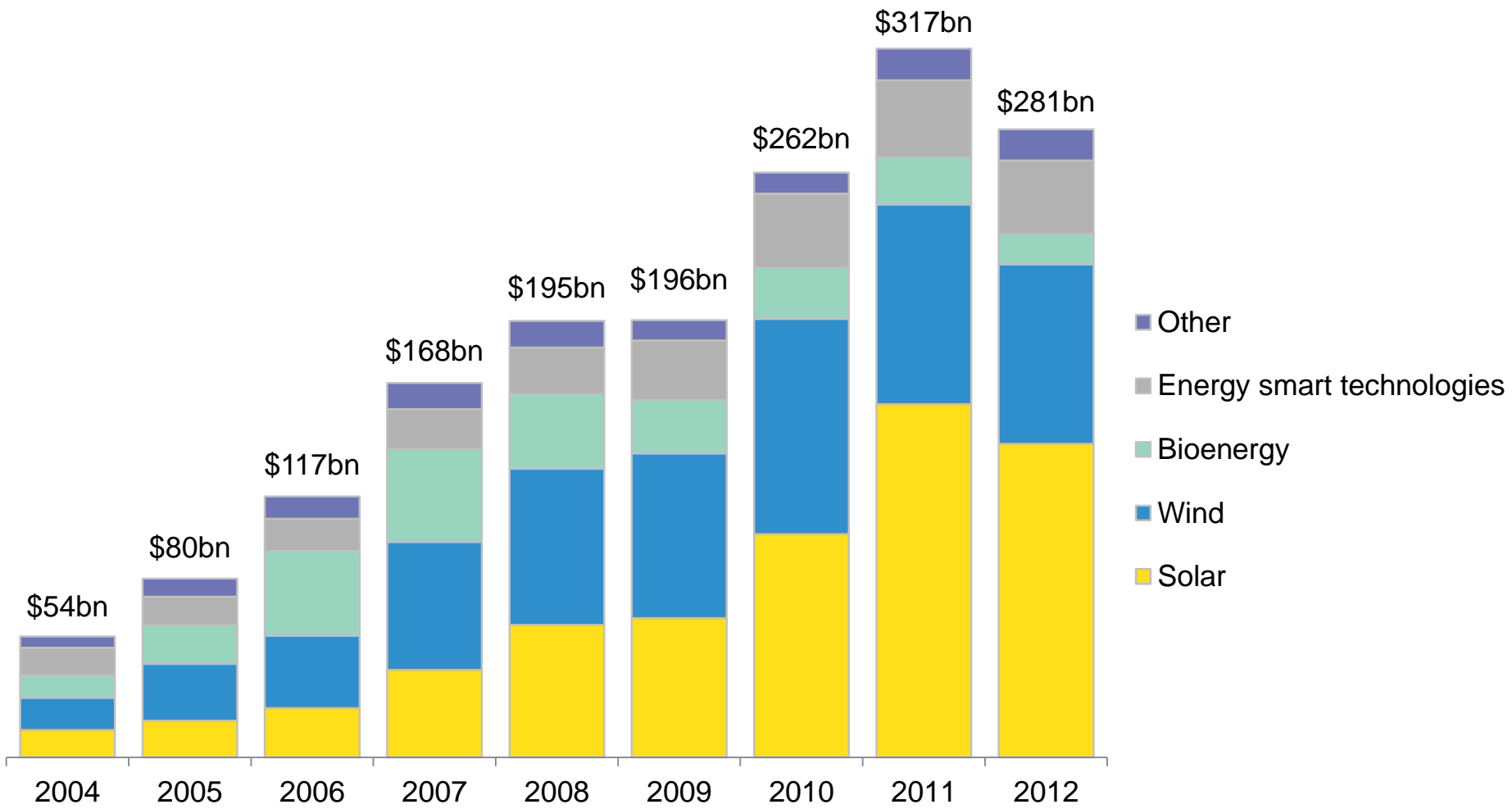
1. Global – investment patterns to date

2. UK - historic and future investment

3. Global – future investment

4. Financing

GLOBAL NEW INVESTMENT IN CLEAN ENERGY BY SECTOR 2004–12 (\$BN)

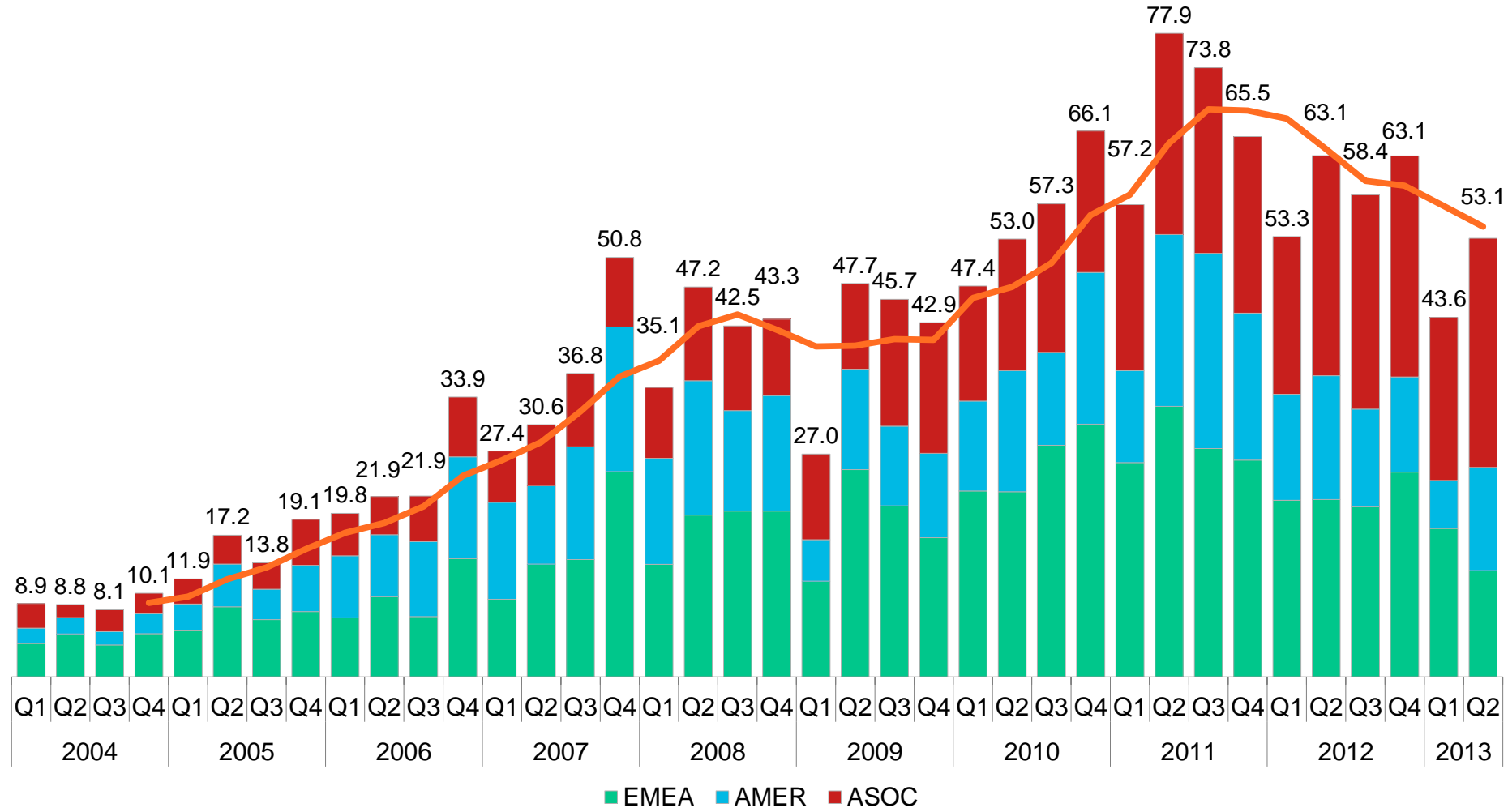


Note: Total values include estimates for undisclosed deals. Includes corporate and government R&D. Includes digital energy & energy storage asset investment.

Source: Bloomberg New Energy Finance

NEW INVESTMENT IN CLEAN ENERGY BY REGION

Q1 2004–Q2 2013 (\$BN)

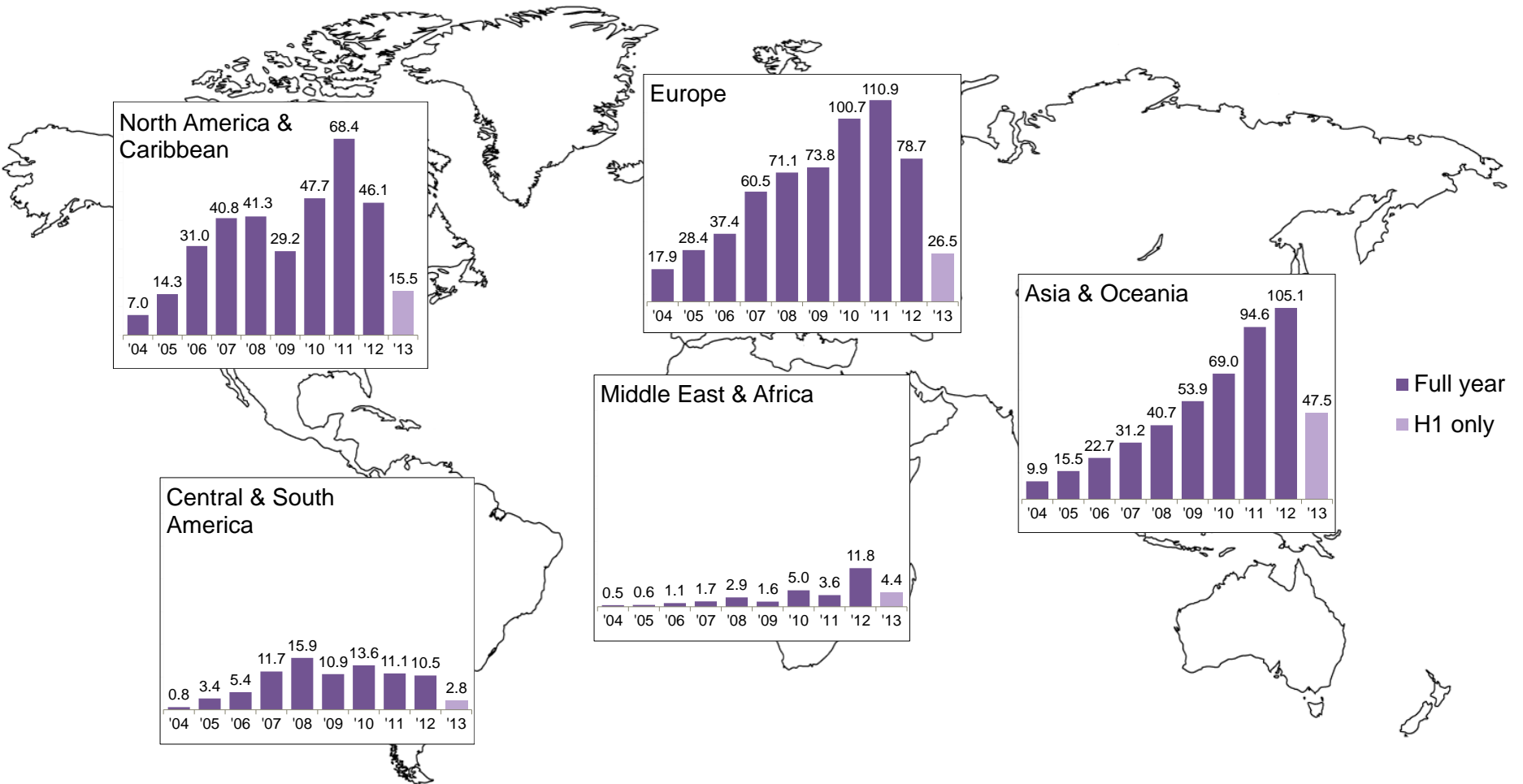


Note: Total values include estimates for undisclosed deals. Excludes corporate R&D, government R&D, digital energy asset investment and energy storage asset investment (only available annually)

Source: Bloomberg New Energy Finance

NEW INVESTMENT IN CLEAN ENERGY BY REGION

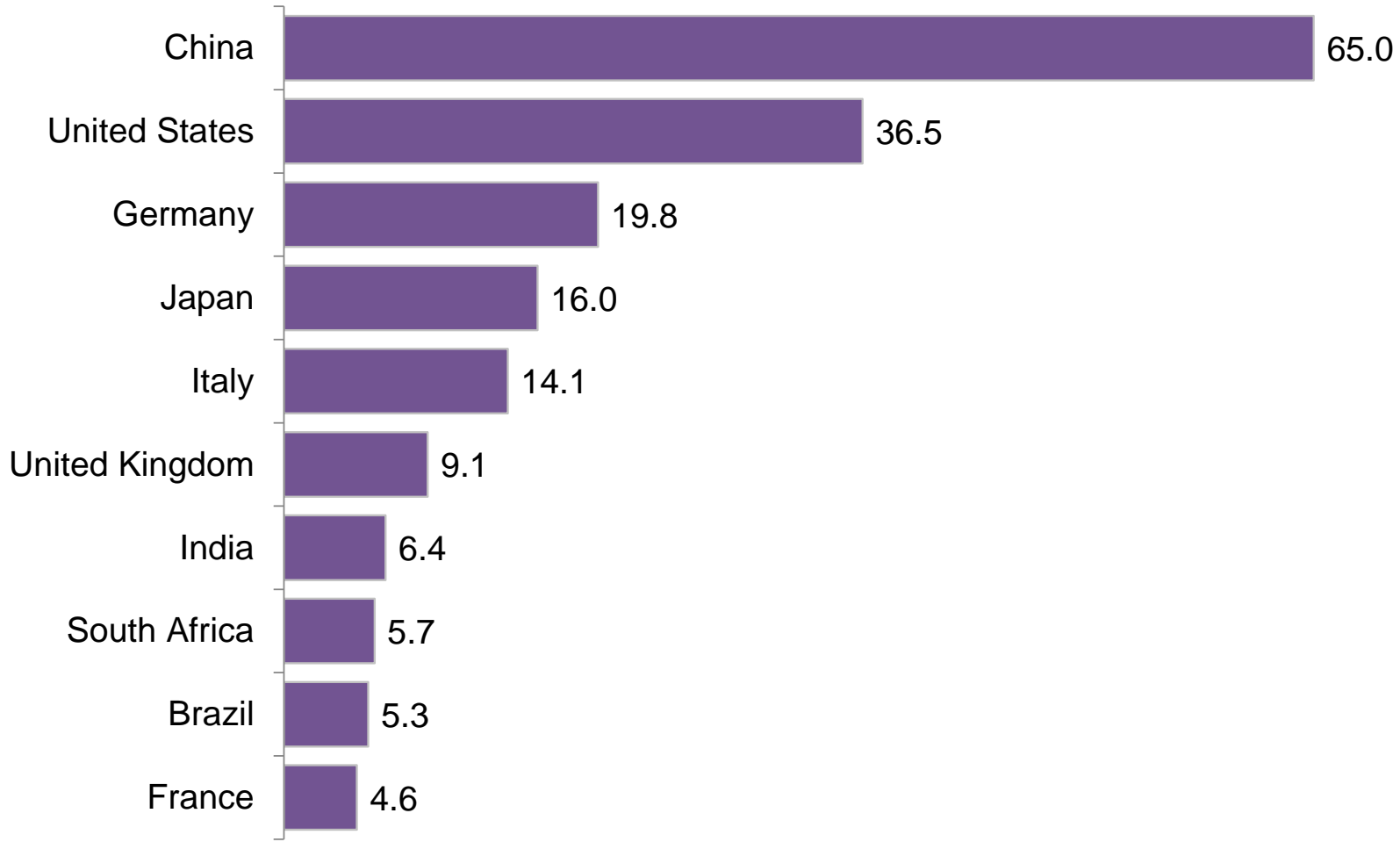
2004–12 (\$BN)



Note: Excludes corporate and government R&D

Source: Bloomberg New Energy Finance

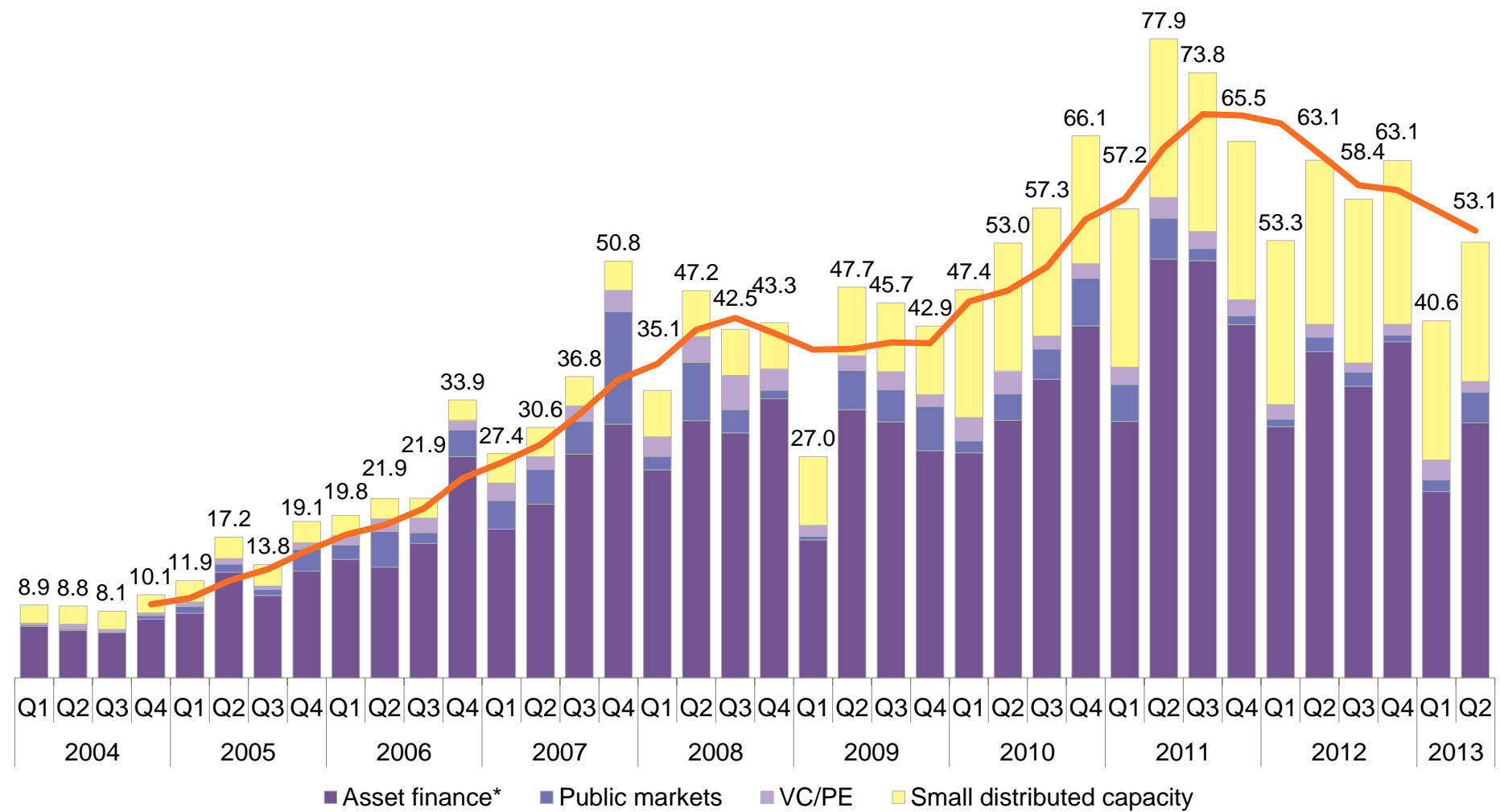
TOP 10 COUNTRIES IN TERMS OF NEW INVESTMENT IN CLEAN ENERGY, 2012 (\$BN)



Note: Total values include estimates for undisclosed deals. Excludes corporate and government R&D. Excludes digital energy & energy storage asset investment. Country is destination (not origin) of flows. Source: Bloomberg New Energy Finance

NEW INVESTMENT IN CLEAN ENERGY BY ASSET CLASS

Q1 2004–Q2 2013 (\$BN)



Note: Total values include estimates for undisclosed deals. Excludes corporate R&D, government R&D, digital energy asset investment and energy storage asset investment (only available annually) Source: Bloomberg New Energy Finance

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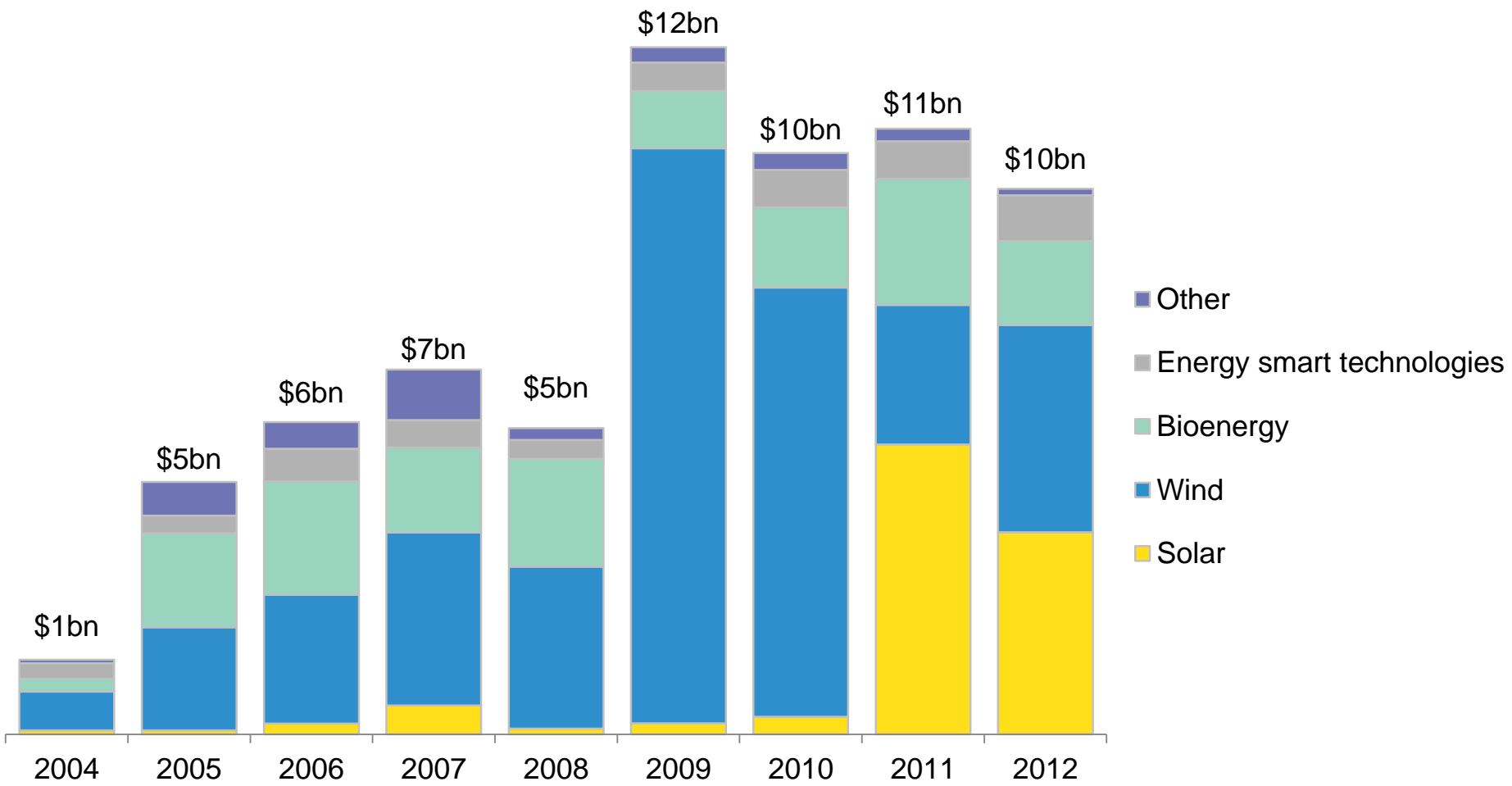
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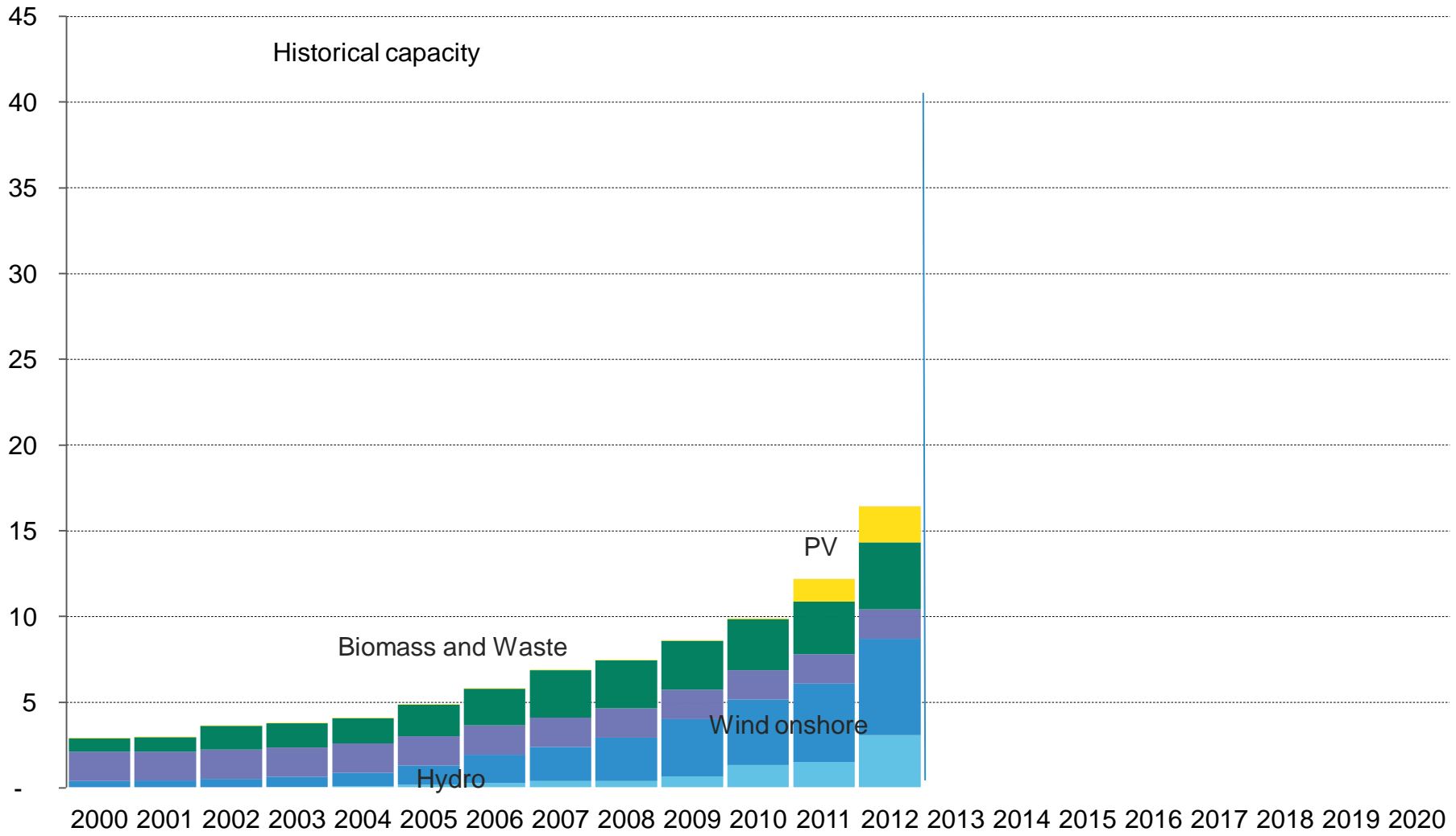
NEW INVESTMENT IN CLEAN ENERGY IN THE UK BY SECTOR, 2004–12 (\$BN)



Note: Total values include estimates for undisclosed deals. Includes corporate and government R&D. Includes digital energy & energy storage asset investment.

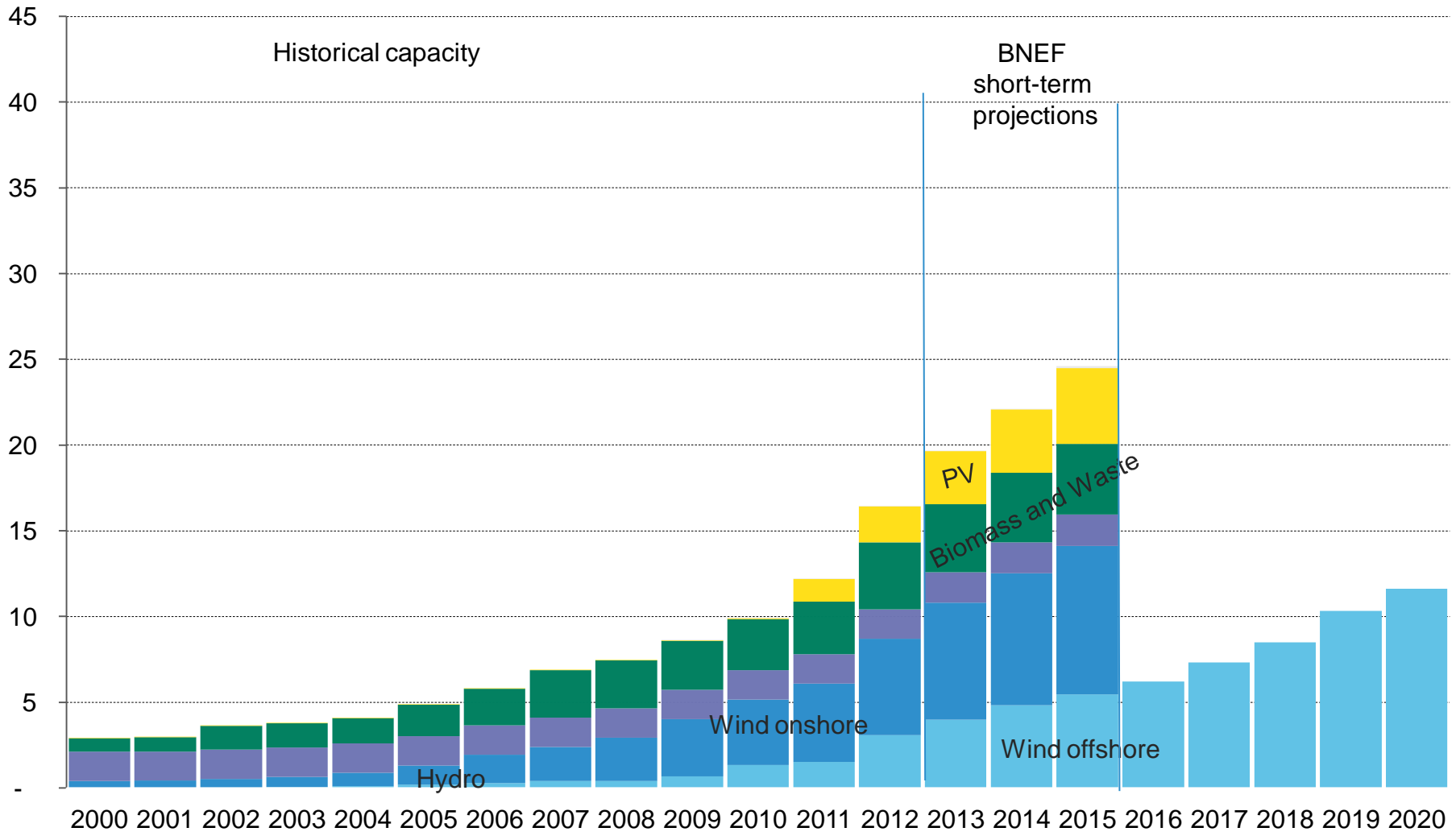
Source: Bloomberg New Energy Finance

UK RENEWABLE ENERGY CAPACITY (GW)



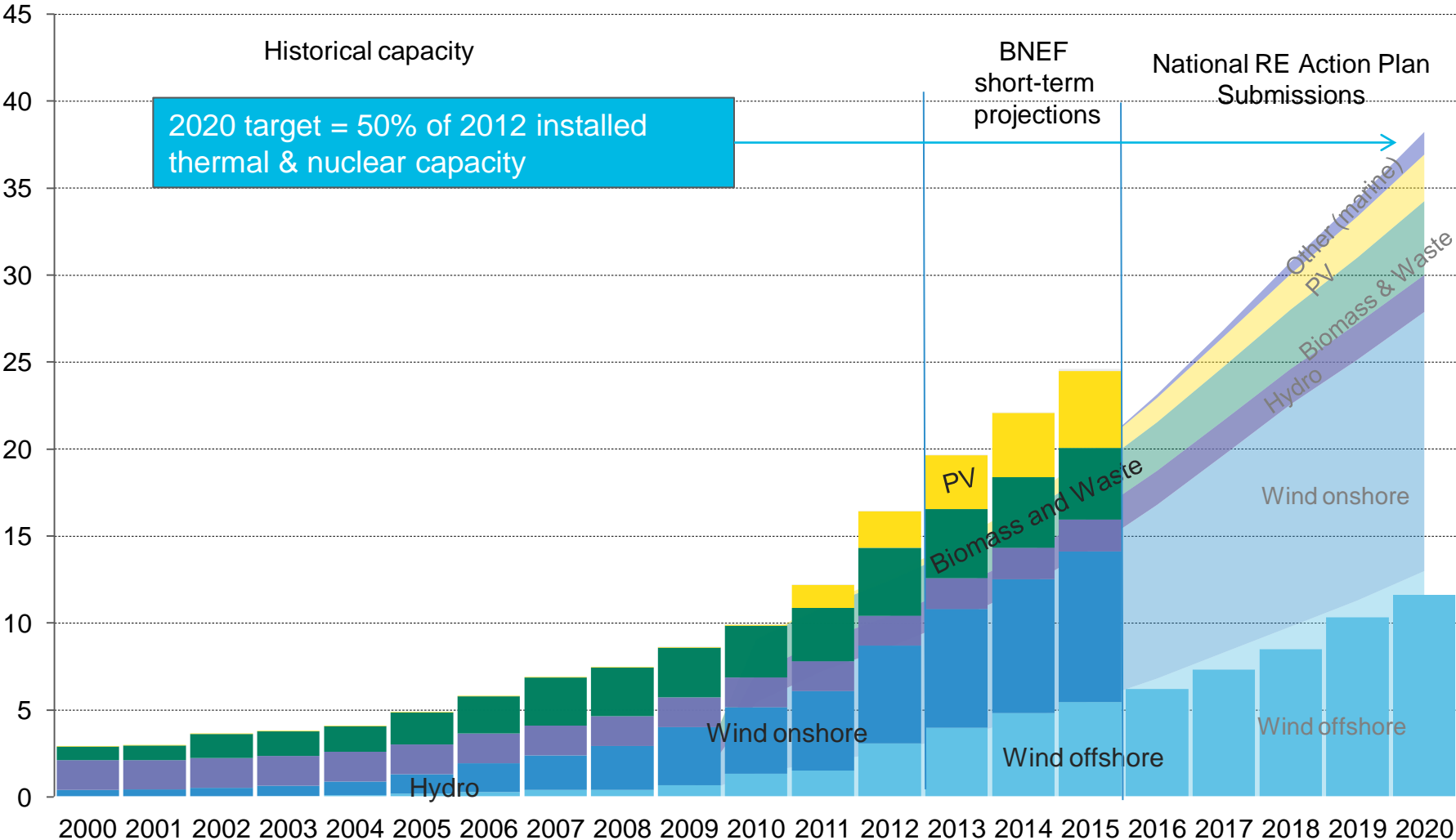
Source: Bloomberg New Energy Finance

UK RENEWABLE ENERGY CAPACITY (GW)



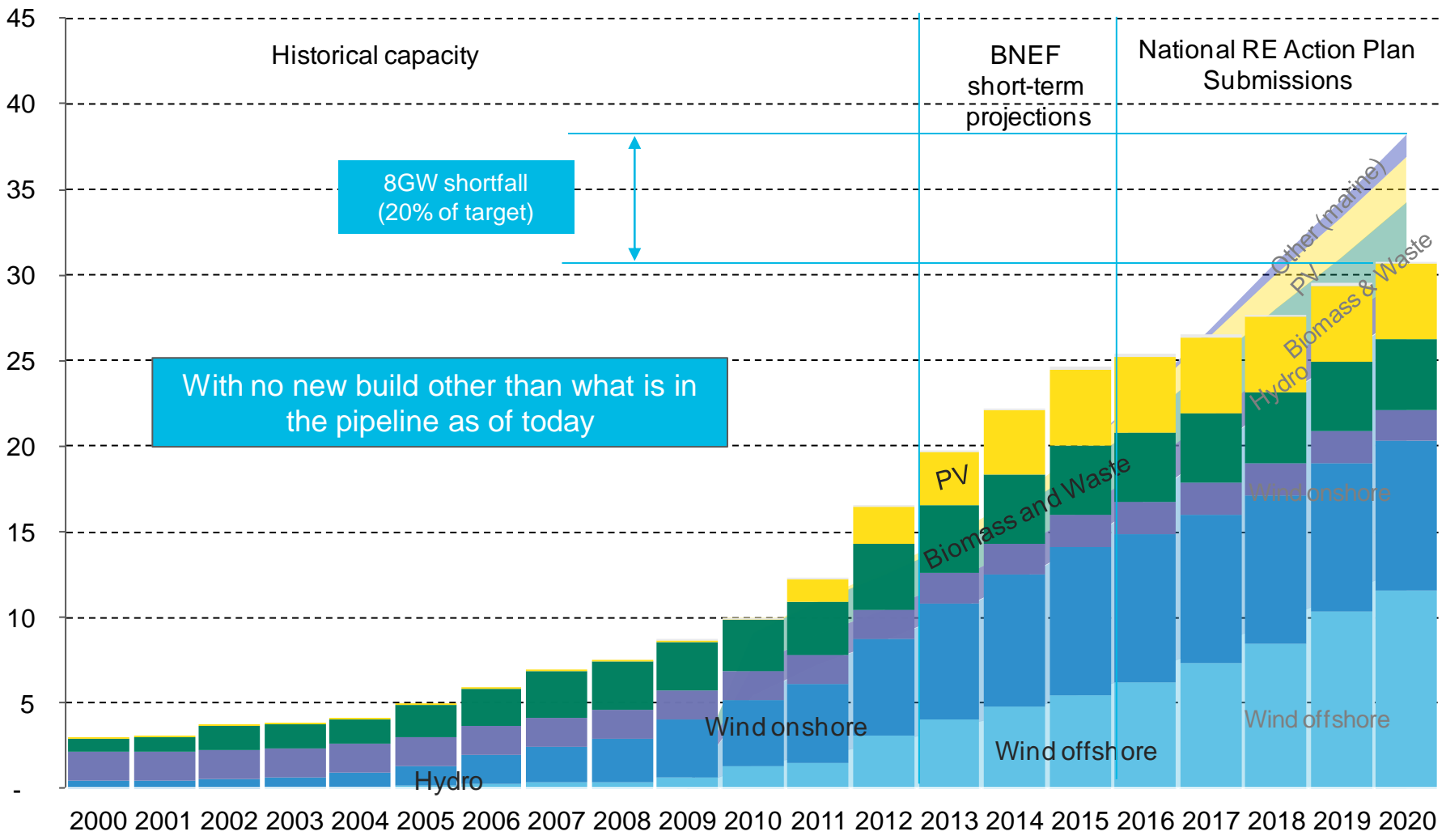
Source: Bloomberg New Energy Finance

UK RENEWABLE ENERGY CAPACITY (GW)



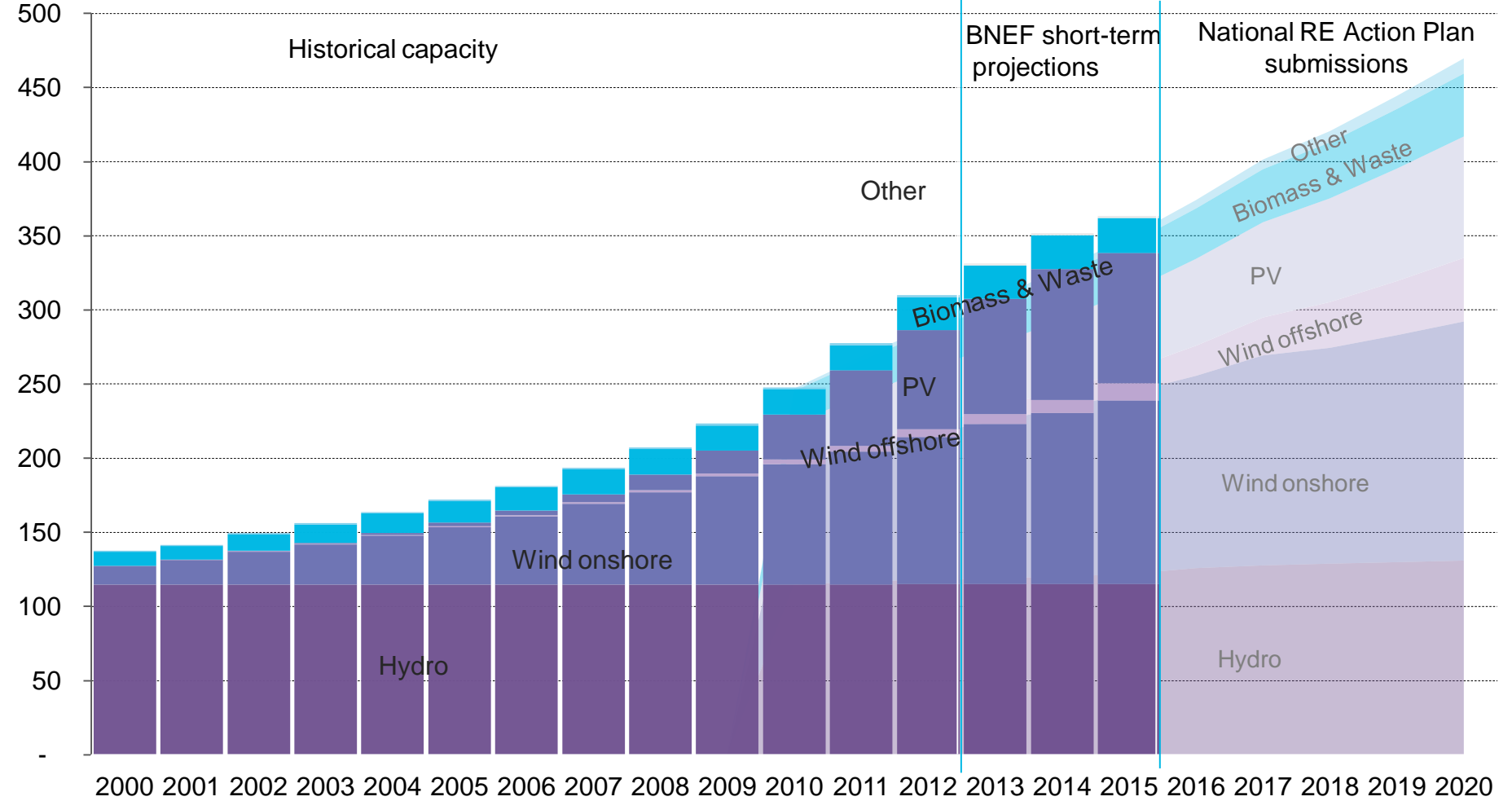
Source: Bloomberg New Energy Finance

UK RENEWABLE ENERGY CAPACITY (GW)



Source: Bloomberg New Energy Finance

EU27 RENEWABLE ENERGY CAPACITY (GW)



Source: Bloomberg New Energy Finance

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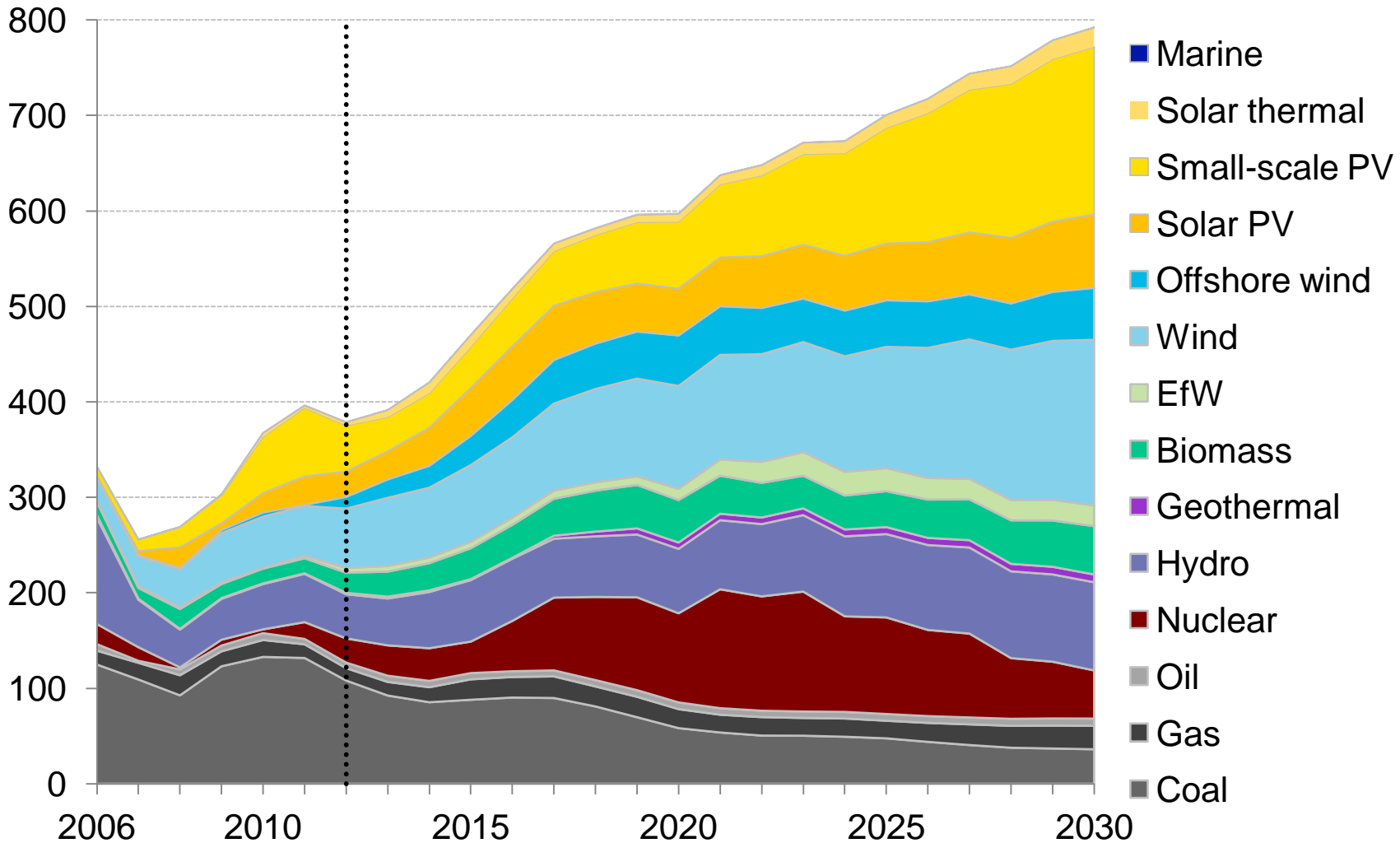
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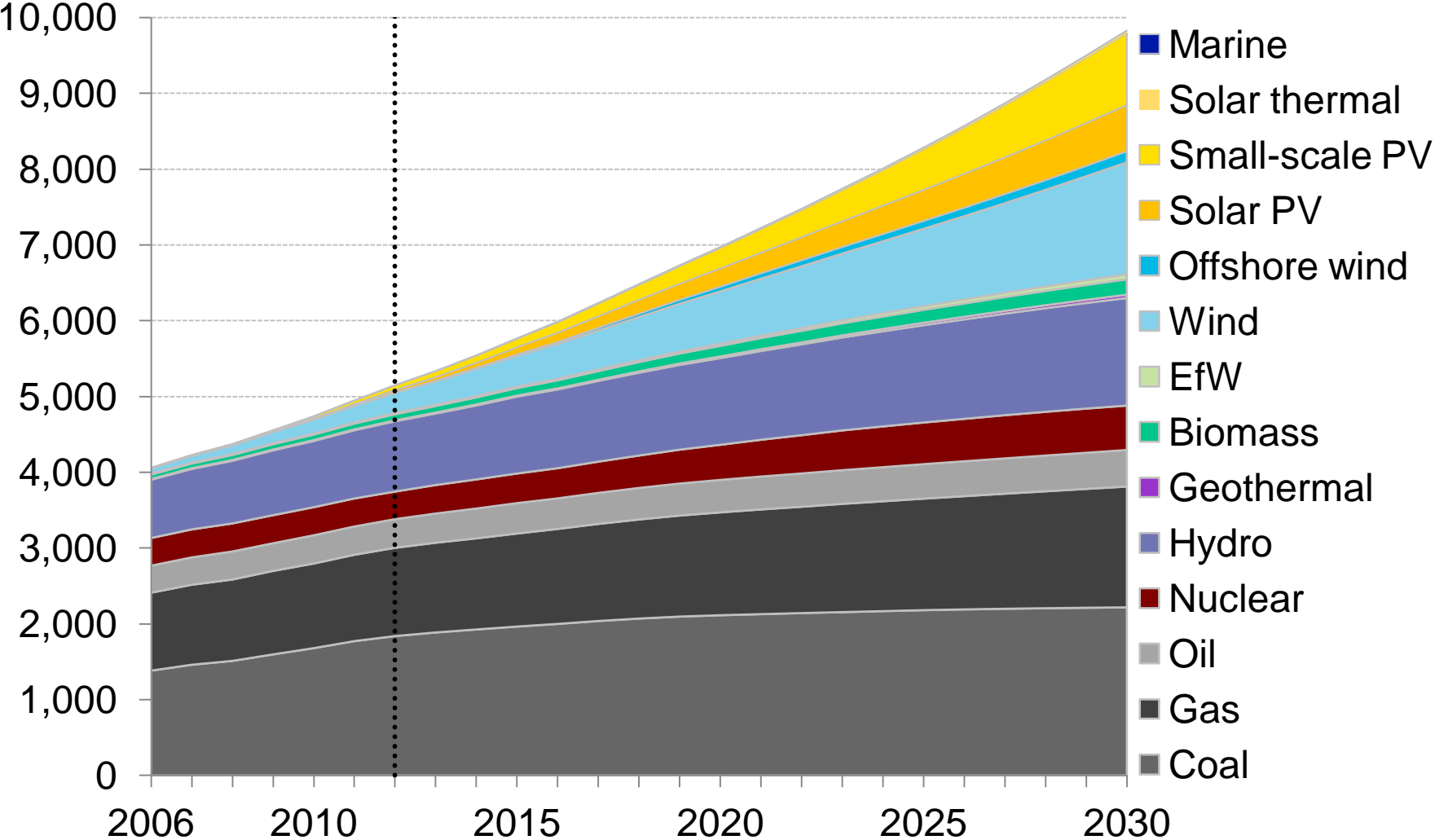
ANNUAL INVESTMENT IN POWER GENERATION CAPACITY (\$BN) – “NEW NORMAL” SCENARIO



Note: EfW is energy from waste Small-scale PV includes commercial and residential scale rooftop PV.

Source: Bloomberg New Energy Finance

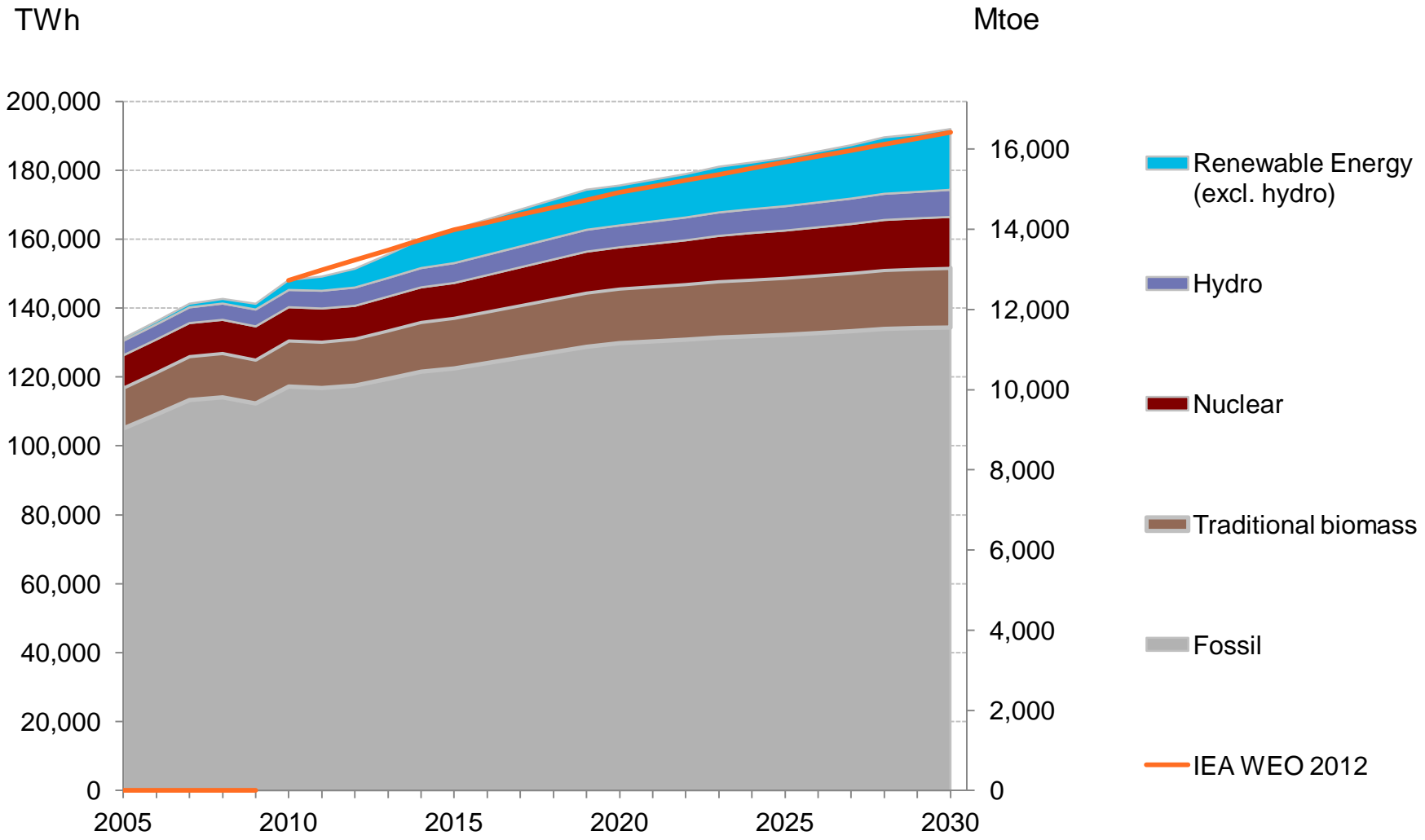
GLOBAL POWER GENERATION CAPACITY (GW)



Note: EfW is energy from waste Small-scale PV includes commercial and residential scale rooftop PV.

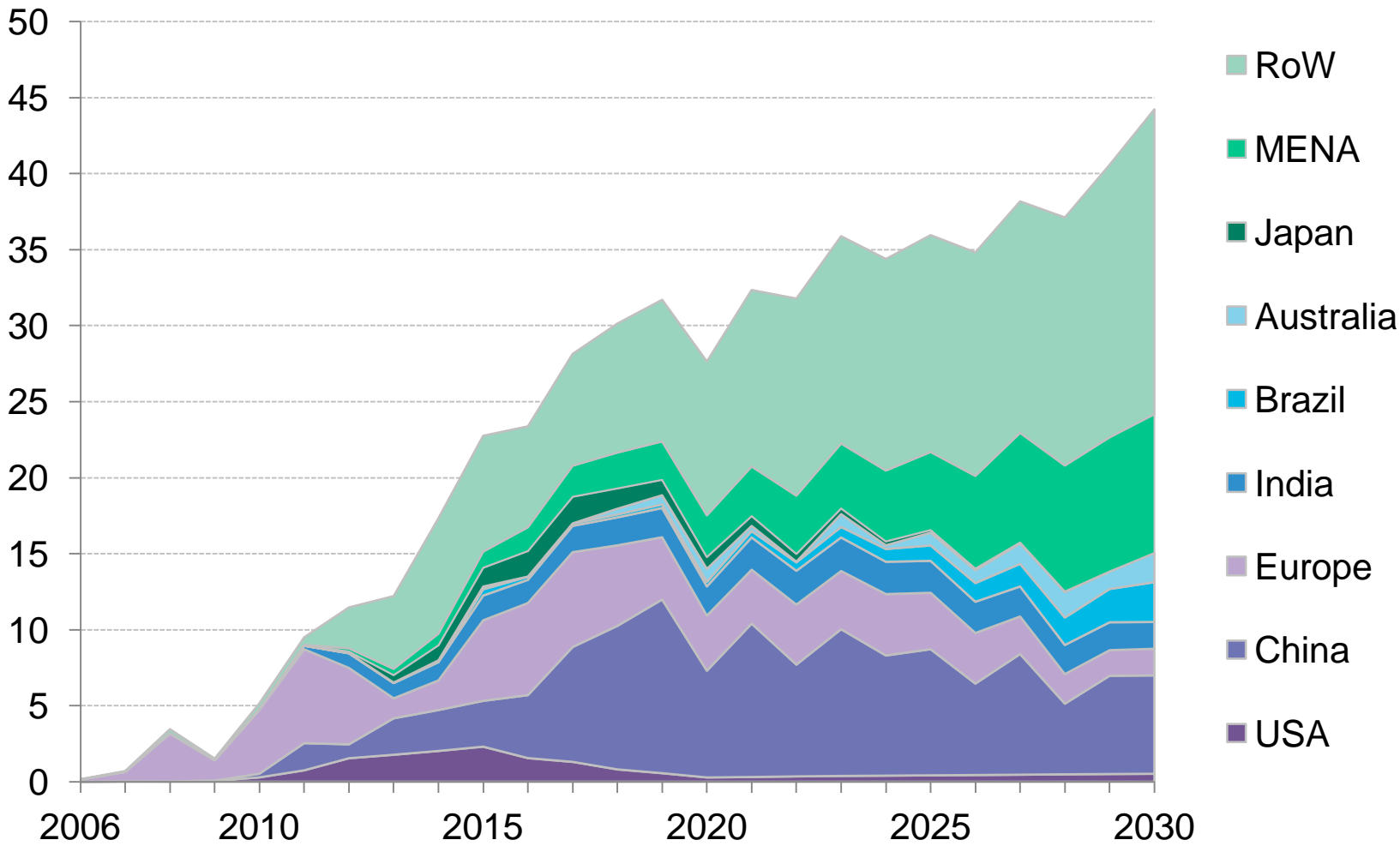
Source: Bloomberg New Energy Finance

TOTAL PRIMARY ENERGY DEMAND



Source: Bloomberg New Energy Finance

ANNUAL LARGE-SCALE PV INSTALLATIONS BY REGION - NEW NORMAL SCENARIO (GW)



Note: "large scale" denotes systems larger than 1MW

Source: Bloomberg New Energy Finance

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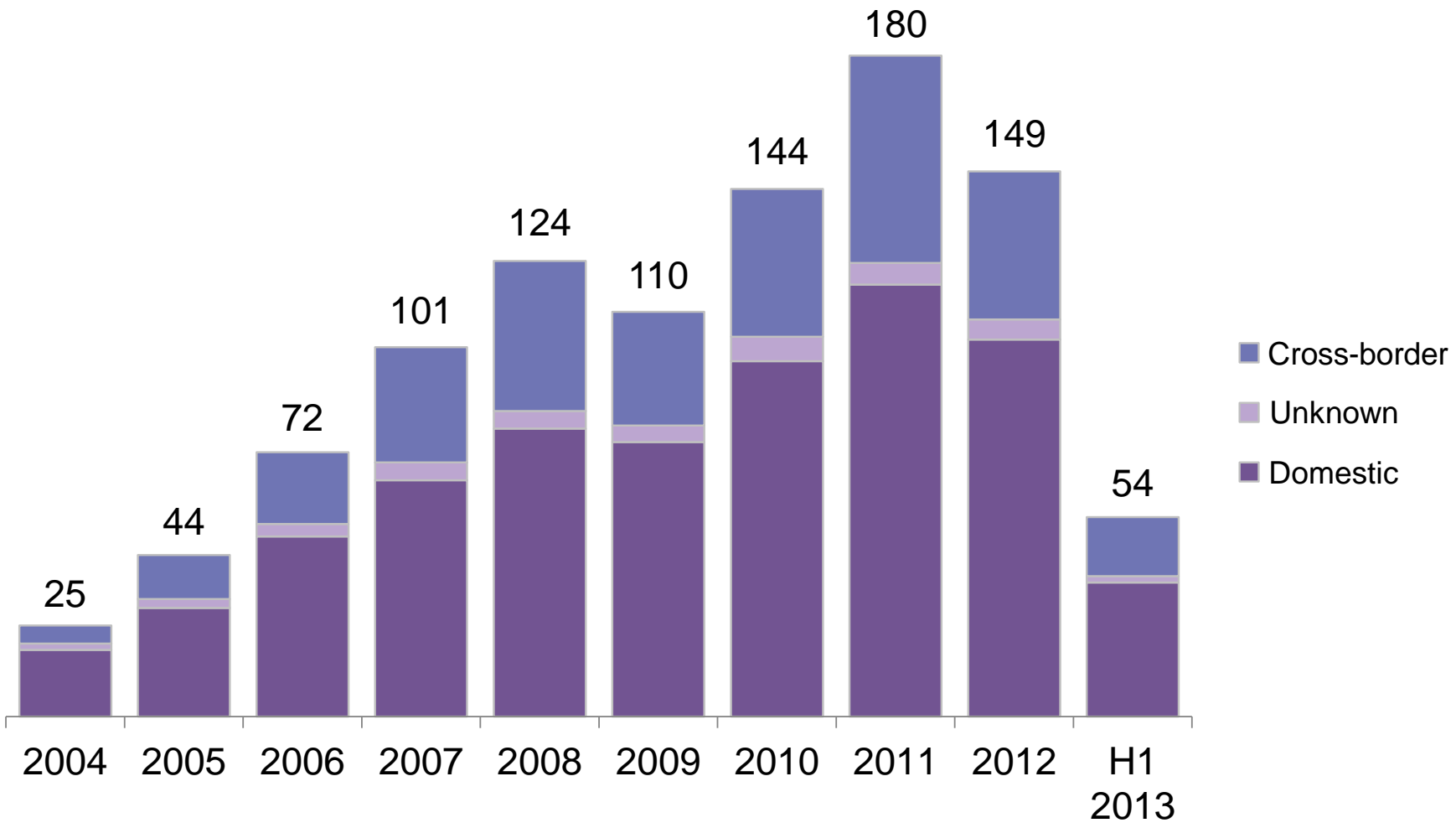
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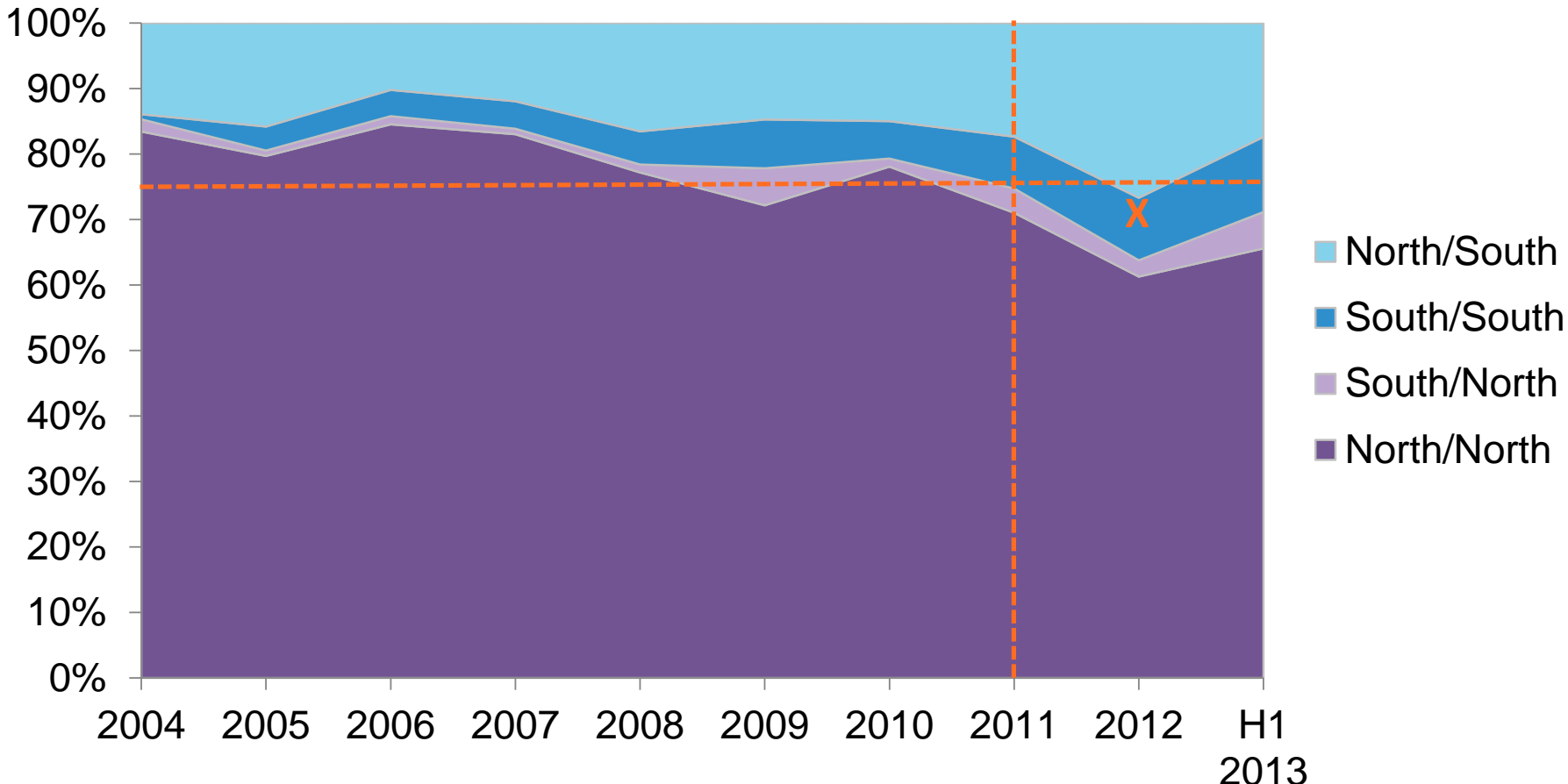
RENEWABLE ENERGY ASSET FINANCE INVESTMENT BY SOURCE, 2004–H1 2013 (\$BN)



Note: Total values include estimates for undisclosed deals. Volumes show new build asset finance for renewable energy projects only.

Source: Bloomberg New Energy Finance

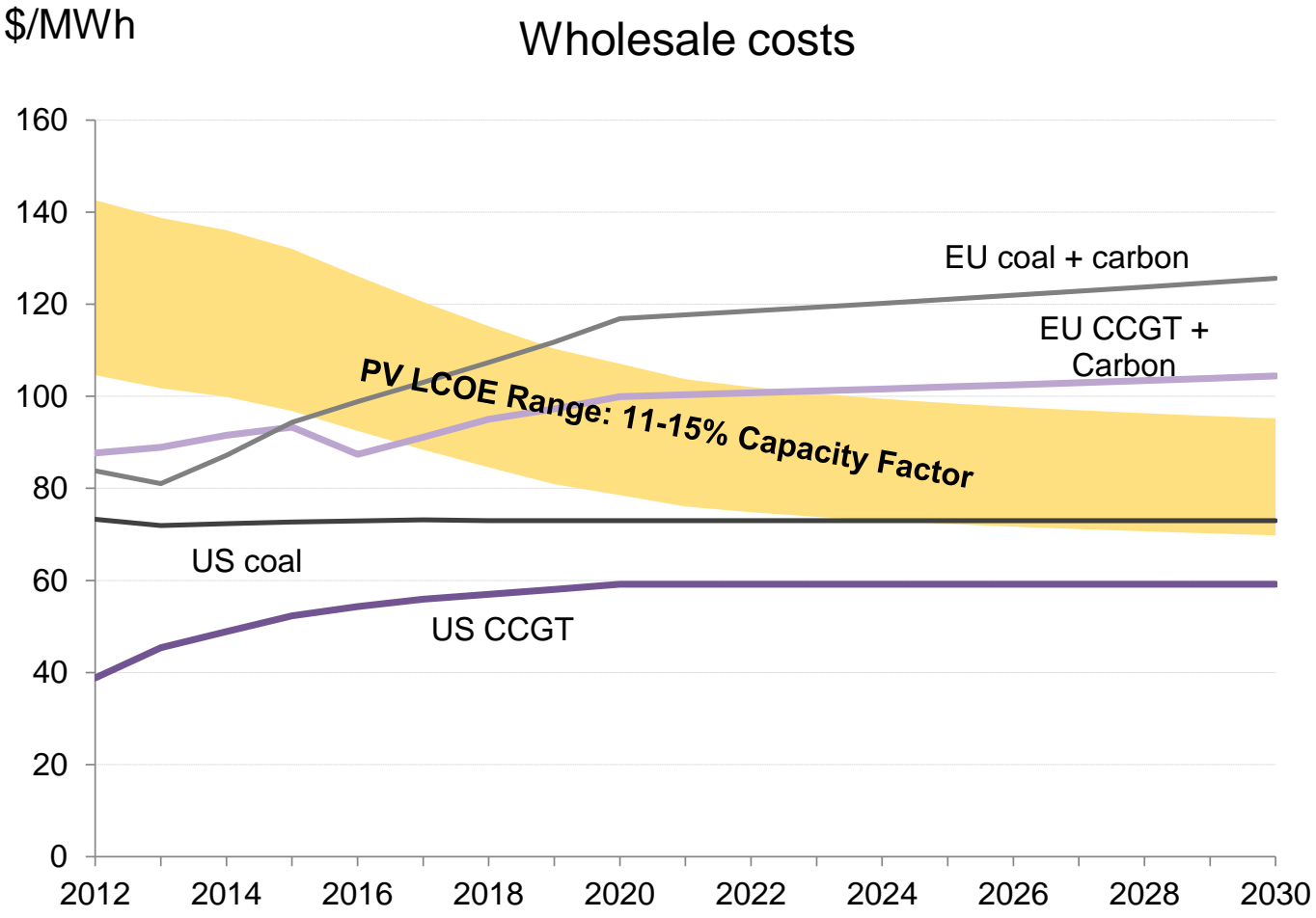
CROSS-BORDER RENEWABLE ENERGY ASSET FINANCE INVESTMENT BY FLOW, 2004–H1 2013 (\$BN)



--- Investment in the South in 2011 surpassed 25% of total CBI
 X North/South investment peaked in 2012 at 27% of total CBI with \$10.8bn deployed

Note: 'North' is defined as OECD member countries, 'South' is defined as the rest of the world. Source: Bloomberg New Energy Finance

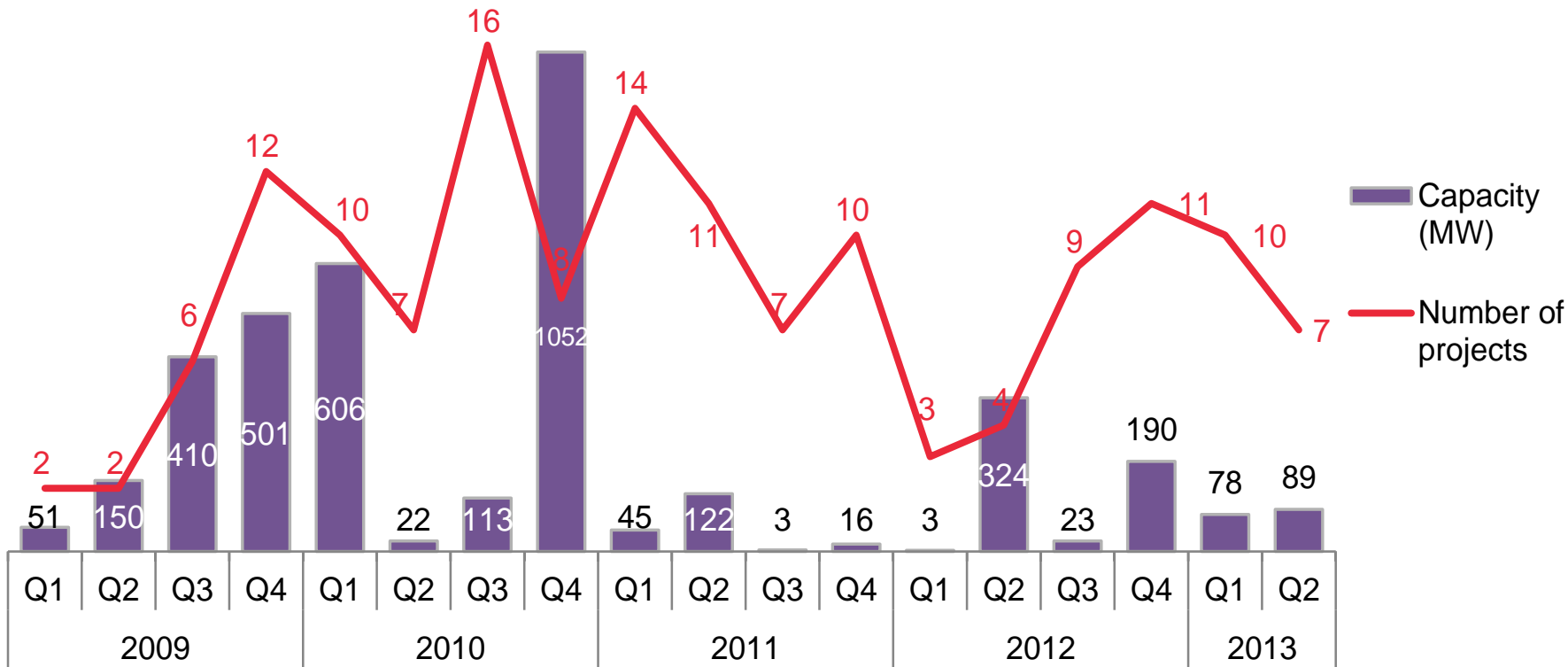
THE IMPORTANCE OF COSTS



PV cost competitive with retail power in:

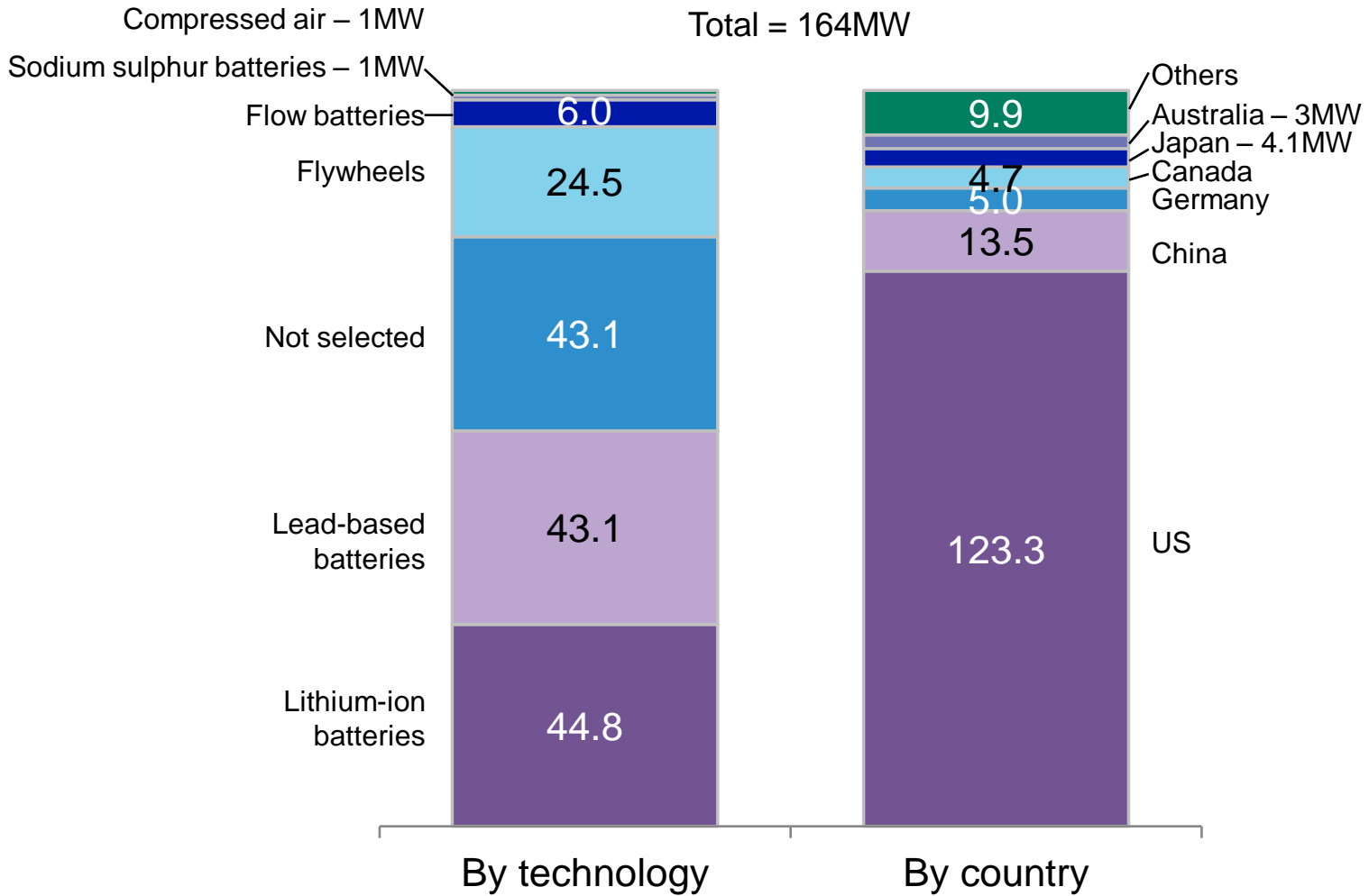
- Germany
- Australia
- India
- Italy

ANNOUNCED ENERGY STORAGE PROJECTS WORLDWIDE (MW AND NUMBER OF PROJECTS)



Source: Bloomberg New Energy Finance.

GLOBAL ENERGY STORAGE CAPACITY TO BE COMMISSIONED IN 2013 (MW)



Source: Bloomberg New Energy Finance

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FINANCING THE ENERGY TRANSITION

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Energy Smart Technologies

Renewable Energy Certificates

Carbon Capture & Storage

Power

Water

Nuclear

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