



Frankfurt School
UNEP Collaborating Centre
for Climate & Sustainable Energy Finance



GLOBAL TRENDS IN RENEWABLE ENERGY INVESTMENT 2013

Key Findings

Bloomberg
NEW ENERGY FINANCE

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS	4
FOREWORD FROM BAN KI-MOON	5
FOREWORDS FROM ACHIM STEINER, CHRISTIANA FIGUERES AND UDO STEFFENS	6
LIST OF FIGURES	7
METHODOLOGY AND DEFINITIONS	9
KEY FINDINGS	11
EXECUTIVE SUMMARY	12
- Bitter-sweet \$244 billion	
- South up, North down	
- Box on investment in 2013	
1. INVESTMENT BY TYPE OF ECONOMY	20
- Developed versus developing countries	
- Detailed comparisons by country	
- Developed economies	
- China, India and Brazil	
- Other developing economies	
2. PUTTING SUSTAINABLE ENERGY INTO PERSPECTIVE	30
- Overall energy trends	
- Technology costs	
- Decreasing subsidy dependence	
- Energy access	
- Climate stabilisation	
- Box on carbon capture and storage	
- Box on energy-smart technologies	
3. FOCUS CHAPTER: EVOLUTION OF POLICIES TO SUPPORT RENEWABLES INVESTMENT	38
- European Union	
- United States	
- Emerging markets	
4. ASSET FINANCE	44
- Box on large hydro-electric projects	
5. SMALL-SCALE PROJECTS	50
- Box on solar water heaters	
6. PUBLIC MARKETS	56
7. VENTURE CAPITAL AND PRIVATE EQUITY	62
8. RESEARCH AND DEVELOPMENT	68
9. ACQUISITION ACTIVITY	72
10. SOURCES OF INVESTMENT – SOME KEY TRENDS	76
- Funds	
- Green bonds	
- Development banks	
- Crowd funding	
GLOSSARY	82

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Cover Photo: UNEP Headquarters Nairobi 515 kW solar array, the 2nd largest rooftop system in Africa.
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METHODOLOGY AND DEFINITIONS

All figures in this report, unless otherwise credited, are based on the output of the Desktop database of Bloomberg New Energy Finance – an online portal to the world’s most comprehensive database of investors, projects and transactions in clean energy.

The Bloomberg New Energy Finance Desktop collates all organisations, projects and investments according to transaction type, sector, geography and timing. It covers 61,400 organisations (including start-ups, corporate entities, venture capital and private equity providers, banks and other investors), 40,000 projects and 37,400 transactions.

METHODOLOGY

The following renewable energy projects are included: all biomass and waste-to-energy, geothermal, and wind generation projects of more than 1MW; all hydropower projects of between 1MW and 50MW; all wave and tidal energy projects; all biofuel projects with a capacity of one million litres or more per year; and all solar projects, with those less than 1MW estimated separately and referred to as small-scale projects, or small distributed capacity, in this report.

The 2013 Global Trends report concentrates on renewable power and fuels and does not cover energy-smart technologies such as smart grid, electric vehicles and power storage – except in the box at the end of Chapter 2.

The main body of the report also does not cover large hydro-electric projects of more than 50MW, since this technology has been mature for decades and is at a very different stage of its roll-out than, for instance, wind or solar. However there is coverage of large hydro in the box at the end of Chapter 4, and briefly in the Executive Summary.

Where deal values are not disclosed, Bloomberg New Energy Finance assigns an estimated value based on comparable transactions. Deal values are rigorously back-checked and updated when further information is released about particular companies and projects. The statistics used are historic figures, based on confirmed and disclosed investment.

Annual investment in small-scale and residential projects such as rooftop solar is estimated. These figures are based on annual installation data, provided by industry associations and REN21. In Chapter 5, we have also stated estimates for solar water heaters, which do not generate power and are therefore excluded from the main small-scale projects figure and from the overall total for investment in renewable energy. Bloomberg New Energy Finance continuously monitors investment in renewable energy. This is a dynamic process: as the sector’s visibility grows, information flow improves. New deals come to light and existing data are refined, meaning that historic figures are constantly updated.

This 2013 report contains revisions to a number of investment figures published in the 2012 UNEP Global Trends In Renewable Energy Investment report. Revisions reflect improvements made by Bloomberg New Energy Finance to its data during the course of the last 12 months.

DEFINITIONS

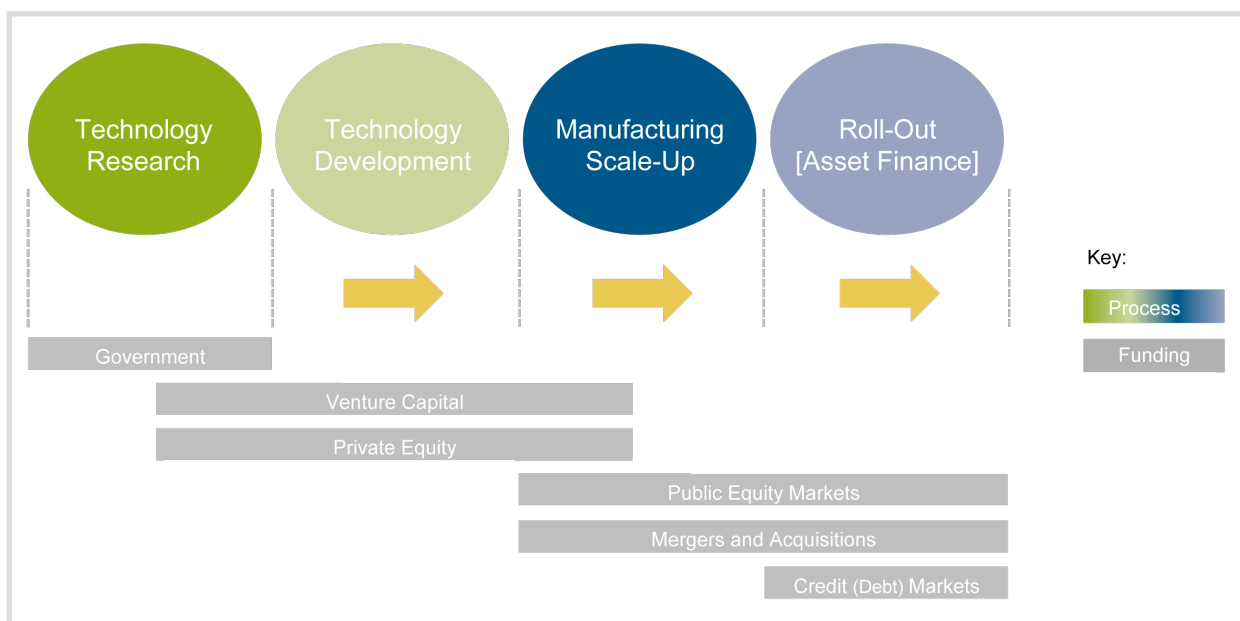
Bloomberg New Energy Finance tracks deals across the financing continuum, from R&D funding and venture capital for technology and early-stage companies, through to public market financing for projects and mature companies. Investment categories are defined as follows:

Venture capital and private equity (VC/PE): all money invested by venture capital and private equity funds in the equity of companies developing renewable energy technology. Similar investment in companies setting up generating capacity through special purpose vehicles is counted in the asset financing figure.

Public markets: all money invested in the equity of publicly quoted companies developing renewable energy technology and clean power generation.

Asset finance: all money invested in renewable energy generation projects (excluding large hydro), whether from internal company balance sheets, from loans, or from equity capital. This excludes refinancings.

Mergers and acquisitions (M&A): the value of existing equity and debt purchased by new corporate buyers, in companies developing renewable energy technology or operating renewable power and fuel projects.



REN21's annual **Renewables Global Status Report (GSR)** is the sister publication to UNEP Global Trends in Renewable Energy Investment report and was first released in 2005. It grew out of an effort to comprehensively capture, for the first time, the full status of renewable energy worldwide. Over the years, the GSR has expanded in scope and depth, in parallel with tremendous advances in renewable energy markets and industries. The report has become a major production that involves the amalgamation of thousands of data points, hundreds of reports and other documents, and personal communications with experts from around the world. It is available at <http://www.ren21.net/gsr>

KEY FINDINGS

- Investment in renewable power and fuels (including small hydro-electric projects) was \$244 billion in 2012, down 12% from the previous year's record figure of \$279 billion. Despite the setback, 2012's total was still the second-highest ever and 8% up on 2010.
- The main issue holding back investment last year was instability in the policy regime for renewable energy in important developed-economy markets. Future investment is likely to coalesce in countries that can offer policies that command investor confidence, plus the need for extra generating capacity and strong renewable power resources.
- The highlight of 2012 was a further shift in activity from developed, to developing, economies. Total investment in developed economies in 2012 was down 29% at \$132 billion while that in developing economies was up 19% at \$112 billion, the highest ever.
- After being neck-and-neck with the US in 2011, China was the dominant country in 2012 for investment in renewable energy, its commitments rising 22% to \$67 billion, thanks to a jump in solar investment. But there were also sharp increases in investment for several other emerging economies, including South Africa, Morocco, Mexico, Chile and Kenya.
- Activity trends were downbeat in many, but not all, developed economies. Policy uncertainty took a heavy toll of investment in the US – down 34% at \$36 billion – and also in former renewable energy early-movers such as Italy and Spain.
- The other major theme of 2012 was a further, significant reduction in the costs of solar photovoltaic technology. The levelised cost of generating a MWh of electricity from PV was around one third lower last year than the 2011 average. This took small-scale residential PV power, in particular, much closer to competitiveness.
- The result was that, despite problems in former market hot-spots in southern Europe, the amount of PV capacity installed in 2012 was a record 30.5GW, up from 2011's 28.8GW. However this came at reduced cost, contributing to an 11% fall in overall solar investment last year, to \$140 billion.
- Japan and Germany were two countries at the sharp end of the powerful trends in the solar market in 2012. Japan saw investment in renewable energy (excluding research and development) surge 73% to \$16 billion, thanks largely to a boom in small-scale PV on the back of new feed-in tariff subsidies for solar installation.
- Germany saw renewables investment slip 35% to \$20 billion. Part of this was down to a pause in offshore wind financings, as grid connection delays were addressed, but the major reason was that the 7.6GW of solar capacity installed in 2012 came at much lower cost than would have been the case in 2010 or 2011.
- Despite high levels of investment in renewable energy, generators are continuing to spend large sums on fossil-fuel assets. In 2012, gross investment on coal, gas and oil power (including replacement plant) was an estimated \$262 billion, some \$2 billion higher than the total investment in renewable power capacity including large hydro. Net investment in fossil-fuel technologies, at \$148 billion, was much less than that in renewables.
- Clean energy share prices had another poor year in 2012, the WilderHill New Energy Global Innovation Index, or NEX, slipping 6% while wider stock markets gained. This followed a 40% plunge in the previous year. The NEX reached a low in late July some 78% below its record level reached in November 2007, before beginning a rally that extended into 2013.
- The main reasons for the further under-performance of renewable energy shares last year were severe distress in the manufacturing supply chain for both wind and solar, caused by over-capacity; and investor unease about future prospects in the light of unhelpful policy moves in Europe and North America.
- There were contrasts in the trends seen among different categories of investment. Small-scale capacity (of less than 1MW) was the strongest area, rising 3% to \$80 billion in 2012. Asset finance of large projects slipped 18% to \$149 billion.
- Investment in specialist renewable energy companies by public market investors dropped 61% to \$4 billion, while that by venture capital and private equity investors fell 30% to \$4 billion, the lowest since 2005. Corporate and government research and development spending, however, edged up 1% to \$10 billion.
- In addition to the \$244 billion worldwide investment total above, there was an important additional sum spent on new hydro-electric projects of more than 50MW. Some 22GW of such projects are estimated to have come online during 2012, equivalent to investment of around \$33 billion.

EXECUTIVE SUMMARY

For the first time in several years, 2012 saw a decline, not a new record, for global investment in renewable energy. As last year's Global Trends report warned, dollar investment worldwide was facing a down-draft from uncertainty over support policies in Europe and the US and – more positively – from sharp falls in technology costs.

The 2012 investment total was \$244 billion for renewable power and fuels (including small hydro-electric projects). This was 12% down on 2011's record of \$279 billion,¹ but 8% above the figure for 2010.

Not included in the headline 2012 number above is approximately \$33 billion of investment in large hydro-electric projects – these outlays are discussed in a special section in Chapter 4. Once again, the

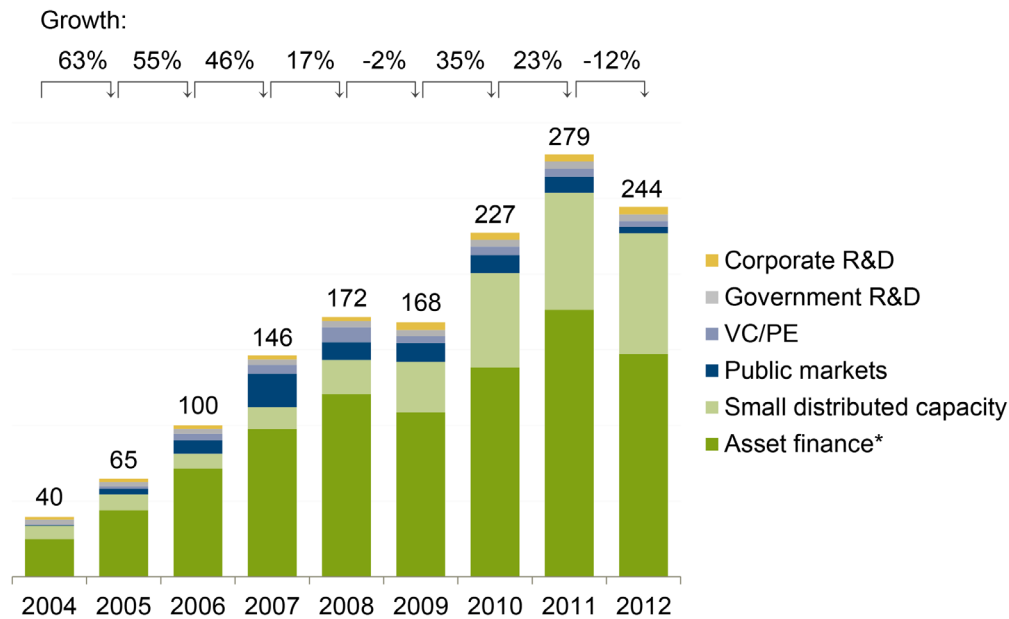
dollars spent on additional renewable power capacity including large hydro exceeded those spent on additional fossil-fuel generating capacity worldwide, this time by more than \$100 billion.²

However there is dauntingly far still to go to reduce the carbon intensity of the generation fleet. In 2012, just 6.5% of global electricity was produced using wind, solar, biomass and waste-to-power, geothermal, marine and small hydro technologies,



¹ The 2011 and 2010 totals have been revised upwards since last year's Global Trends, reflecting new information on projects and deals.

² See Chapter 2 for further discussion of the investment comparison.

FIGURE 1: GLOBAL NEW INVESTMENT IN RENEWABLE ENERGY BY ASSET CLASS, 2004-2012, \$BN

*Asset finance volume adjusts for re-invested equity. Total values include estimates for undisclosed deals
Source: UNEP, Bloomberg New Energy Finance

up from 5.7% in 2011. Although the use of these sources meant that an estimated 900 megatonnes of CO₂ were not produced, overall global energy-related emissions remained on a rising trend.

The most important change that took place in 2012 was an acceleration in the geographical shift of renewable energy investment. Back in 2007, developed economies invested two and a half times as much in renewables (excluding large hydro) than developing economies. In 2012, the gap was just 18%.

BITTER-SWEET \$244 BILLION

From the standpoint of any year other than 2011, last year was a strong one for investment in renewable energy worldwide. The total of \$244 billion was the second-highest ever, nearly one and a half times the 2009 figure and six times the 2004 number (see Figure 1).

However there is no hiding from the fact that 2012 marked the sharpest setback for renewable energy investment in recent years, far exceeding the 2% reverse in 2009 that followed the climax of the financial crisis. So what went wrong?

The main reason for the 12% decline in 2012 was investor concern over policies to support renewable energy in its longest-established markets, Europe and the US. In part this was a case of uncertainty – developers, equity providers and lenders were unsure about whether commitments to subsidise renewable energy deployment would continue beyond scheduled expiry dates in countries like the US, the UK and Germany.

In part it was a case of actual action – Spain's late-2010 retroactive cuts in tariff support for existing PV projects were followed in 2012 by further negative developments in the same country (a moratorium over feed-in tariff support for all new projects, and a tax on the revenues of clean power plants), and in Italy (a tight cap on capacity eligible for feed-in tariffs).

There was also negative impact on investment levels from other factors, notably pressure on utility balance sheets in some European countries, the low natural gas price in the US (which reduced the value of power purchasing agreements available to generators, including wind developers), and the poor performance, once again, of clean energy share prices. The latter factor hit public market investment in specialist renewable energy



companies and made venture capital and private equity funds more hesitant about putting money into the sector.

There was also an ominous, rising tide of protectionism in renewable energy. The US imposed relatively mild tariffs on Chinese-made solar hardware in the spring of 2012, but by the end of the year the pressure was on in Europe for higher duties on Chinese products.

However, the taste of 2012 was not all bitter. First of all, the weaker investment number disguised a much better performance in terms of renewable power megawatts installed. There were falls in utility-scale PV system costs of around 40% (and in residential PV system cost of nearly 30%) between 2011 and 2012, as excess capacity in the manufacturing chain put a fierce squeeze on selling prices and margins. The result was that although solar investment fell 11% worldwide in 2012, the number of PV megawatts installed actually increased, from 28.8GW the previous year, to 30.5GW.

In wind, there was a little of the same. The wind capacity installed in 2012 hit a record of 48.4GW, up from 42.1GW in 2011. Much of this reflected

timing effects, so a lot of projects were financed in 2011 – and so showed up in that year’s investment figures – but not completed until 2012. But there was also a cost effect – average prices paid for onshore turbines in 2012 were some 2-3% lower than those in 2011.

The continued improvements in cost-competitiveness for solar and wind helped to support demand in many markets. Developers found they could get an acceptable return even with subsidies well below their former levels, in countries such as Germany, and that they could get an attractive return in markets that had just introduced feed-in tariffs, notably Japan. Prices continued to fall in wind capacity auctions and tender mechanisms in emerging economies such as Brazil and South Africa.

There were other sweeter spots too. One was that, despite the fears about policy support, in several countries governments eventually clarified and extended their subsidy programmes and put in place new, more transparent “deggression” mechanisms for scaling back subsidy support. In the US, the Production Tax Credit for wind was extended for a further year in a deal in Congress at the start of January this year. In the UK, the

government published last summer new levels of green certificate support that were broadly compatible with industry demands. In India, the administration confirmed that its generation-based incentive for wind would be restored after a period of suspension.

Another was that clean energy share prices finally managed to begin a rally, after a painful decline of 78% from their highs reached in 2007. The WilderHill Global Innovation Index, or NEX, which tracks the performance of 96 clean energy stocks worldwide, bottomed at 102.20 on 25 July 2012, had rallied by 18% by the end of the year, and continued its upswing well into 2013.

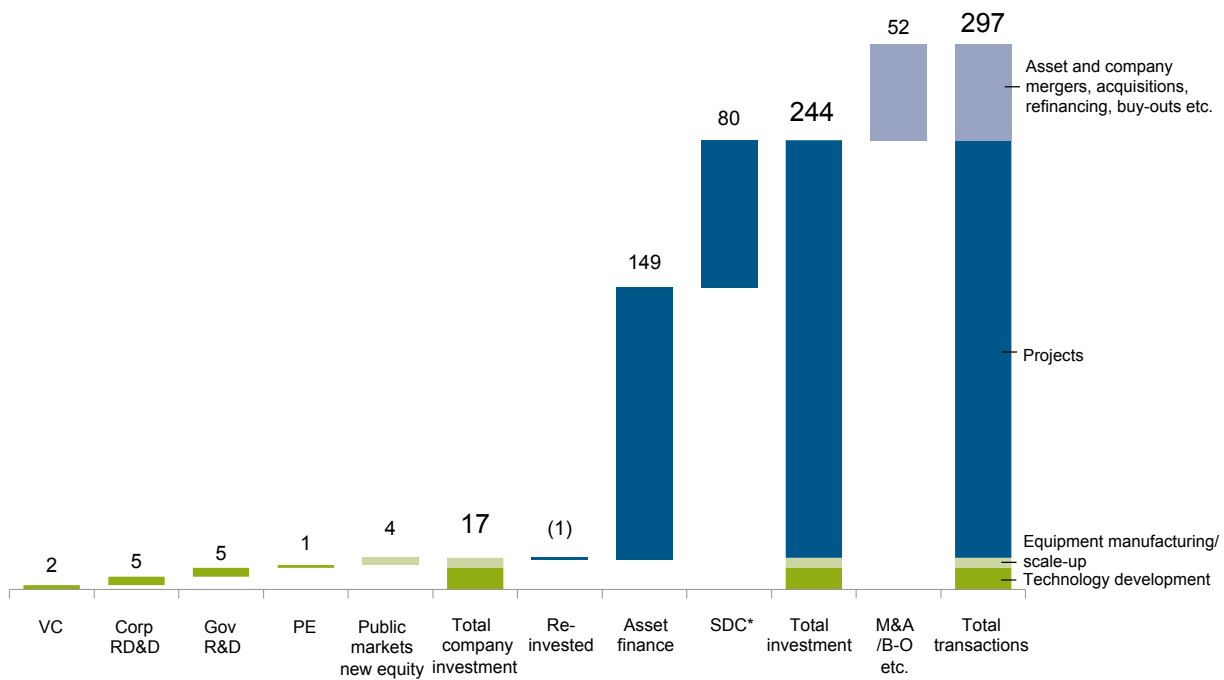
Finally, and most importantly, there was further evidence last year that renewable energy investment is gravitating to the parts of the world that have greatest need for additional power, and have the best natural resources for wind, solar, geothermal, small hydro and other technologies. In many cases, this means developing countries. This trend is explored further in the next section.

SOUTH UP, NORTH DOWN

Figure 2 shows the breakdown of the \$244 billion figure for investment in 2012 in renewable energy excluding large hydro. At the technology end of the spectrum, there was \$2 billion of venture capital investment, and \$1 billion of private equity-raising, in specialist sector companies, and \$5 billion each of corporate, and government, research and development spending. The largest segment of investment was asset finance of utility-scale renewable energy projects, at \$149 billion, and this was followed by \$80 billion of small distributed capacity, primarily rooftop solar, financings. Finally, there was \$52 billion of mergers and acquisitions, buy-outs and refinancings – not included in the \$244 billion new investment total but part of the activity in the sector also.

Figure 3 shows how the main numbers varied in 2012 compared to earlier years. The most important contributor to the 12% decline in new investment last year was a fall in asset finance from \$180 billion in 2011 to \$149 billion last year.

FIGURE 2: GLOBAL TRANSACTIONS IN RENEWABLE ENERGY, 2012, \$BN



SDC = small distributed capacity. Total values include estimates for undisclosed deals. Figures may not add up exactly to totals, due to rounding. Source: UNEP, Bloomberg New Energy Finance

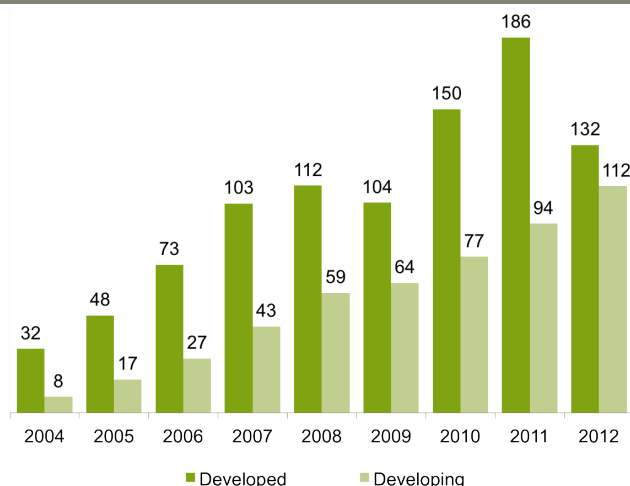
FIGURE 3: GLOBAL TRENDS IN RENEWABLE ENERGY INVESTMENT 2012 DATA TABLE, \$BN

Category	Year Unit	2004 \$bn	2005 \$bn	2006 \$bn	2007 \$bn	2008 \$bn	2009 \$bn	2010 \$bn	2011 \$bn	2012 \$bn	2011-12 Growth %	2004-12 CAGR %
1 Total Investment												
1.1 New investment		39.6	64.7	100.0	146.2	171.7	168.2	227.2	279.0	244.4	-12%	26%
1.2 Total transactions		48.4	90.7	135.6	204.7	231.0	232.5	285.8	352.5	296.7	-16%	25%
2 New Investment by Value Chain												
2.1 Technology development												
2.1.1 Venture capital		0.4	0.6	1.2	2.2	3.2	1.6	2.5	2.6	2.3	-15%	25%
2.1.2 Government R&D		2.0	2.1	2.3	2.7	2.8	5.2	4.7	4.7	4.8	3%	12%
2.1.3 Corporate RD&D		3.0	2.9	3.3	3.6	4.0	4.0	4.6	4.8	4.8	-1%	6%
2.2 Equipment Manufacturing												
2.2.1 Private equity expansion capital		0.3	1.0	3.0	3.7	6.8	2.9	3.1	2.6	1.4	-46%	20%
2.2.2 Public markets		0.3	3.8	9.1	22.2	11.6	12.5	11.8	10.6	4.1	-61%	41%
2.3 Projects												
2.3.1 Asset finance		24.8	44.0	72.1	100.6	124.2	110.3	143.7	180.1	148.5	-18%	25%
Of which re-invested equity		0.0	0.1	0.7	3.1	3.4	1.8	5.5	3.7	1.5	-60%	-
2.3.3 Small distributed capacity		8.9	10.5	9.8	14.3	22.5	33.5	62.4	77.4	80.0	3%	32%
Total Financial Investment		25.8	49.3	84.7	125.6	142.4	125.5	155.6	192.2	154.8	-19%	25%
Gov't R&D, corporate RD&D, small projects		13.8	15.4	15.3	20.6	29.3	42.7	71.7	86.8	89.6	3%	26%
Total New Investment		39.6	64.7	100.0	146.2	171.7	168.2	227.2	279.0	244.4	-12%	26%
3 M&A Transactions												
3.1 Private equity buy-outs		0.8	3.8	1.8	3.6	5.5	2.5	1.9	3.0	2.4	-19%	14%
3.2 Public markets investor exits		0.0	1.4	2.7	4.2	1.0	2.6	4.7	0.1	0.4	200%	41%
3.3 Corporate M&A		2.4	7.9	12.7	20.4	18.0	21.5	18.0	29.5	7.1	-76%	14%
3.4 Project acquisition & refinancing		5.4	12.8	18.4	30.4	34.9	37.7	33.9	40.9	42.3	4%	29%
4 New Investment by Sector												
4.1 Wind		14.4	25.5	32.4	57.4	69.9	73.7	96.2	89.3	80.3	-10%	24%
4.2 Solar		12.3	16.4	22.1	39.1	59.3	62.3	99.9	158.1	140.4	-11%	36%
4.3 Biofuels		3.7	8.9	26.1	28.2	19.3	10.6	9.2	8.3	5.0	-40%	4%
4.4 Biomass & w-t-e		6.3	8.3	11.8	13.1	14.1	13.2	13.7	12.9	8.6	-34%	4%
4.5 Small hydro		1.5	4.6	5.4	5.9	7.1	5.3	4.5	6.5	7.8	20%	22%
4.6 Geothermal		1.4	0.9	1.4	1.8	1.8	2.7	3.5	3.7	2.1	-44%	5%
4.7 Marine		0.0	0.1	0.9	0.7	0.2	0.3	0.2	0.3	0.3	13%	30%
Total		39.6	64.7	100.0	146.2	171.7	168.2	227.2	279.0	244.4	-12%	26%
5 New Investment by Geography												
5.1 United States		5.7	11.9	28.2	34.5	36.2	23.3	34.6	54.8	36.0	-34%	26%
5.2 Brazil		0.5	2.2	4.2	10.3	12.5	7.9	7.9	8.6	5.4	-37%	34%
5.3 AMER (excl. US & Brazil)		1.4	3.4	3.4	5.0	5.6	5.9	11.5	8.3	9.5	14%	27%
5.4 Europe		19.6	29.4	38.4	61.7	72.9	74.7	101.3	112.3	79.9	-29%	19%
5.5 Middle East & Africa		0.6	0.6	1.2	1.7	2.7	1.7	5.0	3.5	11.5	228%	46%
5.6 China		2.6	5.8	10.2	15.8	25.0	37.2	40.0	54.7	66.6	22%	50%
5.7 India		2.4	3.2	5.5	6.3	5.2	4.4	8.7	13.0	6.5	-50%	13%
5.8 ASOC (excl. China & India)		6.7	8.3	8.9	11.0	11.5	13.2	18.1	23.8	29.0	22%	20%
Total		39.6	64.7	100.0	146.2	171.7	168.2	227.2	279.0	244.4	-12%	26%

New investment volume adjusts for re-invested equity. Total values include estimates for undisclosed deals.

Source: UNEP, Bloomberg New Energy Finance

FIGURE 4: GLOBAL NEW INVESTMENT IN RENEWABLE ENERGY: DEVELOPED V DEVELOPING COUNTRIES, 2004-2012, \$BN

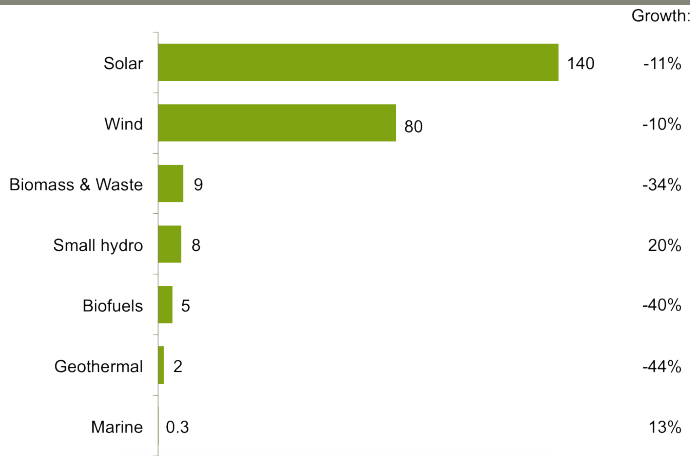


New investment volume adjusts for re-invested equity. Total values include estimates for undisclosed deals. Developed volumes are based on OECD countries excluding Mexico, Chile, and Turkey.

Source: UNEP, Bloomberg New Energy Finance

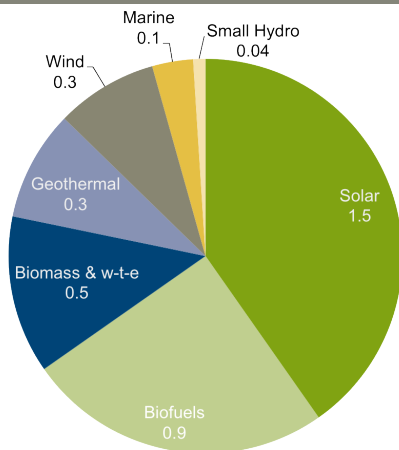
The developed-developing contrast is highlighted in Figure 4. Total investment in developing economies rose 19% in 2012 to \$112 billion, so continuing an uninterrupted upward trend since 2004, while investment in developed countries slumped 29% to \$132 billion. One milestone was passed in 2010, when developing countries first overtook developed economies in the public markets category of investment. In 2012, the gap between the two in terms of overall investment shrunk to just 18% - suggesting that at some point in the next few years, the majority of renewable energy investment will take place in developing countries.

FIGURE 5: GLOBAL NEW INVESTMENT IN RENEWABLE ENERGY BY SECTOR, 2012, AND GROWTH ON 2011, \$BN



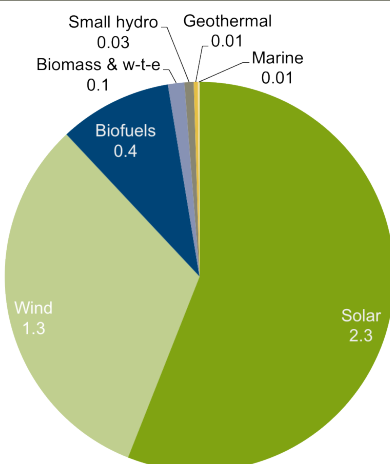
New investment volume adjusts for re-invested equity. Total values include estimates for undisclosed deals. Source: UNEP, Bloomberg New Energy Finance

FIGURE 6: VC/PE NEW INVESTMENT IN RENEWABLE ENERGY BY SECTOR, 2012, \$BN



VC/PE new investment excludes PE buy-outs. Total values include estimates for undisclosed deals. Source: UNEP, Bloomberg New Energy Finance

FIGURE 7: PUBLIC MARKETS NEW INVESTMENT IN RENEWABLE ENERGY BY SECTOR, 2012, \$BN



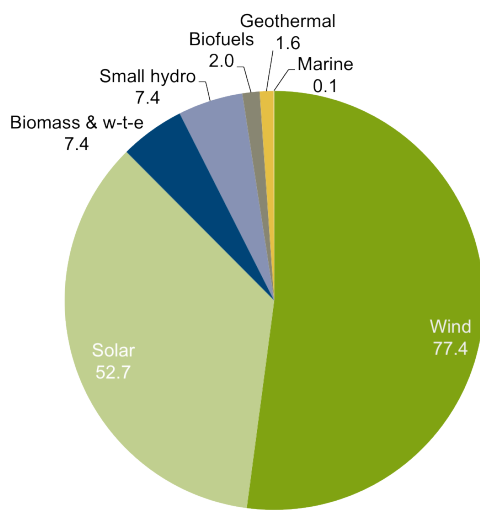
Source: UNEP, Bloomberg New Energy Finance



The further shift in global investment focus from “North” to “South” in 2012 owed much, but not all by any means, to China. As Figure 3 indicates, China raised its investment last year by 22% to \$67 billion, making it comfortably the world’s biggest destination for renewable energy outlays, at 27% of the global total. However there were strong gains also for the Asia-Oceania region excluding China and India, with a 22% increase to \$29 billion, the Americas excluding the US and Brazil, with a 14% rise to \$10 billion, and Middle East & Africa, with a 228% jump to \$11 billion. The performance of individual developing, and developed, countries are examined in Chapter 1.

Both solar and wind suffered double-figure declines in investment in 2012 (of 11% and 10% respectively), while biofuels, biomass and waste-to-energy and geothermal all did proportionately much worse – enduring falls of 40%, 34% and 44%. Only small hydro, with a 20% increase to \$7.8 billion, and the fledgling marine energy sector with a 13% gain to \$300 million, bucked the downward trend (see Figure 5).

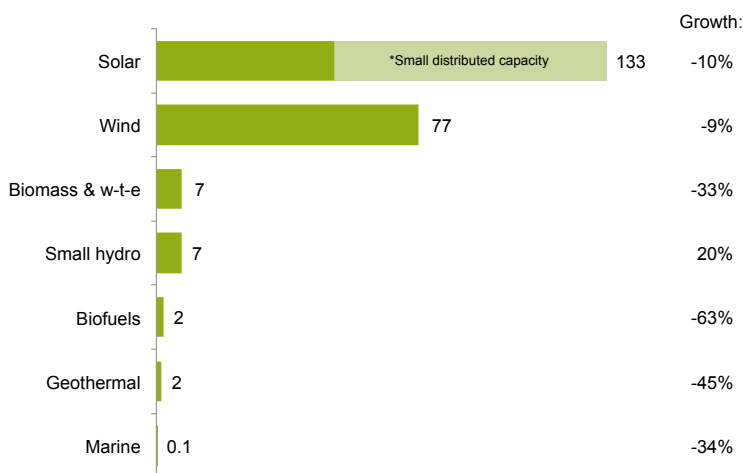
FIGURE 8: ASSET FINANCE OF RENEWABLE ENERGY ASSETS BY SECTOR, 2012, \$BN



Total values include estimates for undisclosed deals.
Source: UNEP, Bloomberg New Energy Finance



FIGURE 9: ASSET FINANCE OF RENEWABLE ENERGY ASSETS AND SMALL DISTRIBUTED CAPACITY BY SECTOR, 2012, AND GROWTH ON 2011, \$BN



Total values include estimates for undisclosed deals.
Source: UNEP, Bloomberg New Energy Finance

These sector splits are further examined in Figures 6, 7 and 8 – highlighting the trends respectively in venture capital and private equity commitments, public markets investment, and utility-scale asset finance. The message from Figure 6 is that solar remains the most popular area for VC/PE investors, even though they are showing much more caution

than in 2007-08, with second-generation biofuels the second biggest destination for their funds.

Solar was also the main recipient of equity capital put into quoted renewable energy companies, as Figure 7 shows, although wind came a respectable second. The specific deals and trends of 2012 in VC/PE and public markets are explored in depth in Chapters 6 and 7 of this report.

Figure 8 highlights just how dominant wind and solar have become within the renewable energy sector, accounting between them for some \$130 billion of the \$149 billion of asset finance last year. Their combined share was much lower in the mid-2000s when the US and Brazilian biofuel booms were in full swing, and solar had

yet to attract heavy project investment. Figure 9 provides a different slant on the sectoral picture, combining asset finance and small-scale project outlays to show that solar attracted about 70% more investment in new capacity than wind. Asset finance is examined in detail in Chapter 4 of this report, and small-scale projects in Chapter 5.

INVESTMENT IN 2013

Global investment in renewable energy in the first quarter of this year was \$40 billion, the lowest in any quarter since Q1 2009, at the lowest point of the recession that followed the financial crisis. The Q1 2013 outcome was down 36% on the final quarter of last year and 24% below the first quarter of 2012.

The first quarter has often been the weakest of the four in recent years, reflecting the fact that subsidies tend to expire at the end of December, so developers rush to complete in time for that, and then pause. In addition, banks strive to complete loan deals in December, to meet their annual targets, and then start with new transactions in the New Year.

However the weakness in Q1 2013 was more than just seasonal. Figure 10 shows the trend for three categories of investment – asset finance of utility-scale projects, venture capital and private equity investment, and public markets investment. The combined investment in these three was \$21 billion in the first quarter, down more than a third from the equivalent in the first three months of 2012.

Asset finance was \$19.3 billion, compared to \$30.8 billion in the same quarter of last year. The largest

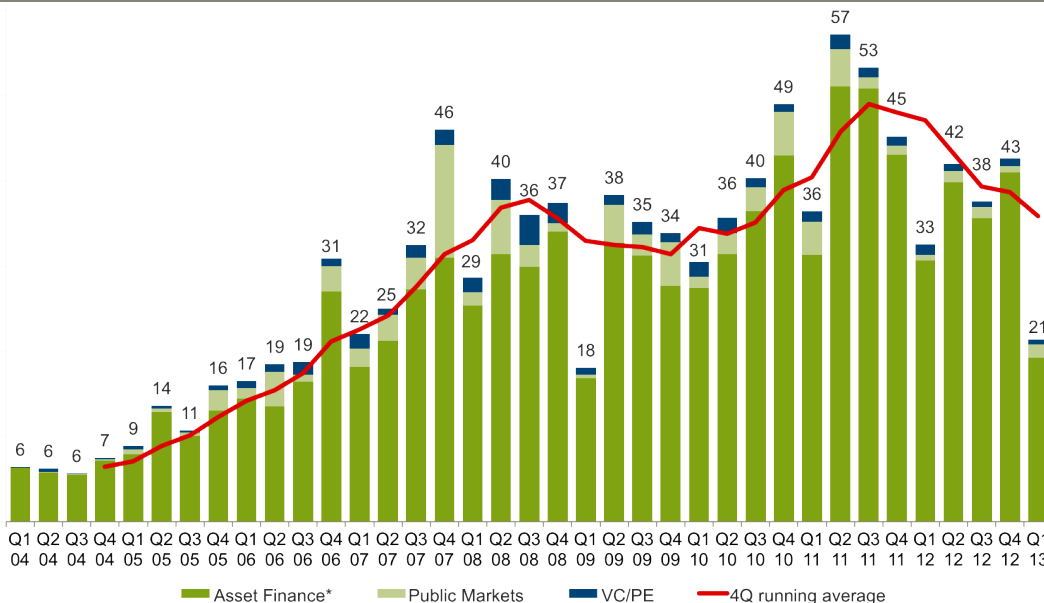
deal of the quarter was the \$1.9 billion financing of the 288MW Butendiek offshore wind farm in German waters, but there was a big gap to the next largest – the \$390 million financing of a 234MW Gas Natural Fenosa onshore wind farm in Mexico, and the \$345 million investment decision for a 70MW Kyocera solar PV plant in Japan.

A slightly improved showing by clean energy share prices – up 11% in the quarter – helped to stimulate a rebound of 141% in public markets investment in clean energy companies, to \$1.5 billion in Q1. The largest deal was the \$394 million IPO in London of Greencoat UK Wind, a fund investing in operating wind projects.

However VC/PE investment in specialist renewable energy companies was just \$580 million in the first three months of 2013, down 55% on a year earlier and the weakest figure for any quarter since the end of 2005. The largest deal was \$125 million of expansion capital for US solar installer Sungevity.

Small-scale project investment was \$18.5 billion in the first quarter of this year, down slightly from a \$20 billion quarterly average in 2012. This reflected in the main the near-20% fall in PV module costs between Q1 2012 and Q1 2013.

FIGURE 10: VC/PE, PUBLIC MARKETS, AND ASSET FINANCE INVESTMENT IN RENEWABLE ENERGY QUARTERLY TREND, Q1 2004-Q1 2013, \$BN



*Asset finance volume adjusts for re-invested equity. Total values include estimates for undisclosed deals
 Source: UNEP, Bloomberg New Energy Finance

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