

Renewable Energy Investment Tracker, 1H 2021

Public market fundraising drives a record first
half for renewable energy investment

Divya Sehgal
Camilla Ivory Brown
Jenny Chase
Sanjeet Sanghera
Logan Goldie-Scot
Albert Cheung

**ABRIDGED
VERSION**

August 3, 2021

BloombergNEF



Executive summary

This report summarizes BloombergNEF's tracking of global investment in renewable energy up to and including 1H 2021. Globally, there was \$174 billion of new investment in renewable energy in 1H 2021, an all-time high for a first half. A decline in renewable energy project investment was offset by a huge increase in public market offerings of renewable energy companies.

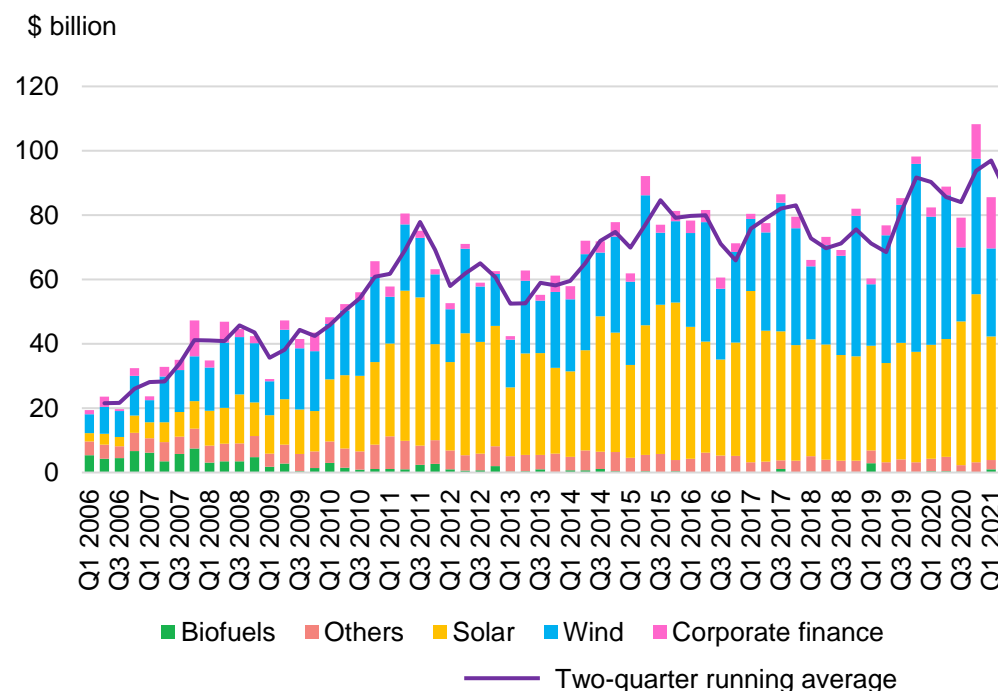
- This report covers new investment in renewable energy capacity, and equity raising by specialist companies in renewables and related areas such as energy storage. This total investment figure was \$174.3 billion, up 1.8% from 1H 2020, but down 7% relative to a very strong second half of 2020.
- Renewable energy and related companies raised a total of \$28.2 billion on public markets in 1H 2021, up 509% from last year. VC/PE expansion investment totaled \$5.7 billion, up 111% on the previous year. Both figures represent all-time highs.
- In contrast, investments in new renewable energy projects were down 12% from the same period in 2020, at \$145.8 billion in 1H 2021. Investment in large and small-scale solar projects rose to a record-breaking \$78.9 billion, up 9.5% from 1H 2020. However, wind financing was down 30.5% from 1H 2020, at \$58 billion.
- China was the largest market yet again, investing \$45.5 billion in the six months to June 30, but down 20% compared to the same period in 2020. Europe drew \$35.21 billion, while the U.S secured \$32bn.
- This pack also shows trends in 'funds in circulation', which includes the refinancing of projects, mergers, acquisitions and buyouts. These deals totalled \$68.3 billion in 1H 2021, up 17.6% year-on-year.
- BNEF also publishes an annual report called *Energy Transition Investment Trends* ([web](#) | [terminal](#)). That report covers more sectors of the energy transition, but is mainly focused on project investment and product sales. In contrast, this report is focused on renewable energy and covers both asset finance and corporate finance.

\$174.3 billion Global new investment in renewable energy in 1H 2021

509% Increase in renewable public market offerings compared to 1H 2020

-30.5% Decrease in overall wind investment compared to 1H 2020

Global new investment in renewable energy



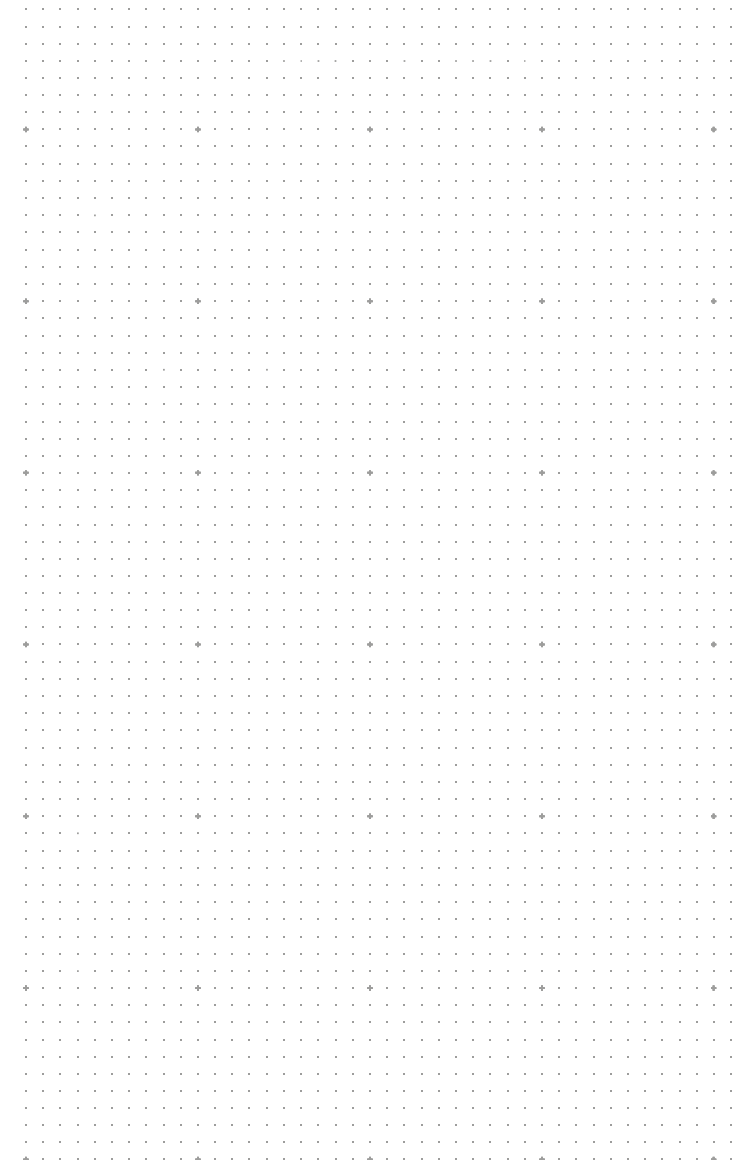
Source: BloombergNEF

Table of contents for the full report

Highlights	3
Definitions	10
Quarterly trends, all new investment in renewable energy	16
Quarterly trends, new-build asset finance	33
Quarterly trends, corporate finance	37
Quarterly trends, all funds in circulation	41
Top deals	45
Annual trends, new investment	49

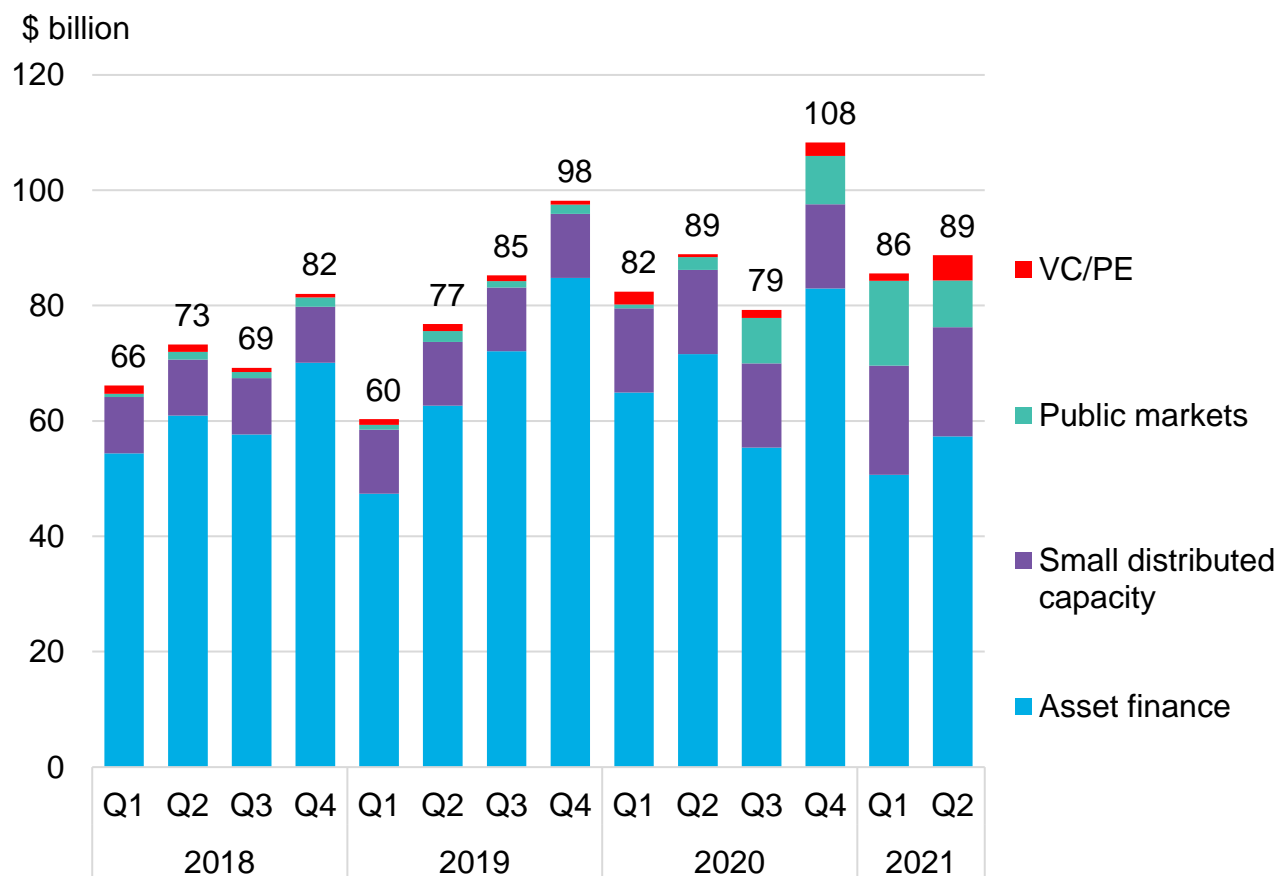
Highlights

Key trends in 1H 2021



New investment in renewable energy held steady in 1H 2021

Quarterly new investment in renewable energy, 2018-1H 2021

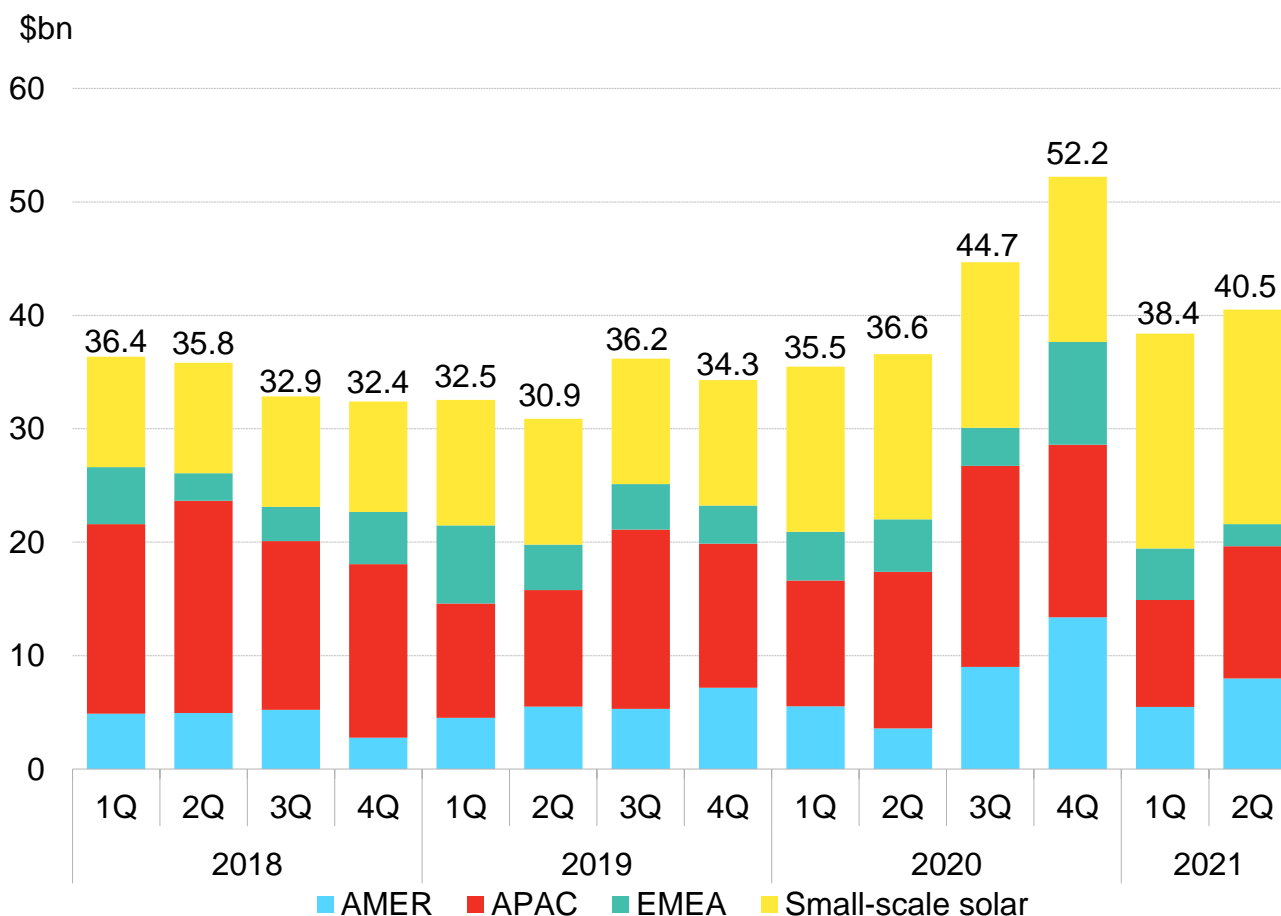


- Global new investment in renewable energy totaled \$174 billion in the first half of 2021, a result that is just 2% more than the same period last year. However, investment has dropped 7% relative to a very strong second half of 2020.
- The first-half totals in 2020 and 2021 compare favorably to those of 2018 and 2019, when total investment was only \$139 billion and \$137 billion, respectively.
- New equity raised on the public markets hit record highs in 1H 2021, as did venture capital and private equity commitments to renewable energy companies. These were major contributors to the strong overall first-half figure.
- Investment in solar projects was up 9% year-on-year in the first half. In contrast, wind asset finance fell year-on-year, as 1H 2020 was a bumper period for financings of major offshore wind farms.

Source: BloombergNEF

Investment in solar projects rose to a record \$78.9 billion for the first half

Investment in new solar projects, large-scale asset finance by region plus small-scale

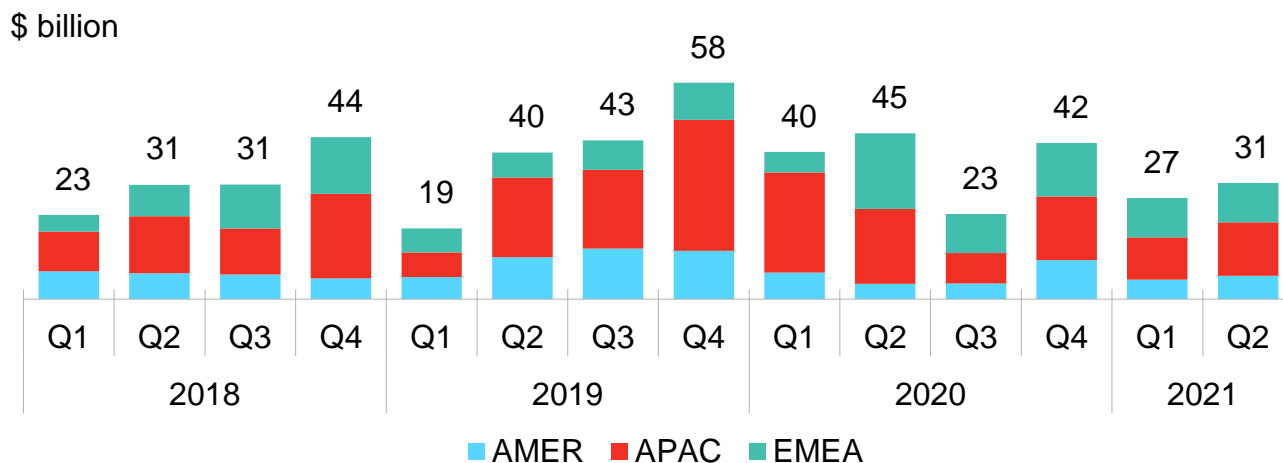


Source: BloombergNEF

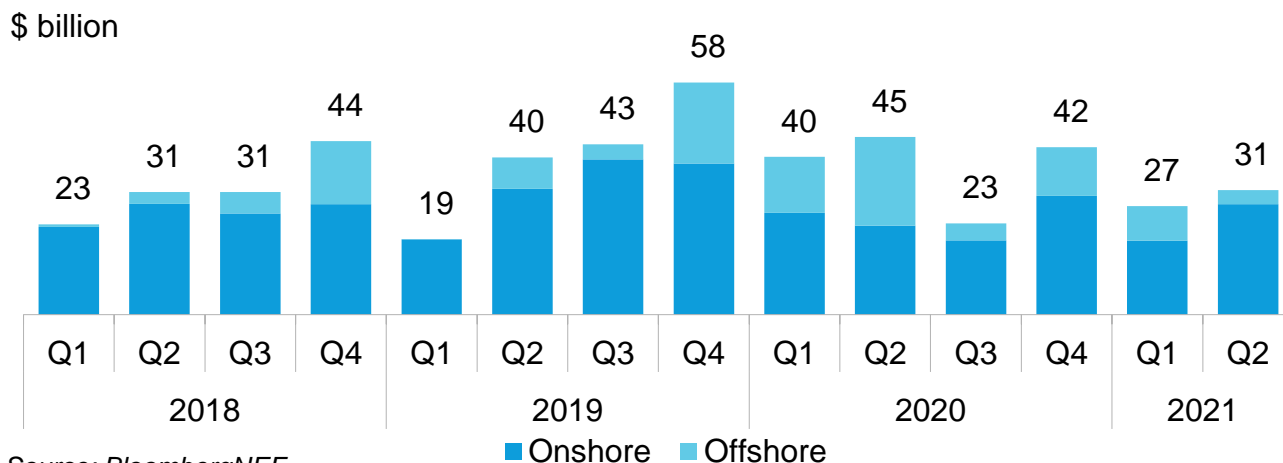
- Investment in new solar projects in 1H 2021 was higher than in previous years, albeit lower than 2H 2020. Solar project investment often accelerates in the second half of the year to meet end-of-year deadlines.
- Investment in solar projects in China rose to \$4.9 billion in 2Q 2021. This is up from \$2.8 billion in 1Q 2021 but down from \$8.6 billion in 4Q 2020. The 2Q 2021 investment was largely driven by major financings of gigawatt-scale 'subsidy-free' projects developed by state-owned enterprises like China Energy Investment Corp. and Huanghe Hydropower, which must be commissioned this year.
- U.S. large-scale project investment rose to \$6.4 billion in 2Q 2021, from \$5.3 billion in 1Q 2021 and \$10.9 billion in 4Q 2021. This was driven by a number of large projects closing.
- We have less visibility on small-scale solar investment (much of which is in Europe) due to lagging data availability. Nonetheless, pricing and customs data indicators suggests it is continuing at a healthy rate nearly everywhere.

Wind investment held strong in Europe, lapsing subsidies cool China

Investment in wind projects by region



By subsector

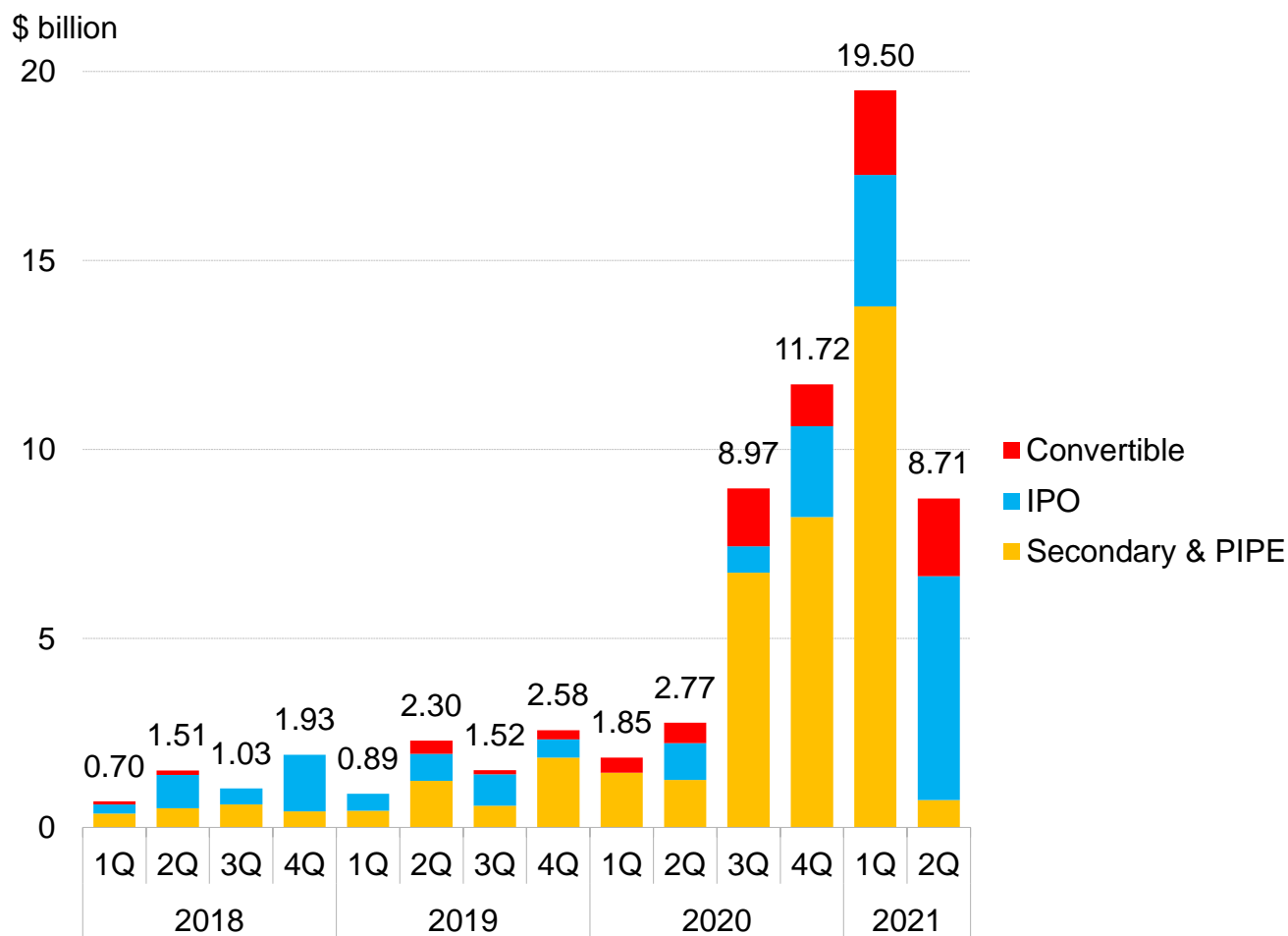


Source: BloombergNEF

- Wind investment in 1H 2021 topped \$58 billion, matching levels seen in 2018 and 2019, but was a notable reduction from the \$85 billion invested in 1H 2020. Last year, installations surged in China and the U.S. ahead of subsidies lapsing.
- Investment in China, the world's largest wind market, was robust at \$21 billion in 1H 2021, showcasing that developers are continuing to build projects without feed-in premiums.
- EMEA accounted for 36% of all investments in 1H 2021. Europe had a strong first half, with Finland emerging as the top onshore market and already doubling total investment from 2020.
- Investments in offshore wind are blocky, and financing can fall either side of a year's end. New-build finance in 1H 2021 was one-third of 1H 2020. Cheaper capex is also driving down investment. RWE's Sofia Offshore Wind Farm reached financial close as one of the cheapest projects in the U.K., at \$2.9 million/MW.

Public market issuances for renewable energy hit a record in 1H 2021

Public market investments in renewable energy and storage



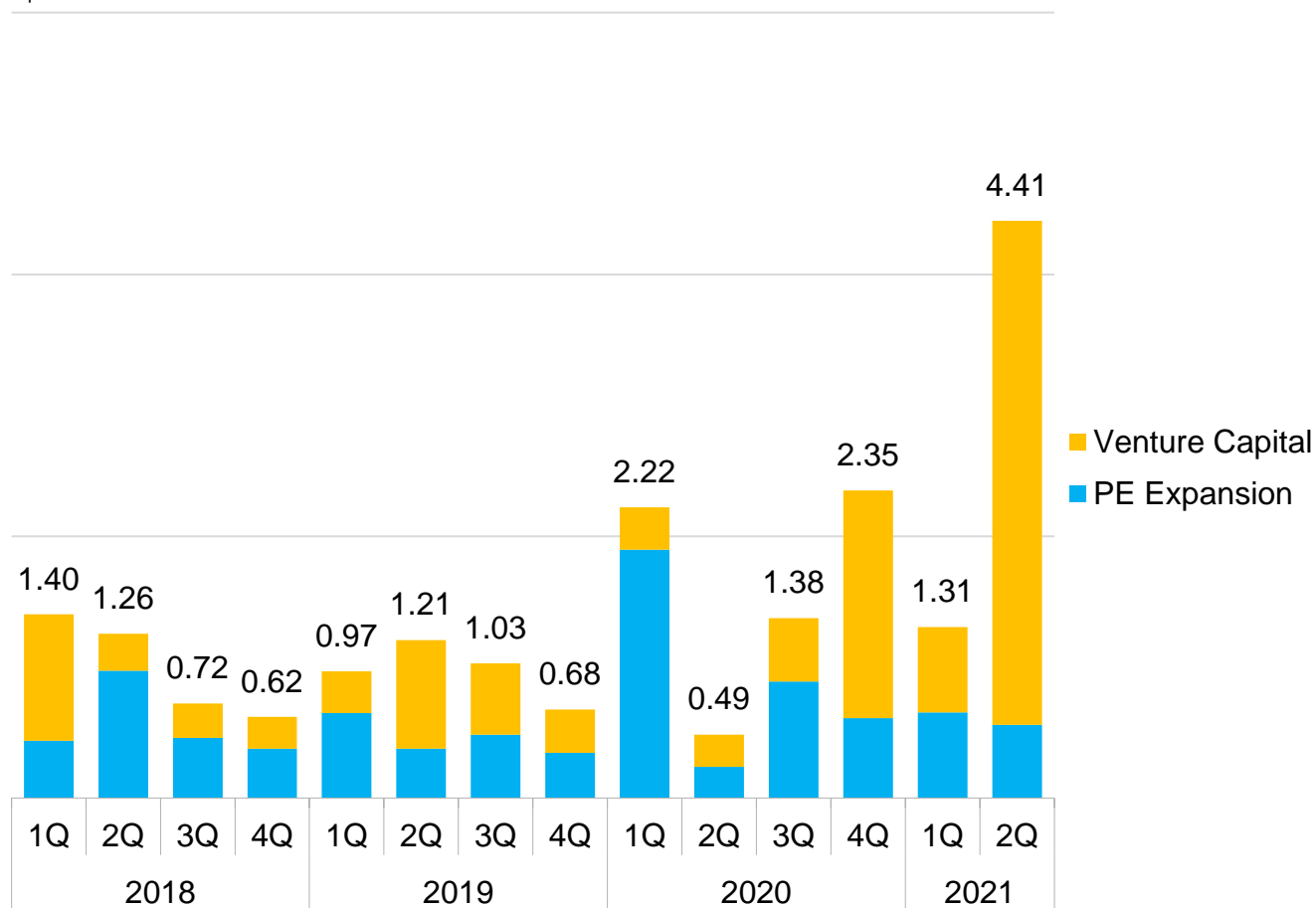
Source: BloombergNEF

- Public stock markets provide the financing environment for most of the large and established players in renewable energy, including manufacturers, developers and some funds.
- 1H 2021 recorded the highest ever total for equity raised on public markets by clean energy companies, outpacing the volumes raised in any previous year. A bull run for clean energy shares enabled many companies to issue new shares to finance growth – though valuations are now down from their highs at the start of the year.
- Renewable energy and related companies raised a total of \$28.2 billion on public markets in 1H 2021, up 509% from last year.
- Among the largest share offerings, Chinese renewable energy generator China Three Gorges Renewables raised \$3.5 billion, PV manufacturer Longi Green Energy Technology raised \$2.4 billion, and U.S. fuel cell company Plug Power pulled in \$2 billion.

A record period for venture capital and private equity investment

VC/PE expansion investments in renewables and storage

\$ billion



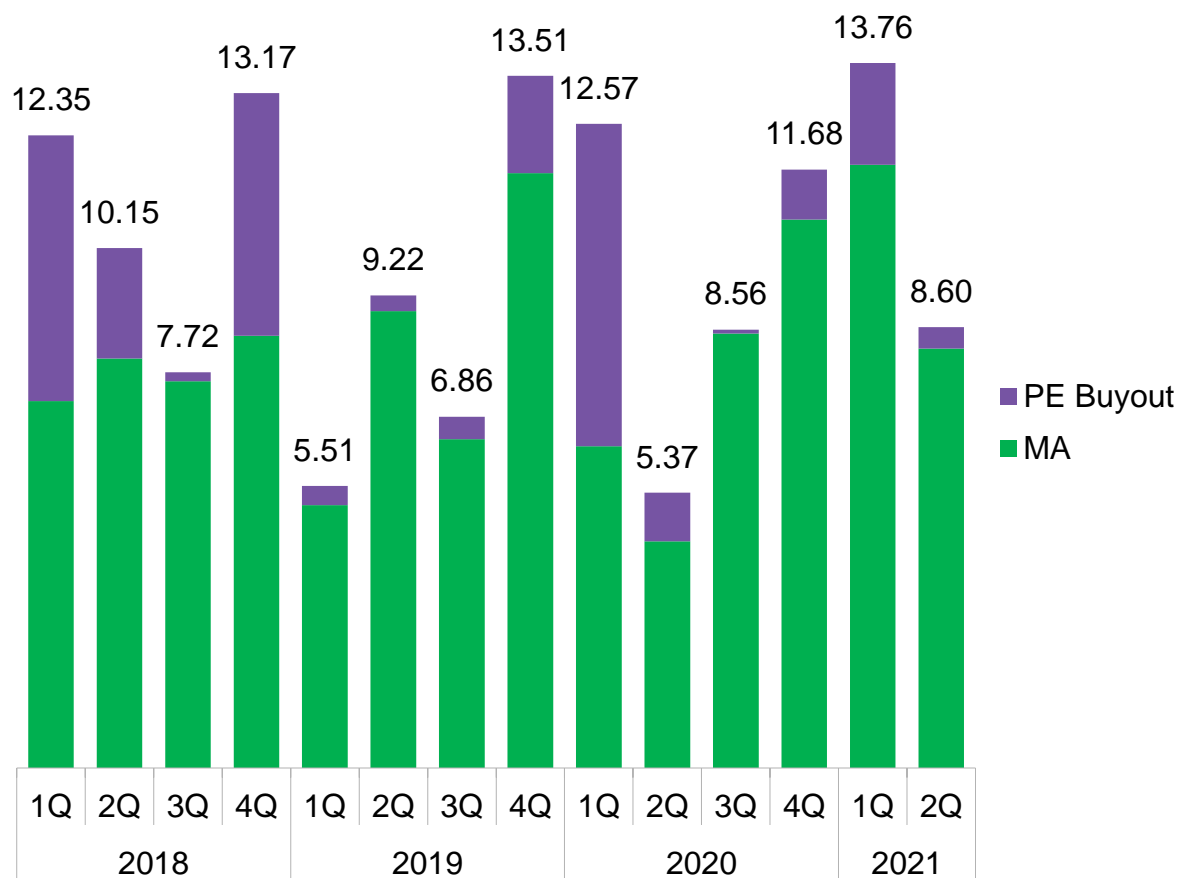
Source: BloombergNEF

- Venture capital and private equity expansion capital have been key elements in the growth of renewable energy and storage since these technologies emerged. Young companies have tapped specialist early-stage funds for capital, well ahead of seeking public market flotations or trade sales.
- In 1H 2021, VC/PE expansion investment in renewable energy and storage companies totaled \$5.7 billion, up 111% on the previous year. This was an all-time record in this space.
- The largest deals included \$2.7 billion for NorthVolt AB, a Sweden-based battery manufacturer, and \$374 million for Amp Solar Group Inc., a Canada-based renewable energy generator.

Global M&A activity boosted by a surge of deals in India

Global M&A/PE buyout investments in renewables and storage

\$ billion

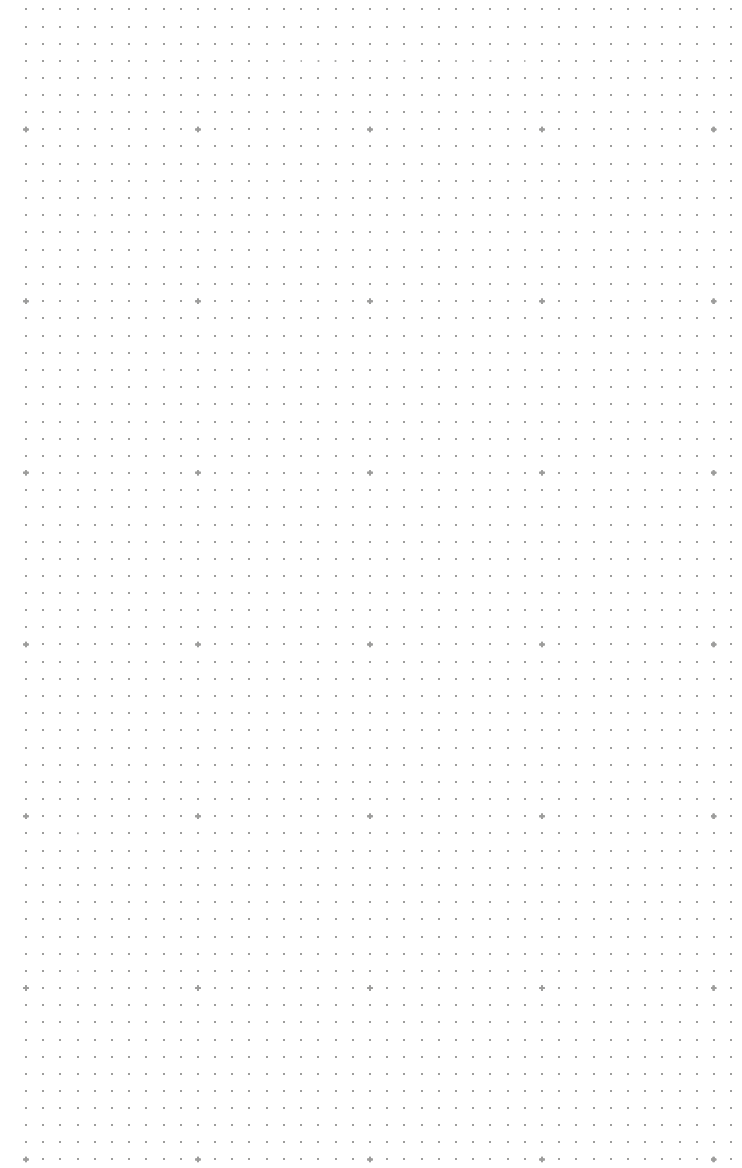


Source: BloombergNEF

- Merger and acquisition activity is an important part of the renewable energy financing picture. These deals do not provide new money for technologies and developers but they enable early investors to make exits and redeploy capital on fresh opportunities.
- In 1H 2021, corporate M&A and private equity buyouts totaled \$22.4 billion, up 25% on the previous year's \$17.9 billion.
- India outpaced the U.S. and China, which were the leading markets of 2020. The U.S. secured second position while China dropped to fourth behind Brazil.
- Among the biggest deals in this category were Adani Enterprises Ltd.'s sale of a minority stake in Adani Green Energy Ltd. to TotalEnergies SE for \$2.5 billion.
- This was followed by Raizen Energia SA's acquisition of Biosev SA to increase its footprint in South America's energy market. SK Holdings Co.'s minority purchase in U.S. hydrogen fuel cell firm Plug Power Inc. for \$1.5 billion was the third-largest deal.
- It is increasingly common for corporate entities to acquire the shares of developers with sought-after development and land rights for renewable projects rather than the assets themselves. This approach allows investors to secure these pipeline projects while managing risk exposure.

Definitions

What's in this report



Definitions

Types of funding

New investment

This category refers to new investment into renewable energy capacity, and equity raising by specialist companies in renewables and related areas such as energy storage.

Coverage includes:

- **Asset finance – new builds:** The new-build financing of renewable energy generating projects
- **Small-scale solar:** Given the difficulties in tracking small-scale solar projects, BloombergNEF's asset finance database excludes projects below roughly 1MW. Unlike utility-scale asset investment, our small-scale solar investment figures are based on top-down analyst estimates.
- **Venture capital / private equity (VC/PE):** Expansion capital where early-stage companies receive funding
- **Public markets:** Equity raising for larger, more established players. This may be through IPOs or follow-on offerings like secondary offerings, private investment in public equity, or PIPEs, convertibles etc.

Funds in circulation

Unlike 'new investment', our 'funds in circulation' category is not new money for technologies and developers. Instead, these funds include acquisitions and refinancing of existing assets, enabling early investors to make exits and redeploy capital on fresh opportunities. Mergers and acquisition activity is an important part of the renewable energy financing picture.

Coverage:

- **Asset finance:** Acquisitions: financing for the complete/partial acquisition of a project or portfolio.
- **Asset finance:** Refinancings: when a project is refinanced, the owner/developer takes out a new loan for an existing project or reschedules payments and terms on the existing loan
- **Mergers and acquisitions (M&A):** Transactions in which the ownership of companies generating revenue from renewable energy are transferred or consolidated with other entities
- **Public market exits:** Funds raised by publicly-quoted pure-play renewable energy companies on the capital markets
- **Private equity buyouts:** The acquisition of a controlling interest in a private corporation

Definitions

Asset classes

Asset finance

The new-build financing of renewable energy generating projects. These projects include both electricity generation and biofuels production assets. Projects may be financed off the owner's balance sheet, or through financing mechanisms such as project finance, syndicated equity from institutional investors, or project bonds underwritten by banks.

Small-scale solar

Small-scale solar investment is included in our asset finance charts, but the figures are based on top-down analyst estimates. This is because, given the difficulties in tracking small-scale solar projects, BNEF's asset finance database excludes projects below roughly 1MW.

Corporate finance

- **Venture capital and private equity (VC/PE):** Early and late-stage venture capital funding rounds of pure-play renewable energy companies as well as funds raised privately for the purposes of expansion.
- **Public markets (PM):** Funds raised by publicly quoted or OTC pure-play renewable energy companies on the capital markets. This may be through IPOs or follow-on offerings like secondary offerings, private investment in public equity, or PIPEs, convertibles, etc.

Note that our corporate finance deal data includes companies in areas adjacent to renewable energy, such as energy storage, smart grids and fuel cells.

Definitions

Asset finance sectors

Wind

Electricity generation projects using wind turbines, both onshore and offshore.

Solar

All technologies that capture energy directly from the sun. These include production of electricity using semiconductor-based photovoltaic (PV) materials, and use of concentrated sunlight to heat fluids that drive power generation equipment (solar thermal).

Biofuels

Liquid transportation fuels including biodiesel and bioethanol. These can be derived from a range of biomass sources, including sugar cane, rapeseed, soybean oil or non-food cellulosic feedstock.

Other renewables

Includes small hydro - hydro projects with capacities smaller or equal to 50MW; geothermal - extraction of useful power from heat stored in the earth; marine - the extraction of tidal, wave and thermal energy from the ocean, and biomass & waste.

How does this report differ to BNEF's *Energy Transition Investment Trends*?

BNEF also publishes an annual report called *Energy Transition Investment Trends* ([web](#) | [terminal](#)). That report covers more sectors of the energy transition than this one, but is mainly focused on project investment and product sales. In contrast, this report is focused on renewable energy and covers both asset finance and corporate finance.

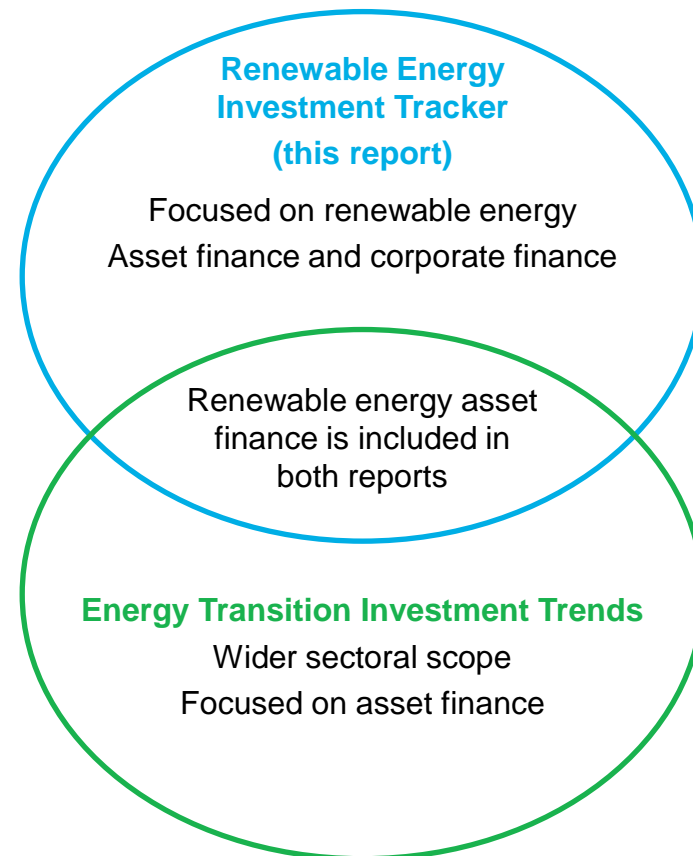
Renewable Energy Investment Tracker (this report)

- Half-year report, built on quarterly data sets
- Focused on renewable energy
- Covers both project / asset investment and corporate fundraising

Energy Transition Investment Trends ([web](#) | [terminal](#))

- Annual report
- Covers renewable energy alongside other energy transition areas, such as:
 - Electrified transport
 - Electrified heat
 - Energy storage
 - Hydrogen
 - CCS
- Focused on project investment and product deployment only (less on corporate finance)

Coverage of the two reports

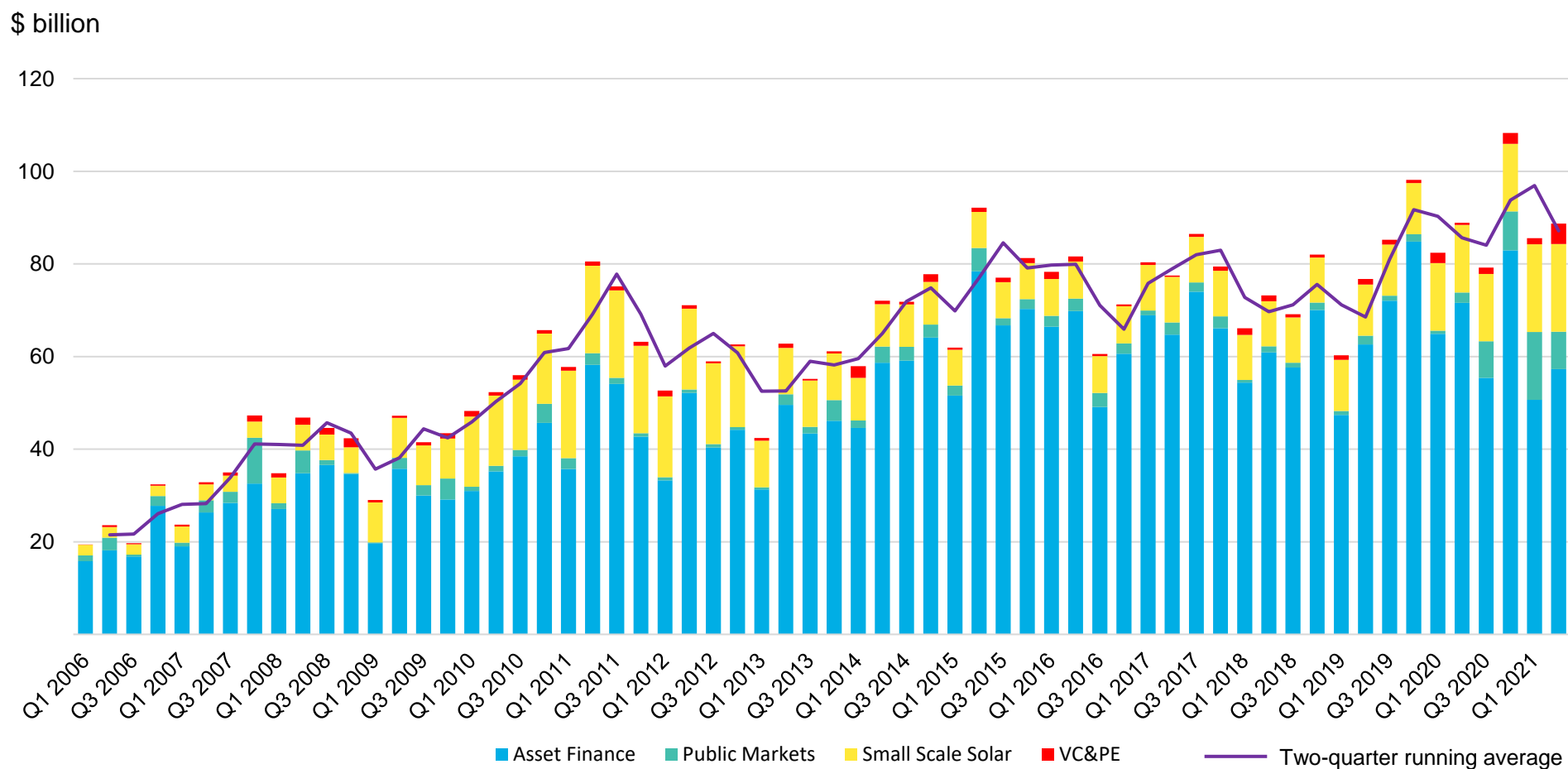


Quarterly trends, all new investment

This section covers trends in **new investment** in renewable energy across all asset classes (asset finance and corporate finance). It excludes asset refinancings / acquisitions, M&A, public market exits and private equity buyouts which do not provide new money for projects and companies.

Global new investment in renewable energy, by asset class

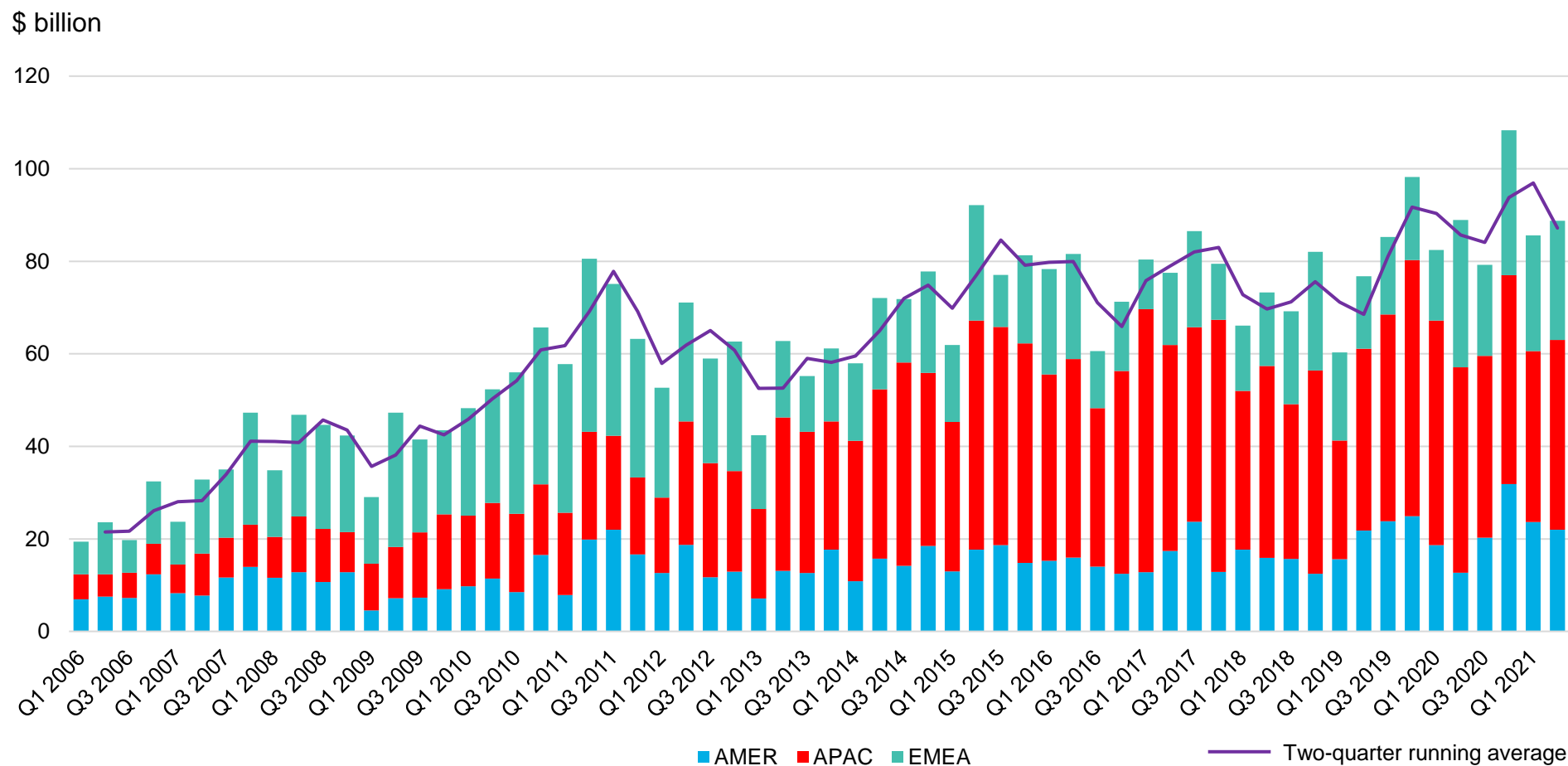
1Q 2006 - 2Q 2021



Source: BloombergNEF

Global new investment in renewable energy, by region

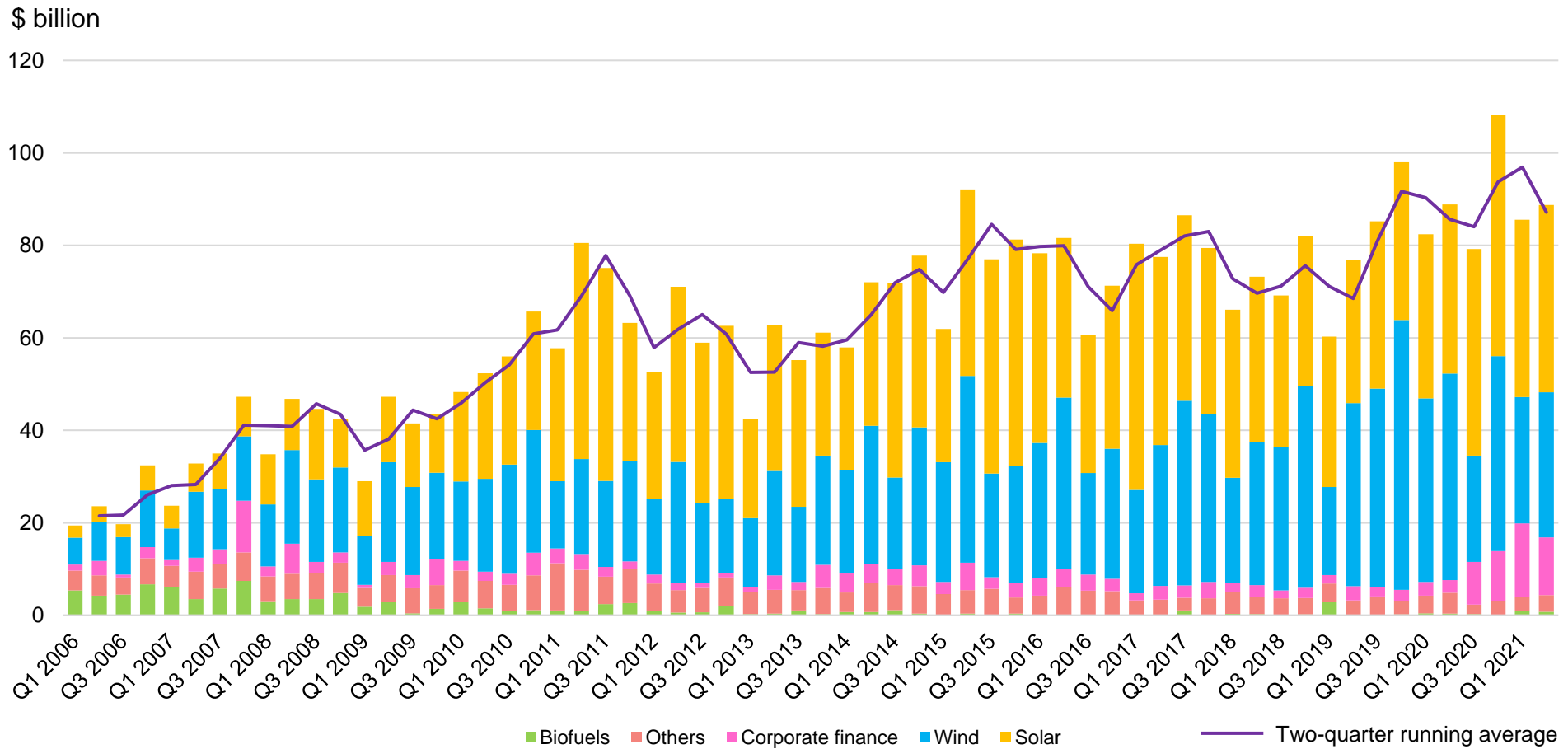
1Q 2006 - 2Q 2021



Source: BloombergNEF

Global new investment in renewable energy, by sector

1Q 2006 - 2Q 2021



Source: BloombergNEF

Copyright and disclaimer

Copyright

© Bloomberg Finance L.P. 2021. This publication is the copyright of Bloomberg Finance L.P. in connection with BloombergNEF. No portion of this document may be photocopied, reproduced, scanned into an electronic system or transmitted, forwarded or distributed in any way without prior consent of BloombergNEF.

Disclaimer

The BloombergNEF ("BNEF"), service/information is derived from selected public sources. Bloomberg Finance L.P. and its affiliates, in providing the service/information, believe that the information it uses comes from reliable sources, but do not guarantee the accuracy or completeness of this information, which is subject to change without notice, and nothing in this document shall be construed as such a guarantee. The statements in this service/document reflect the current judgment of the authors of the relevant articles or features, and do not necessarily reflect the opinion of Bloomberg Finance L.P., Bloomberg L.P. or any of their affiliates ("Bloomberg"). Bloomberg disclaims any liability arising from use of this document, its contents and/or this service. Nothing herein shall constitute or be construed as an offering of financial instruments or as investment advice or recommendations by Bloomberg of an investment or other strategy (e.g., whether or not to "buy", "sell", or "hold" an investment). The information available through this service is not based on consideration of a subscriber's individual circumstances and should not be considered as information sufficient upon which to base an investment decision. You should determine on your own whether you agree with the content. This service should not be construed as tax or accounting advice or as a service designed to facilitate any subscriber's compliance with its tax, accounting or other legal obligations. Employees involved in this service may hold positions in the companies mentioned in the services/information.

The data included in these materials are for illustrative purposes only. The BLOOMBERG TERMINAL service and Bloomberg data products (the "Services") are owned and distributed by Bloomberg Finance L.P. ("BFLP") except (i) in Argentina, Australia and certain jurisdictions in the Pacific islands, Bermuda, China, India, Japan, Korea and New Zealand, where Bloomberg L.P. and its subsidiaries ("BLP") distribute these products, and (ii) in Singapore and the jurisdictions serviced by Bloomberg's Singapore office, where a subsidiary of BFLP distributes these products. BLP provides BFLP and its subsidiaries with global marketing and operational support and service. Certain features, functions, products and services are available only to sophisticated investors and only where permitted. BFLP, BLP and their affiliates do not guarantee the accuracy of prices or other information in the Services. Nothing in the Services shall constitute or be construed as an offering of financial instruments by BFLP, BLP or their affiliates, or as investment advice or recommendations by BFLP, BLP or their affiliates of an investment strategy or whether or not to "buy", "sell" or "hold" an investment. Information available via the Services should not be considered as information sufficient upon which to base an investment decision. The following are trademarks and service marks of BFLP, a Delaware limited partnership, or its subsidiaries: BLOOMBERG, BLOOMBERG ANYWHERE, BLOOMBERG MARKETS, BLOOMBERG NEWS, BLOOMBERG PROFESSIONAL, BLOOMBERG TERMINAL and BLOOMBERG.COM. Absence of any trademark or service mark from this list does not waive Bloomberg's intellectual property rights in that name, mark or logo. All rights reserved. © 2021 Bloomberg.

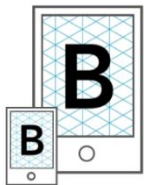
BloombergNEF (BNEF) is a strategic research provider covering global commodity markets and the disruptive technologies driving the transition to a low-carbon economy.

Our expert coverage assesses pathways for the power, transport, industry, buildings and agriculture sectors to adapt to the energy transition.

We help commodity trading, corporate strategy, finance and policy professionals navigate change and generate opportunities.

BloombergNEF

Get the app



On IOS + Android
about.bnef.com/mobile

Client enquiries:

Bloomberg Terminal: press <Help> key twice

Email: support.bnef@bloomberg.net

Learn more:

about.bnef.com | [@BloombergNEF](https://twitter.com/BloombergNEF)