



Frankfurt School
FS-UNEP Collaborating Centre
for Climate & Sustainable Energy Finance



**GLOBAL TRENDS
IN RENEWABLE
ENERGY
INVESTMENT
2019**



BloombergNEF

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FOREWORD FROM INGER ANDERSEN, NILS STIEGLITZ AND JON MOORE

Clean energy is a cornerstone of the better future we are building for humanity. Neither the Paris Agreement nor the 2030 Agenda for Sustainable Development will be able to fulfill their full potential unless renewable energy replaces fossil fuel generation. Renewable energy avoids the greenhouse gas emissions that warm our planet. It improves air quality and therefore human health. It brings new opportunities to energy-poor communities.

Investing in renewable energy is also an economic opportunity. It is a decision that investors around the world have been increasingly making for a decade. Global Trends in Renewable Energy Investment 2019 – released ahead of the Global Climate Action Summit – shows that in 2018, investors again put hundreds of billions of dollars behind renewable energy and the energy transition we need.

The latest issue of this report – which has tracked trends and opportunities in the sector since 2004 – shows that global investment in renewable energy capacity hit \$272.9 billion in 2018, far outstripping investments in new fossil fuel generation. 2018 was the fifth successive year renewables capacity investment exceeded \$250 billion. Yes, the 2018 global investment figures were 12% down on the previous year, but this is not a step backwards. Renewable energy, particularly solar photovoltaics, is getting cheaper.

Looking across 2010-2019, the trend of heavy investment becomes even clearer. The report estimates that a total of \$2.6 trillion will have been invested in renewable capacity (excluding large hydro) over that period. This corresponds to an estimated 1.2 terawatts of new renewable energy capacity over this decade, more than the entire electricity generating fleet of the U.S. today, and roughly quadrupling the figure of global renewables capacity commissioned at the end of 2009.

Several unexpected findings emerge from the decade perspective taken in the Focus Chapter of this report. One is the meteoric rise of solar PV to become not just the biggest renewable power technology in terms of investment – onshore wind was the number one back in 2009 – but also the most added generation source of any kind during the period. Another has been the precipitous price fall in both solar PV and wind, and a third has been the steady improvements in efficiency of those technologies.

While this demonstrates huge and lasting progress, the pace must increase. Renewables are now firmly embedded in the power generation sector, but only represent 26.3% of total electricity produced – 12.9% if we exclude large hydro. Fossil fuel subsidies, which run into the hundreds of billions of dollars each year, are slowing progress. Investors are still financing coal power plants with tens of billions of dollars each year. Equally, 1.1 billion people lack access to electricity. Providing that access to these people, through technologies such as off-grid solar, will give the Sustainable Development Goals a massive shot in the arm.

This year and next are crucial for climate action. The Global Climate Action Summit on September 23 provides an opportunity for everyone to come forward with new commitments. The final touches will be put on the Paris Agreement later this year. Everybody needs to raise their ambition levels, including investors.

With smart policies that truly value the economic and societal benefits of renewable power, we can accelerate the transition to a renewable energy economy and give people the clean energy future they deserve.



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Executive Director
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JON MOORE

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"Investing in renewable energy is investing in a sustainable and profitable future, as the last decade of incredible growth in renewables has shown.

"But we cannot afford to be complacent. Global power sector emissions have risen about 10% over this period. It is clear that we need to rapidly step up the pace of the global switch to renewables if we are to meet international climate and development goals."

Inger Andersen, Executive Director of the UN Environment Programme

"The technologies to use wind, sun or geothermal energy are available, they are competitive and clean. Within 10 years, Germany will produce two-thirds of its power based on renewables. We are demonstrating that an industrial country can phase out coal and, at the same time, nuclear energy without putting its economy at risk. We know that renewables make sense for the climate and for the economy. Yet we are not investing nearly enough to decarbonize power production, transport and heat in time to limit global warming to 2C or ideally 1.5C. If we want to achieve a safe and sustainable future, we need to do a lot more now in terms of creating an enabling regulatory environment and infrastructure that encourage investment in renewables."

Svenja Schulze, Germany's Federal Minister for the Environment, Nature Conservation and Nuclear Safety

"It is important to see renewables becoming first choice in many places. But now we need to think beyond scaling up renewables. Divesting from coal is just one issue within the broader field of sustainable finance. Investors increasingly care whether what they do makes sense in the context of a low-carbon and sustainable future."

Nils Stieglitz, President of Frankfurt School of Finance and Management

"Sharp falls in the cost of electricity from wind and solar over recent years have transformed the choice facing policy-makers. These technologies were always low-carbon and relatively quick to build. Now, in many countries around the world, either wind or solar is the cheapest option for electricity generation."

Jon Moore, Chief Executive of BloombergNEF

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