



# European Operational Renewables

EICAssetMap Report

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## Executive summary

Europe has emerged as a global leader in the transition to renewable sources of energy and has made great progress in bringing online renewable assets to replace facilities that emit greenhouse gases. At the forefront of Europe's transition to renewables are the targets which have been set by the EU in its latest Green Deal, including a 55% reduction in greenhouse gases by 2030 and 100% clean power by 2035. The 2021 UN Climate Change Conference (COP26), which took place in November at the SEC Centre in Glasgow, saw countries enhance their commitments towards mitigating



climate change by transitioning away from fossil fuels. During the conference, France, Germany, Italy, and Spain all pledged to increase their funding for more sustainable projects, with the aim of limiting the rise in global temperatures to 1.5C above pre-industrial levels by 2050. These commitments have been spurred on by the global energy crisis, involving the rapid increase in the price of natural gas due to discrepancies in the supply and demand of the fuel, causing many smaller suppliers to go out of business and consumer prices to increase exponentially. The crisis has also caused European governments to reconsider the targets they have set to increase their installed capacities of renewable energy, as they now have clear environmental and economic incentives to rapidly reduce their dependency on fossil fuel imports.



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This report provides an overview of the progress European countries have made transitioning to renewable energy, as well as where growth in the renewable market will take place over the next five years. It covers the 27 member states of the EU, as well as Albania, Bosnia and Herzegovina, Iceland, Kosovo, Liechtenstein, Montenegro, North Macedonia, Norway, Switzerland, and Turkey. For information on the renewables market in the UK, please go to the UK Operational Renewables Report 2021, which can be found on our website.

Starting with an overview of the information in our databases covering Europe, the average capacity added over the past five years is higher than the capacity added in 2021 for biomass, offshore wind, and hydropower. Whilst the margin is quite small for offshore wind, the hydroelectric and biomass capacity added in 2021 is less than half the average capacity added over the past five years (Figure 1). The sources of renewable energy which saw the capacity added in 2021 exceed the average added over the past five years were solar, onshore wind, and energy from waste (EfW). The solar capacity added in 2021 stands at just over 3.8GW, significantly higher than the 2GW average added over the past five years. The onshore wind capacity added to Europe's energy mix in 2021 is also significantly higher than the average of the last five years, with 4.4GW being added in comparison to an average annual increase of 3GW (Figure 1). A wide range of factors have contributed to these figures, which will be covered in more detail throughout this report.

Europe continues to focus on the development of wind and solar assets to deliver green energy, as the former accounts for just over 56% of the renewable capacity added in 2021 and the latter accounts for 35% (Figure 2). Onshore wind is still the preferred option to offshore wind, as approximately 69% of new wind capacity in 2021 came from wind farms built on land (Figure 2). Added onshore wind capacity in 2021 also surpassed added solar PV capacity, making it the most popular source of renewable energy over the past year (Figure 2). However, a comparison between the projected capacity added for 2021 and actual capacity added in 2021 tells a different story (Figure 3). Both onshore wind and solar have failed to meet the levels of added capacity that were initially projected at the start of the year by a considerable margin. Offshore wind, on the other hand, has surpassed projections by 1.3GW, along with hydropower and EfW.

An initial overview of the data tells us that solar and wind energy continue to make-up a large proportion of Europe's renewable energy mix, even though onshore wind and solar capacity did not grow to the extent that many were expecting in 2021. Throughout the second half of 2020, many had hoped that the rollout of Covid vaccines across Europe would mean a return to 'business as usual' in 2021. However, the outbreak of the Delta variant in December 2020 and the Omicron variant in the fourth quarter of 2021, resulted in European governments introducing new travel restrictions and booster programmes to contain the spread of the virus. This meant that supply chain constraints and delays to projects continued into 2021, which proved to be an effective roadblock to the renewable capacity increases that European governments had initially hoped for at the beginning of the year.



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