



Special Issue Reprint

## **Advances in Renewable Energy Systems**

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ISBN 978-3-7258-2693-3 (Hardback) ISBN 978-3-7258-2694-0 (PDF) Advances in Renewable Energy Systems

The industrialized world's primary challenge is to transition its energy systems to renewable sources, which are more environmentally friendly than traditional methods. This task has recently become dual-faceted: developing technologies that can break free from traditional sources responsible for greenhouse gas emissions, while also accelerating this transition to counteract global warming and its environmental impacts swiftly.

Global ecosystems have been strained by outdated energy models, which have followed an unsustainable growth paradigm based on infinite resources and an environment capable of absorbing all human-induced changes. The scientific community must guide industry toward sustainable, profitable energy systems that justify the investments needed for this transition. Energy production must undergo deep reform to adopt climate-friendly systems, leveraging zero-emission sources and technologies suited to each region's specific resources.

Energy storage will be pivotal; research must advance in creating innovative solutions and materials to address the inherent unpredictability of renewables.

This collection of scientific works aims to shed light on some aspects (a drop in the ocean) of this significant technological challenge (currently underway, which will only end with the complete decarbonization of human energy needs).



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