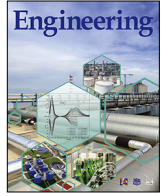
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## Editorial

# When Will Speed of Progress in Green Science and Technology Exceed that of Resource Exploitation and Pollutant Generation?



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With the unprecedented development of humanity's ability to exploit and utilize natural resources, the contradiction between our never-ending desire for a better material life and limited natural resources becomes ever greater. More and more countries have now formulated their green economy development plan, and green industrial processes play an essential role in the green economy. Germany, the United States, and China have released their Industry 4.0, Advanced

Manufacturing Partnership, and China Manufacturing 2025 initiatives. Without exception, green industrial processes are an important part of these documents.

"Green industrial processes" is a very broad concept that can be applied to all industrial processes around the world. Prior to the initiation of green industrial processes, developed countries successively proposed and advanced cleaner production, eco-industry, and the circular economy. Briefly put, the essence of cleaner production is the minimization or elimination of all kinds of pollutants within production processes. Eco-industry is established on the grounds of industrial ecology, and the "3R" principles—that is, reduce, reuse, and recycle—constitute the operating principles of a circular economy. Although the scope of cleaner production, eco-industry, and the circular economy differs to a certain degree, cleaner production is at the core and is the basic premise of

eco-industry and circular economy. As these concepts are accepted by an increasing number of countries and as their application broadens around the world, green industrial processes are naturally put forward.

Governmental policies, laws and regulations, and management are all indispensable in the promotion of green industrial processes. From the start of human history—and when comparing the current advantages of different countries—creative thinking has long played a fundamental role. Among the relevant driving forces for green industrial processes, green initiatives in science and technology are no doubt the key to green industrial processes. Although natural resources are limited, the potential of green initiatives is not; hence, the hope of an ultimate solution to the problem of natural resource shortages and environmental pollution lies within the progress of green industrial processes—provided that the breakthroughs and progress in green initiatives in science and technology are fast enough.

I am glad to see that the speed of scientific and technological progress has been increasingly rapid in recent decades, and relevant initiatives are becoming increasingly "green." Today, we are flying higher than ever before, diving deeper than ever before, obtaining data more easily than ever before, and living longer than ever before. Nevertheless, we must keep asking ourselves one question: When will the speed of progress in green science and technology exceed the speed of resource exploitation and pollutant generation? It is only when this question is answered satisfactorily that green industrial processes will have a sound basis.