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Greening energy supply in Tibet, China: A roadmap targeting the substantial increase in energy consumption

Jianan Zhao, Shuai Zhong, Lei Shen and Zhi Cao
University of Chinese Academy of Sciences, China

Since the beginning of 21st century, the rapid development of economy in Tibet creates a substantial increase in energy consumption. Statistics derived from direct and indirect surveys show that total energy consumption has surpassed five million tce, where electricity, petroleum products and biomass energy play the primary role. Furthermore, non-fossil energy including hydroelectricity, photovoltaic power and biomass energy accounts for more than 50% in the total consumption. This paper aims to provide a roadmap targeting the development of both energy supply and consumption under the current trends of sustainable requirement (figure 1). Overall, clean energy is very abundant in Tibet, which is recognized as the region that has the greatest potential in developing hydroelectricity, photovoltaic resources in the future of China. Moreover, the process and scale of clean energy utilization has been extending along with the development of power grid with both of backbone- and distributed- forms covering whole Tibet. In future, it is predicted that the development of hydroelectricity and photovoltaic power is not only to satisfy the consumption in Tibet, but also have surplus power transmitted to other regions in China and even other neighboring countries, such as Nepal and India. Therefore, it is expected that Tibet will become the most important region of clean energy production and transmission in China.

Biography

Jianan Zhao is currently a Professor of Institute of Geographic Sciences and Natural Resources Research (IGSNRR), Chinese Academy of Sciences (CAS). He has his expertise in the relationship between energy resources, regional development and industrial carbon emission. He has published more than 50 academic papers in these areas.

zhaoja@igsnr.ac.cn

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