

Committee on Science and Technology for Development
The People's Republic of China
Bridging the Technology Gap Between Nations
League of Creative Minds

In the past 30 years, China has evolved from a closed, less developed country to a global leader in developing new technology. In the 1980s, China opened itself to Foreign Direct Investment (FDI), creating major profit. The government pumped that money into education and infrastructure investments, which fueled even more FDI, a better-educated workforce, and increased resource access.

China is the second largest recipient of FDI in the world. In the early 1980s, China opened specific areas to foreign trade called Special Economic Zones. China used various incentives such as preferential tax treatment, subsidies, and cheap currency to attract investors. China also incentivized joint ventures in order to boost local Chinese companies. As FDI increased, the government started encouraging certain projects more than others. These included infrastructure, agriculture, and new and advanced technology, such as computing, biotech and medical devices, and RETs. The successful enterprises helped fuel innovative spirit among increasingly educated Chinese workers.

China has invested substantially in its education programs, especially tertiary education. China's gross enrollment ratio for tertiary education rose from 6% in 1999 to 20% in 2005. More importantly, more than 50% of Chinese students pursue degrees in natural sciences or engineering, broadening the national capability for innovation (this compares to global average of 27% and US average of 17%).

Between 2000 and 2010, China has invested close to \$450 billion in its infrastructure, including railroads, roads, water, electricity, and broadband internet. Advanced infrastructure allows new technology to be implemented, is essential to attract FDI, and is essential to support economic growth.

By focusing on these three strategic elements, China has developed its technological ability significantly. There is still more work to be done, including diffusing technology to rural areas. Having gone from a technology-free environment to a global powerhouse by following this course, China can offer expertise and investment to other developing countries. This path to development could bring the global economy to new heights, as well as increase the quality of living.

Committee on Science and Technology for Development (CSTD)
China
New and Emerging Energy Technologies
League of Creative Minds

Though economically adolescent, China is the largest producer of renewable energy technology (RETs) in the world. In the 1980s, the Chinese government invested in RETs such as wind, solar, and hydropower in order to provide electricity to remote rural regions. Millions of people benefited from energy that could be procured locally and did not rely on fossil-fuel imports. Over time, the government integrated these zones into the centralized energy grid while asserting dominance in a new and rapidly growing market.

In 2005, China passed landmark renewable energy legislation that set forth six major policies. The law requires 70% of material used in RETs to come from local sources. The government also heavily subsidizes technology to lower prices and increase affordability and competitiveness, inside and outside the country. Competitive bidding policies allow the government to auction off construction and operation of production projects. Feed-in tariffs require energy providers to allow grid access to renewable energy generators, as well as to pay these generators a fixed premium price for their energy. Requirements include mandated minimum supplies of renewable energy for major generating companies.

These initiatives have allowed China's RET capabilities to soar. China provides 20% of total global renewable energy capacity. Including hydropower, renewable energy capacity of 226 Gigawatts (GW) comprises about 17% of China's total energy capacity. Even more impressive are China's goals for 2020, which would roughly double that percentage to nearly one third of national energy capacity: 300 GW of hydropower, 150 GW of wind, 30 GW of biomass, and 20 GW of solar PV.

China is leading the charge in RETs and is willing to help others, offering experience, innovation, and expertise to other countries that want to lessen their dependence on traditional fossil fuels. One country can't do it alone. Every nation must contribute in order to make the world a better place. China has set and achieved ambitious goals, and invites the rest of the world to do the same.