



## CHINA

China leads the world in clean energy finance and investment and will continue to do so for the foreseeable future. China attracts more private investment in renewable energy assets under all scenarios, including a strong \$93 billion in 2020 under the enhanced policy scenario, a 246 percent increase over 2010 levels. Under current policies, clean energy asset financing in China grows by 87 percent to \$50 billion in 2020. Wind accounts for more than 50 percent of China's investments in all scenarios. In the enhanced policy scenario, the cumulative investment potential in China from 2010 to 2020 is projected as \$620 billion, which would leverage installation of 375 GW of renewable energy generating capacity.

These numbers are part of China's drive to meet its rising domestic demand for energy by installing extensive new capacity. Indeed, in 2009 China built new coal-fired power plants with a total capacity greater than all the power plants in New York State. It also added a world-record 37 GW of renewable energy in 2009 and now surpasses all countries in the world in installed renewable generating capacity.

To drive clean energy investments, China has set stringent renewable energy targets. In addition, the country has a successful feed-in tariff for wind and a 'Golden Sun' solar subsidy program, both of which have helped China establish a domestic market for its strong manufacturing base. Topping off its strong clean energy framework is China's rapidly growing energy demand and an abundance of bank loans available for developers.

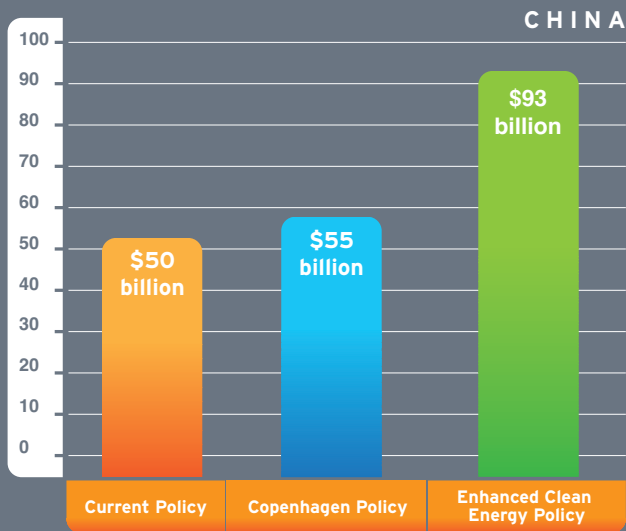
More help is on the way for the renewable energy sector in China. A feed-in tariff for solar energy

is being considered, along with 2020 renewables targets, which will very likely be revised upwards for most sectors. It will begin to provide much needed demand certainty for prospective investors and developers. The government has also begun to offer electric vehicle subsidies for individual buyers in five cities as a trial scheme. The few limitations on China's renewables sector are, however, substantial. Concerns about overcapacity, grid connection and market openness linger, keeping many from entering the market.

China must address these concerns with clear legislation and government infrastructure. The country is considering a pilot domestic cap-and-trade program that could be meshed with those of other countries. Ahead of the climate summit in Copenhagen, China committed to reducing its emission intensity – CO<sub>2</sub> emitted per unit of GDP – by 40-45 percent below 2005 levels by 2020. The country also needs a renewable portfolio standard paired with tradable renewable credits, which would provide openness and demand certainty in the market. China should also create an independent Ministry of Energy and further its work on energy price reforms. Finally, China can consider establishing national or provincial energy services companies. These energy conservation and risk management businesses can dramatically improve the economics of energy efficiency projects but have had difficulties securing financing in this highly fragmented market. National and/or provincial energy service companies (ESCOs)<sup>10</sup> could go a long way toward demonstrating the market opportunities for investors and businesses alike.

<sup>10</sup> An energy service company is a business that develops, installs and arranges financing for projects designed to improve the energy efficiency and maintenance costs for facilities over seven to twenty years. ESCOs generally act as project developers for a wide range of tasks and assume the technical and performance risk associated with the projects.

**FIGURE 30. INVESTMENT IN RENEWABLE ENERGY ASSETS, 2020 (BILLIONS OF \$)**



NATIONAL CLEAN ENERGY POLICIES	
Carbon Cap	
Carbon Market	
Renewable Energy Standard	✓
Clean Energy Tax Incentives	✓
Auto Efficiency Standards	✓
Feed-in Tariffs	✓
Government Procurement	
Green Bonds	✓

FINANCE AND INVESTMENT (2009)*	
Total Investment	\$34.6 billion
G-20 Investment Rank	1
Percentage of G-20 Total	30.5%
5-Year Growth Rate	147.5%

INSTALLED CLEAN ENERGY (2009)	
Total Renewable Energy Capacity	52.5 GW
Total Power Capacity	4%
Percentage of G-20 Total	16.5%
5-Year Growth Rate	78.9%
Key Renewable Energy Sectors	
Wind	12,200 MW
Biomass	2,880 MW
Solar PV	140 MW

KEY CLEAN ENERGY TARGETS (2020)	
Wind	30,000 MW
Biomass	30,000 MW
Solar	1,800 MW

KEY INVESTMENT INCENTIVES	
Wind	Fixed feed-in tariff
Renewable Energy	Renewable energy surcharge and subsidy scheme
Solar	Rooftop and building integrated photovoltaic tax subsidies

\*Includes investments in venture capital and public markets, and asset finance for all clean energy technologies including biofuels and energy efficiency.