

Yunnan

GDP: **\$193.6bn**

Five-year economic growth rate: **18.1%**

Population: **47.0m**

Total clean energy investment, 2009-2014: **\$10.9bn**

Installed power capacity: **69.3GW**

Renewable share: **24.2%**

Total clean energy generation: **55.2TWh**

Top energy authority:

Provincial Development and Reform Commission

CHINA RANKING

2014

2015

OVERALL SCORE

2015

7

2

2.31

OVERVIEW

Yunnan, in southern China, is less industrialized than other Chinese provinces covered in Climatescope but has the country's second-largest hydro power fleet. Hydro has been one of Yunnan's economic pillars for decades, allowing it to sell electricity to neighboring provinces. The surplus of hydro power also has been a major impediment to wind and solar penetration despite incentives for those technologies.

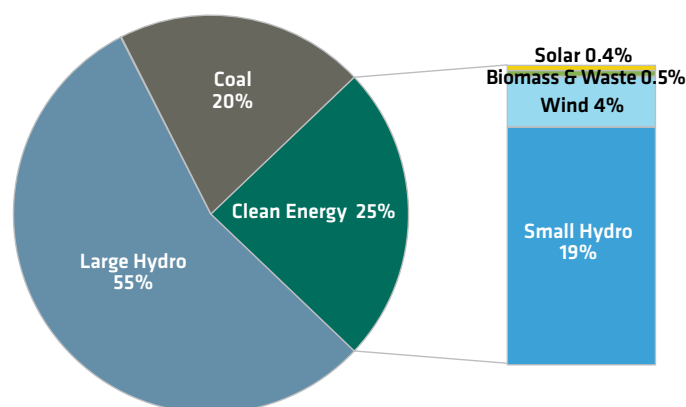
In 2014, 35% of Yunnan's hydro power (62TWh) was sold to Guangdong, an industrialized demand center. That means more than 11% of Guangdong's 2014 total power consumption was met with Yunnan generation. We expect this energy transfer will remain and expand between the two provinces despite Guangdong's efforts at local generation development. The main reasons are: 1) additional interprovincial transmission networks started operations in 2014 and 2) a lower retail price established in early 2015 by the National Development and Reform Commission.

New transmission lines installed in 2014 from the west of Yunnan to central Guangdong doubled the existing capacity and lifted power exports from Yunnan to Guangdong by 15% from 2013.

As a result of price cuts ordered by the National Development and Reform Commission, Guangdong's industrial and commercial users are paying CNY 0.45/kWh for hydroelectricity from Yunnan. That is CNY 0.01/kWh lower than the price of power imported from Sichuan and CNY 0.22/kWh lower than Guangdong's benchmark retail price.

INSTALLED POWER CAPACITY BY SOURCE, 2014 (%)

69.3GW total installed capacity



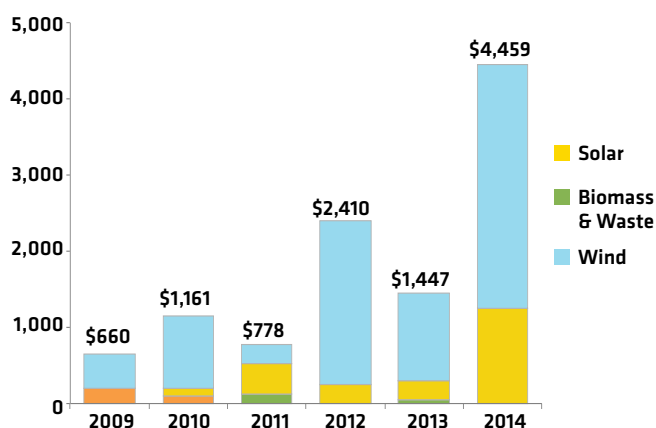
Source: Bloomberg New Energy Finance, National Energy Administration, Ministry of Water Resources, China Wind Energy Association, China Electric Power Yearbook
Note: Negligible values for oil & diesel cannot be graphically represented due to scale, see source data for the complete numbers.

Wind power's decline is directly price-driven. The tariff for in-province wind power, CNY 0.34/kWh, is more expensive than the on-grid price for in-province hydro.

To promote electric vehicles, the Yunnan government in 2012 set a target of increasing new energy vehicles in Kunming, the provincial capital, to 3,400 units by 2015 from just 123 at the end of 2014.

ANNUAL INVESTMENT IN CLEAN ENERGY, 2009-2014 (\$m)

\$10.9bn total cumulative investment



Source: Bloomberg New Energy Finance

Notes: Total investment includes: Asset Finance, Corporate Finance and Venture Capital / Private Equity Commitments.

For further information, access www.global-climatescope.org/yunnan