



GLOBAL ENVIRONMENT FACILITY
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GEF Investment Catalyzing Clean Energy and Rural Electrification in China

For a Meeting at the Wilson Center, Washington, D.C. USA

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GEF Mission

An international partnership to address protection of the **global environment** and support implementation of countries' commitments under **multilateral environmental agreements** (MEAs)

A financial mechanism for MEAs to provide funding to developing countries to meet the agreed incremental costs of measures to achieve agreed '*global environmental benefits*' in **biodiversity, climate change, land degradation, chemicals & waste, and international waters.**



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GEF Trust Fund



The data was up to June 2019

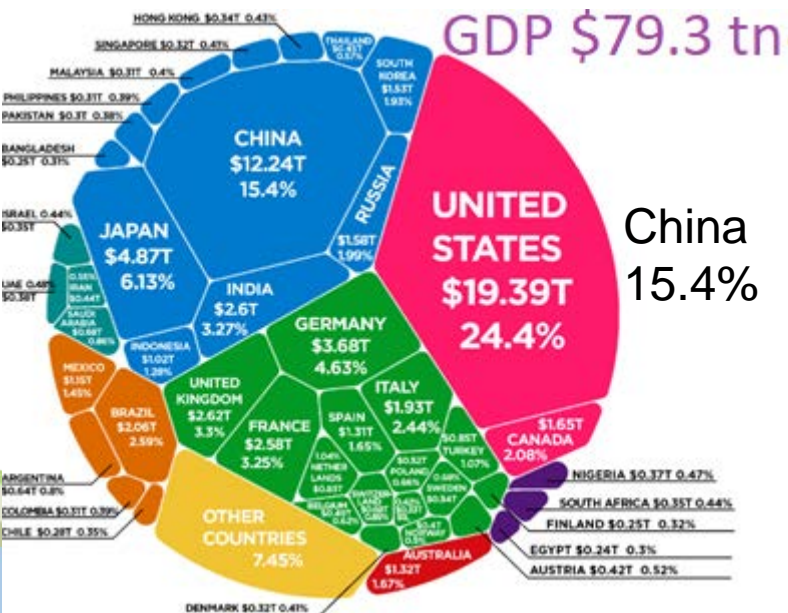
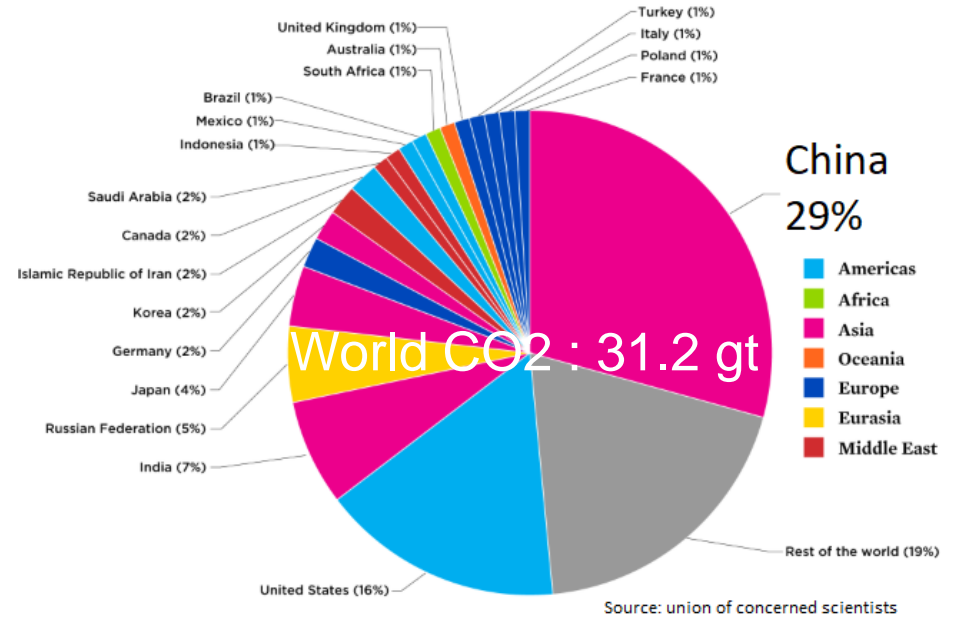
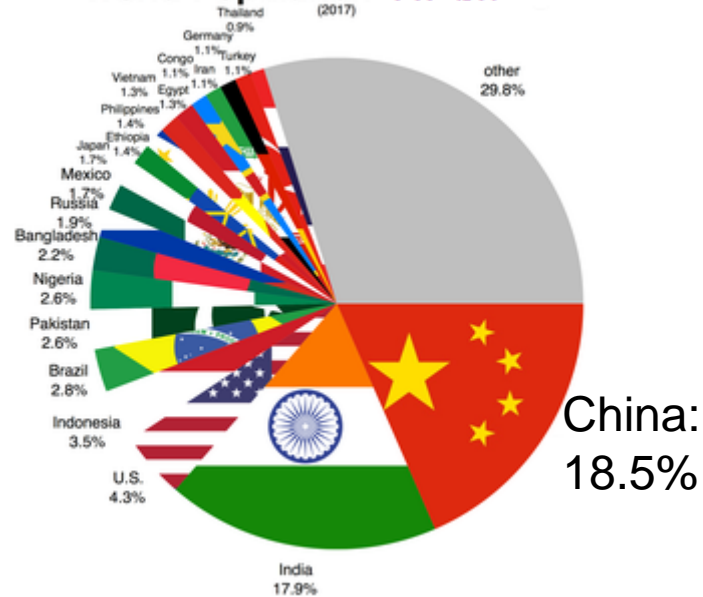
[Source: <https://www.thegef.org/about-us>](https://www.thegef.org/about-us)



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Why China ?

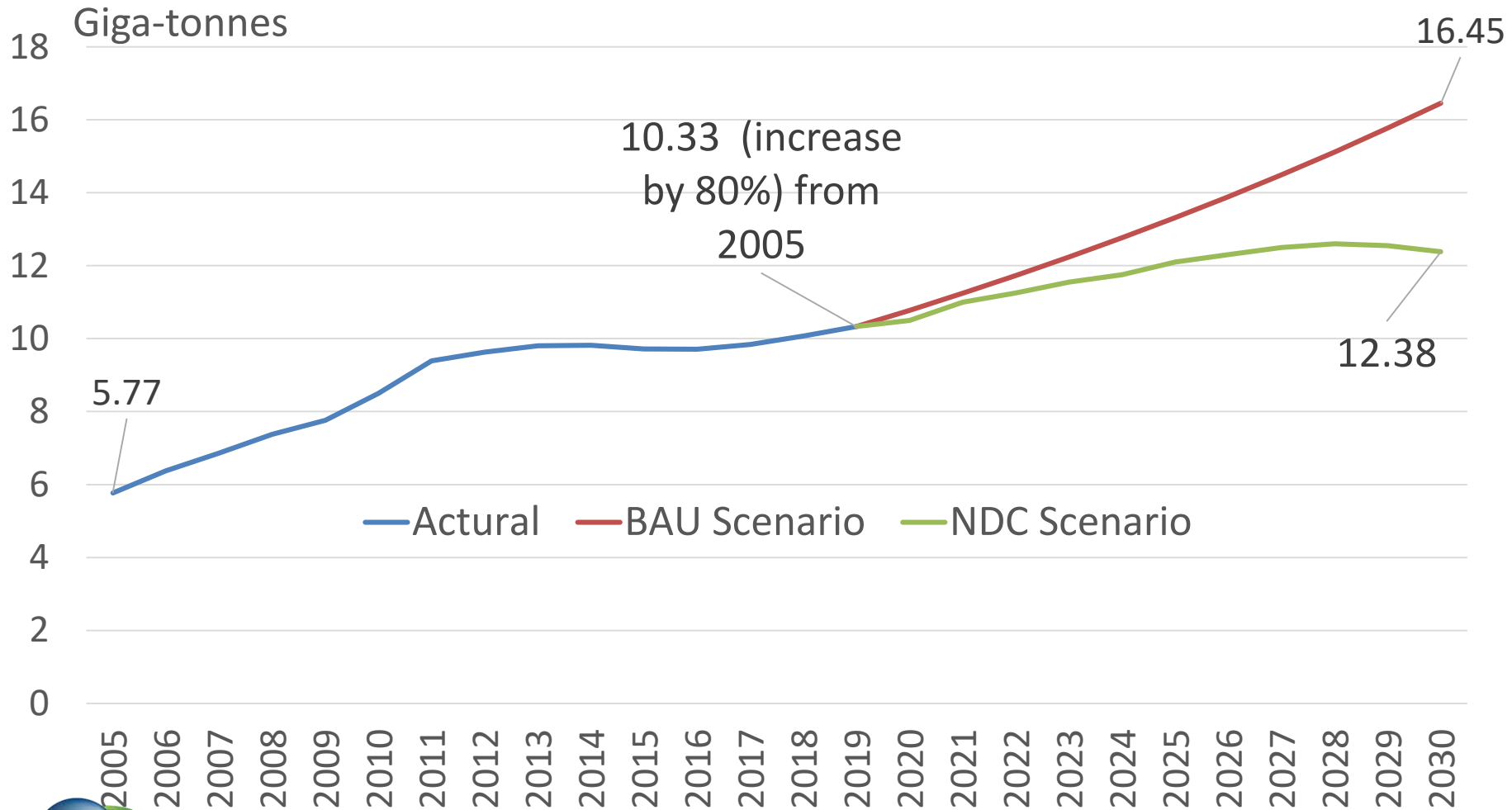
World Population 7.7 bn
(2017)



2/3/2019
China
announced
extinction
of Yangtze
Baiji



GHG emission scenarios of China



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GEF Clean Energy Projects in China (1)

- Energy Efficient **Lighting**

Green Lights Program 1996,
Phasing out incandescent lamps
2007



- Energy Efficient Appliance Labeling Programs

Green buildings (EE standards
and codes) 1998



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GEF Clean Energy Projects in China (2)

- Coal Mine Methane to Power
Shanxi Jincheng, US EPA and Caterpillar Transferred Technologies to China in 1990s
- Energy Efficient Motors
Industrial motors, fans, water pumps, ACs in 2008



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GEF Clean Energy Projects in China (3)

- Hydrogen Fuel Cell Vehicle

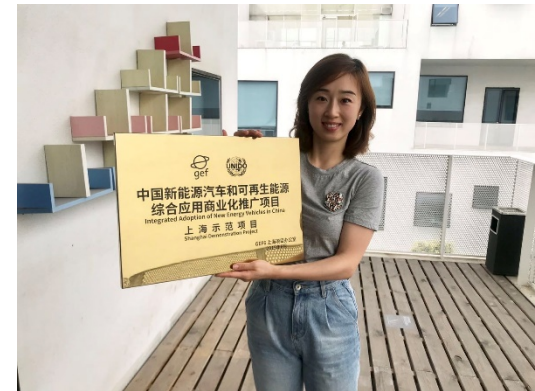
Hydrogen fuel production and filling stations for demonstration started in 2013

- Electrical Vehicle Program

Started in 2015 and On-going

- Zero-carbon initiative and technology demonstration in rural China

Just started in January 2020 in China



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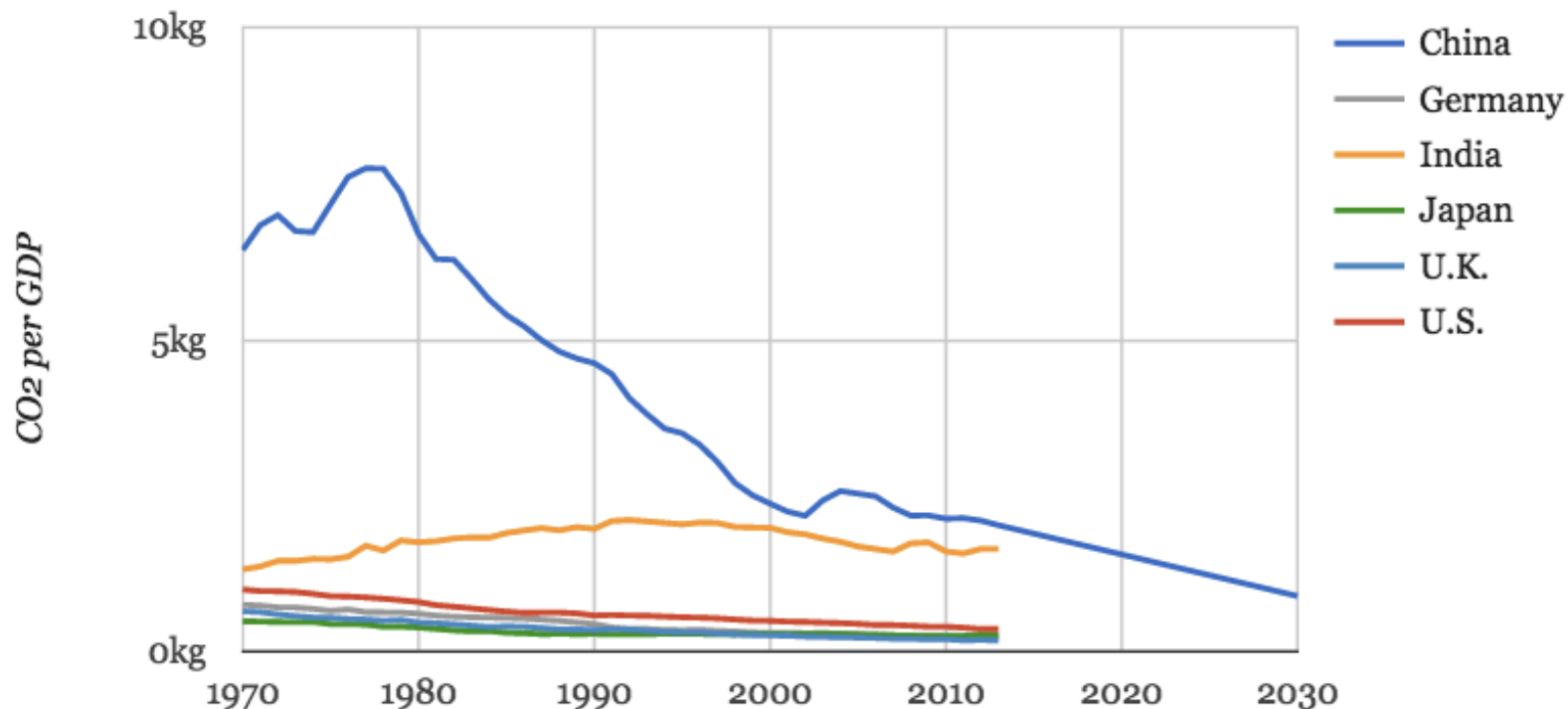
GEF China Renewable Energy Scale-Up Program (CRESP 2005-2019)



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CRESP's Catalyzation Impact

Carbon Intensity by Year from 1970



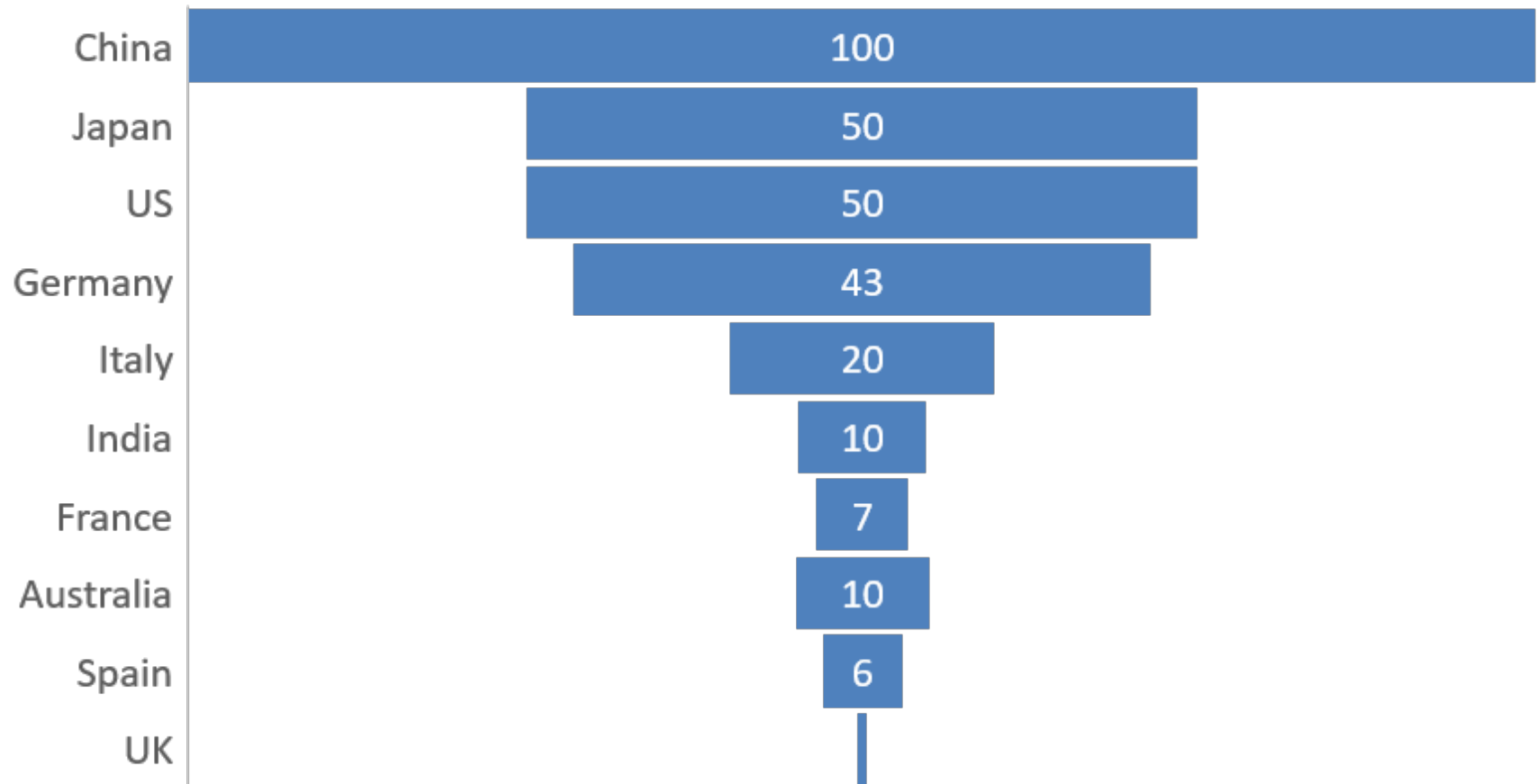
From 2005-2018, carbon intensity was reduced by 45.8%, equivalent to 5.2 billion tCO₂



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China is leading in global solar PV race

Index extracted from multiple sources in many years

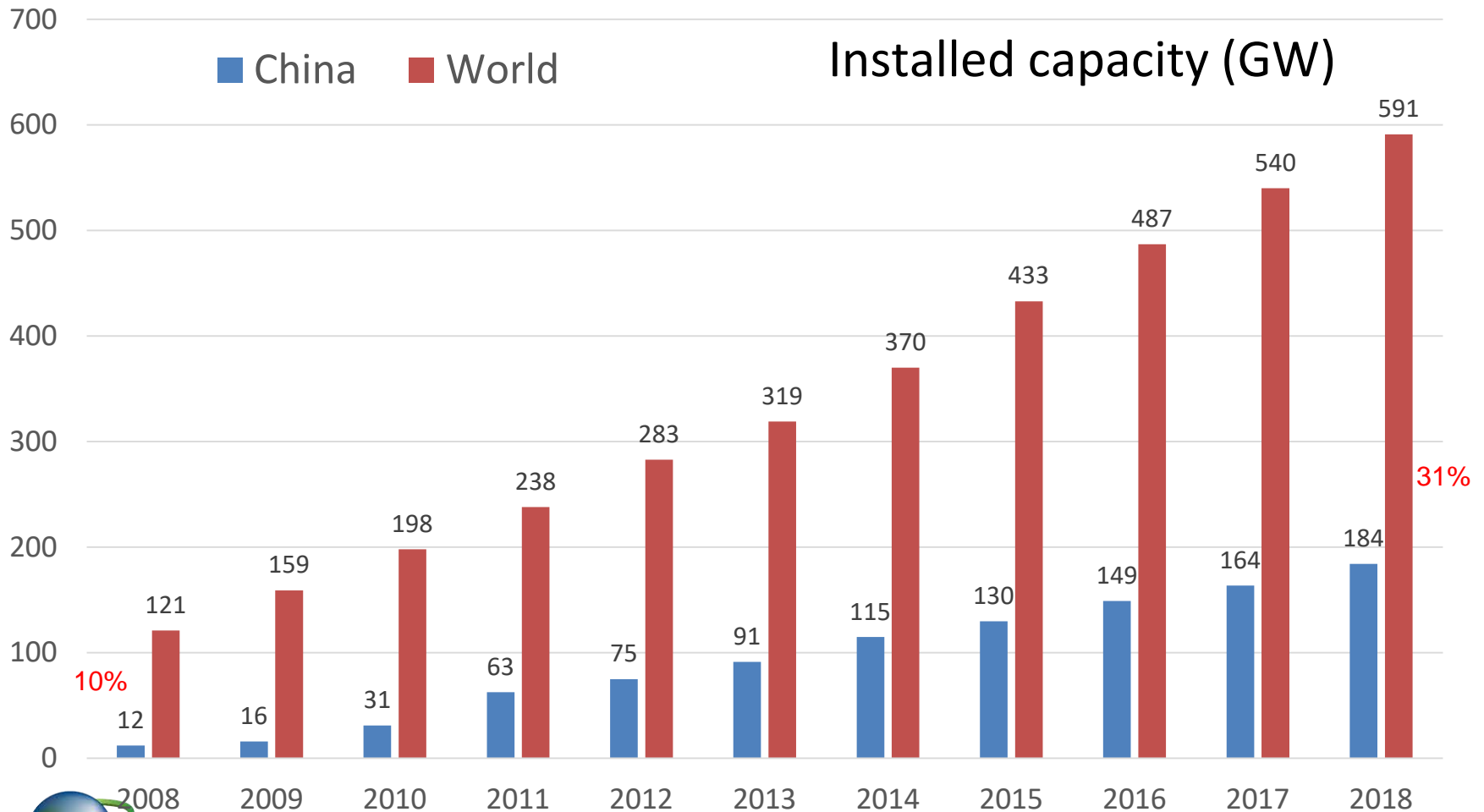


In 2019 solar PV, world: 593.9 GW, China: 204.7 GW



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China is leading in global wind power race



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China's first wave of rural electrification 1990-2010

1. Expanding fossil fuel-grids electrified 312 million rural people, 80% of rural households
2. Using local and regional power grids electrified 66.5 million, 17% of rural households
2. 3% were waiting



Second wave of rural electrification: 2011-2015



Electrified remainder 11.7 million people (3% of 390 million) rural residents with GEF's support



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Third wave of rural electrification: 2020-2050: zero carbon energy for all



Today, 576 million rural people in 690,000 villages, consuming 590 million tonnes of coal equivalent and emit 1.5 billion tonnes of CO₂ per annum. They are willing to switch to zero-carbon energy. The GEF is taking actions....



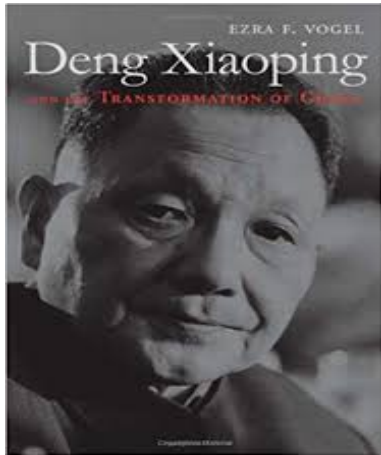
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<https://www.youtube.com/watch?v=ZMreH1YUs90>



待到山花烂漫时，
她在丛中笑。

When China's RE production
and utilization are blossoming,
GEF is smiling in the green
bushes of the world....



摸着石头过河

“Cross the river by feeling the stones,”
When China is moving forward in new
directions, it needs to feel its way (with
stones) forward firmly to deal with
uncertainty. GEF serves as stones for
China...

Thank you