



# *Self-Study Syllabus* *on China's Environment and Energy*

---

# Preface

*About this syllabus.*

---

**The** topics of China's environment and energy are full of paradoxes. China burns half of the world's coal - the main culprit of the country's abysmal air quality - yet it is the world's biggest and fastest growing renewable energy market. Its environment and energy policies are full of lofty goals, yet local implementation has long fallen far behind. It was once seen as the laggard in international climate negotiations, but now it is positioned to become a leader in taking climate actions unilaterally and multilaterally.

Amidst mounting citizen outcry over the choking pollution, the government is under pressure to clear the airways as environmental health - with its linkage to human health - has become a major threat to social stability. Premier Li Keqiang called for a "war on pollution" in 2014, and the upper echelons of the Communist Party have issued new mandates to the air and water "Action Plans" in a quest to show the public that it is

serious about winning the "war".

Organized into five themes (pollution, environmental governance, fossil fuels, transition to renewables, and climate change), this syllabus aims to guide you to understand the causes and symptoms of, and potential solutions to China's environmental and energy challenges. A sample of both Chinese and English language readings are arranged so that you can complete this course with an hour of reading each day, five days a week, over the course of five weeks. Each week's most essential readings are marked in bold. To break up the readings and to provide visual aids, we have also included multimedia resources (a mix of photos and videos) for each week.

How China, the world's manufacturing hub, powers itself while becoming greener is one of the world's greatest quandaries. There's a lot of work to be done, so we're glad you're here to help.

# Week One: China's Polluted Environment

*Current State of Air, Water, and Soil, and the Road Ahead*

## Overview

This week's readings start with an overview of the country's environmental woes and the costs to human health. They are followed by readings that provide a more detailed look at the state of and the government's actions on China's air, water, and soil pollution.

- [“China's Environmental Crisis”](#), Beina Xu, CFR Backgrounders, Council on Foreign Relations, April 25, 2014. This article provides an overview of China's environmental crisis, providing the overall context.
- [“Can China Lead the Way to a Better Environment?”](#) Douglas Bulloch, CKGSB Knowledge, April 10, 2017. Bulloch provides an update on China's environmental challenges.
- [“China's New Antipollution Push Could Cool Its Growth Engine,”](#) Keith Bradsher, New York Times, October 23, 2017. This article describes the push-pull that is the reality that much of China's economic growth has been driven by heavy-polluting industries.
- [2016中国环境状况公报 \[State of China's Environment 2016\]](#), 中华人民共和国环境保护部 [Ministry of Environmental Protection],

May 31, 2017. Chinese environmental authority's annual report on the nation's environment, which shows the ministry's jurisdictions and the state of China's pollution problems. Note the vague language used to describe the country's environmental woes.

- [“Air Pollution in China: Mapping of Concentrations and Sources”](#), Robert Rohde and Richard Muller, Berkeley Earth, July 2015. A detailed look at China's infamous air pollution.
- [“New ‘Water Ten Plan’ to Safeguard China's Waters”](#), China Water Risk. China Water Risk outlines the key targets in China's Water Pollution Action Plan with useful links for further readings.
- [“Tainted Harvest: An E360 Special Report”](#), He Guangwei, Yale Environment 360, June-July, 2014. On-the-ground cases that provide a window into China's extensive and often ignored soil pollution, and the consequences.

Read all three parts.

- [“Feeding China,”](#) Bloomberg Special Report, 2017. Bloomberg's 10-part series on China's challenges and solutions to feed its people.
- [“China is cracking down on air pollution from shipping,”](#) Freda Fung and Zhu Zhixi, Chinadialogue, April 20, 2017. Fung and Zhu provide an overview of China's shipping emissions challenges.
- [“The Mountains of Takeout Trash Choking China's Cities,”](#) Chen Ronggang, Sixth Tone, October 15, 2017. Chen examines China's growing takeout waste issue.

## MULTIMEDIA:

- [Photos] [“Beijing's Toxic Sky”](#), Alan Taylor, In Focus, The Atlantic, March 4, 2015. Before-and-after photos of scenes across Beijing, with and without smog.
- [Photos] [Photographs of China's ‘Cancer Villages’](#), Vice, January 15, 2015.
- [Video] [Smog Journeys: a short film by Jia Zhangke, Greenpeace East Asia](#), January 21, 2015.(7:06).
- [Photos] [“Qing China's Internal Crisis: Land Shortage, Famine, Rural Poverty”](#), Asia for Educators, Columbia University, 2009. Not confined to modern day China, ecology crises were severe in the Qing Dynasty, as depicted in these woodblock prints.

# Week Two: Environmental Governance and Citizen Empowerment

*Environmental Law, Public Participation, and eNGOs*

## Overview

Many believe that poor governance is the primary root of China's environmental problems. This week's readings first provide a broad framework for understanding China's environmental governance, and then attempt to explain the many reasons for such a governance crisis. Later items focus on the new environmental law and recent progress in information transparency, followed by a closer look at the role civil society plays in China's green movement.

- “China's environmental governance crisis”, prepared written statement submitted for the record by Elizabeth Economy, Council on Foreign Relations, May 22, 2013. CFR's Liz Economy testifies before Congress on China's transparency (or lack thereof) on environmental monitoring.
- “Environmental Compliance and Enforcement in China: An Assessment of Current Practices and Ways Forward”, Organization for Economic Co-Operation and Development, 2006. Though a bit outdated, the OECD provides an overview of China's environmental governance structure.
- 中共中央国务院关于加快推进生态文明建设

的意见 [Opinions of the Central Committee of the Communist Party of China and the State Council on Further Promoting the Development of Ecological Civilization], Xinhua, April 25, 2015. Co-signed by the Central Committee of the Party, “ecological civilization” will be a national strategy guiding China's development policy over the next five years and beyond.

- “绿水青山就是金山银山——关于大力推进生态文明建设 [Clear waters and green mountains are gold and silver: On vigorously push forward ecological civilization construction]”, 《习近平总书记系列重要讲话读本》 [Important Remarks by General Secretary Xi Jinping], July 11, 2014. Xi's

remarks on valuing the environment - a key slogan for ecological civilization.

- “Interpreting ecological civilisation”, Sam Geall, Chinadialogue, July 6, 2015. Executive Editor of the wildly popular Chinadialogue explains ecological civilization and its implications. Read all three parts.
- “The Search for Sustainable Legitimacy: Environmental Law and Bureaucracy in China”, Alex Wang, Harvard Environmental Law Review, vol. 37, no. 1, 2013. Wang examines China's environmental cadre evaluation system, and argues that it is a tool for limiting risks to the party-state's hold on power.
- “‘压力型体制’下的政治激励与地方环境治理 [Political motivation under the “pressure system” and local environmental governance]”, 冉冉 [Ran Ran], : 《经济社会体制比较》 [Comparative Economics & Social Systems], Vol. 3, 2013. Ran argues that the target-oriented governance system is fundamentally deficient in local environmental policy implementation.
- “Water Control in the Dongting Lake Region during the Ming and Qing Periods”, Peter C. Perdue, The Journal of Asian Studies, 41, pp 747-765, 1982. (subscription required). Perdue draws similarities between Qing-era environmental governance and that of today, with the challenge of implementing broad environmental policies in far-flung cities managed by development-conscious local

officials.

- “[新环境保护法的突破和困境](#) [The breakthroughs and Struggles of the New Environmental Protection Law]”, 夏军 [Xia Jun], 纽约时报中文网 [The New York Times China], May 8, 2014. The author examines the progress and weaknesses of the new Environmental Law (went into effect on January 1, 2015).
- “[Ma Jun: China has reached its environmental tipping point](#)”, Tom Levitt, The Guardian, May 19, 2015. Profile of China’s most prominent environmentalist.
- “[China’s ‘Silent Spring’ Moment? Why ‘Under the Dome’ Found a Ready Audience in China](#)”, Daniel Gardner, The New York Times, March 18, 2015. Gardner argues that Beijing has allowed for greater freedom of expression on environment than other issues until it is seen as a threat to social stability.
- “[The Role of Civil Society in Environmental Governance in the United States and China](#)”, Robert Percival and Zhao Huiyu, Duke Environmental Law & Policy Forum, Vol. XXIV: 141, 2014. Percival and Zhao question transplanting the U.S. model of civil society’s role would make Chinese environmental law yield dramatically improved results.
- “[China’s generation green](#),” The Star. Multimedia reporting on China’s emerging environmental movement.
- “[20 years of China’s public voice](#)”, Chang Cheng, Chinadialogue, June 20, 2012. Chang

Cheng from Friends of Nature - China’s first environmental NGO - discusses the evolution of China’s eNGOs and the role citizens play in environmental governance.

**MULTIMEDIA:**

- [Video] “[Under the Dome](#).” (1:43:55). “Under the Dome” went viral in the spring of 2015 garnering over 150 million views the weekend it was released. For more analysis, watch this [panel of experts offer their interpretations](#).
- [Video] [李克强谈雾霾称坚决向污染宣战](#) [Li Keqiang on smog, declares war on pollution], March 5, 2014. Premier Li’s statement during the 2014 “two meetings” on China’s war on pollution.
- [Weibo] [绿家园环境友好中心](#) [Green Fujian], Green Fujian is a good example of how grassroots NGO work ties into measures for public participation (training local citizens to demand EIAs, etc.). Also useful to see what citizen activism looks like on Weibo.

# Week Three: Energy Transition I

## *Curing the Coal Addiction*

### Overview

China famously burns over half of the world's coal. Cutting coal consumption becomes a no-brainer in order to better the environment, yet it is not as easy as it sounds. Starting with a look at coal's impact on-the-ground (with more in the multimedia section), this week's readings introduce the historic peak China's coal consumption is facing, and the measures the country is taking (or should take) to further reducing coal consumption. The last two items discuss natural gas, the potential fuel to replace coal.

- “**The coal boom choking China**”, The Guardian, June 5, 2015. Multimedia reporting illustrates the on-the-ground impact of China's coal addiction.
- “**The Unimaginable: Peak Coal in China**” Citi Research, Citi, September 4, 2013. Citi predicted China's coal peak as early as 2013. Many industry experts believe such a historic peak may be happening, if not already happened.
- “**Boom and Bust: Tracking the Global Coal Plant Pipeline**”, Christine Shearer, Nicole GHio, Lauri Myllyvirta, and Ted Nace, CoalSwarm and Sierra Club, March 2015. Greenpeace's Myllyvirta analyzes the important factors determining China's future coal power generation capacity. Read pp. 12-16.
- “**Everything You Think You Know About Coal in China Is Wrong**,” Melanie Hart, Luke Bassett and Blaine Johnson, Center for American Progress, May 15, 2017. Hart and team provide a fresh view of the coal sector's transition.
- “**How China's shadow banking crackdown will help clear the skies**,” Lauri Myllyvirta, Unearthed, May 16, 2017. Myllyvirta explains why China's environment is ultimately linked to its growth model.
- “**Gas trucks boom in China as government curbs diesel in war on smog**,” Chen Aizhu. Reuters, October 7, 2017. This quick read describes the increasing demand for LNG in the heavy duty truck sector due to the government's crackdown on pollution.
- **China's operating steel capacity increased in 2016, despite efforts on overcapacity**,” Greenpeace East Asia, February 13, 2017. Greenpeace explains the connection between steel production and air pollution, and underscores the complexity of the country's industrial policy.
- “**Coal and Renewables in China**”, Richard Bridle and Clement Attwood, Global Subsidies Initiative, International Institute for Sustainable Development, November 2, 2015. IISD explores the cost of coal in terms of subsidies and externalities and explains why they are a barrier to the development of renewable energy.
- “**Renewables aren't enough. Clean coal is the future**,” Charles Mann, Wired, March 25, 2014. Mann investigates how China is moving towards carbon capture and sequestration (CCS), a technique which deposits waste carbon dioxide underground.
- “**China's planned coal-to-gas plants to emit over one billion tons of CO<sub>2</sub>**,” Greenpeace International, July 25, 2014. Summary and useful links to understand the dangerously budding industry that is coal-to-gas.
- “**Time to rethink Chinese oil demand?**” Damien Ma, Macro Polo, September 5, 2017. Ma argues that China may see weaker oil demand than many would expect.
- “**The Great Frack Forward**”, Jaeah Lee and James West, Mother Jones, September, 2014. A comprehensive and stunning multimedia piece on China's shale gas

development, its politics, and pollution.

- “Full Steam Ahead on China’s Nuclear Power Ambitions”, Damien Ma, Marco Polo, October 30, 2017. Ma gives an overview of China’s nuclear industry.

**MULTIMEDIA:**

- [Webcast] **Shale Gas Revolution in China: Game Changer for Coal?** Woodrow Wilson International Center for Scholars, March 15, 2013. (2:01:30). Two leading experts discuss the challenges and opportunities for China’s shale gas development.
- [Photos] “**与霾为邻 [Living with Smog]**” , **活着 [Living]**, 腾讯新闻 [Tencent News], September 21, 2015. Photos from a coal town in northeast China.

# Week Four: Energy Transition II

*Renewables, Power Sector, and Green Growth*

## Overview

Continuing with the theme of energy transition, this week's readings begin with a broad overview of China's transition from fossil fuels to renewables. The readings then look into the progress and struggles with China's renewable energy development, and the power sector reform that is currently underway that seeks to boost the deployment of renewables. The final four readings discuss more broadly how China can embark on green growth.

- **“Rebalancing China's Energy Strategy,”** Damien Ma, Paulson Papers on Energy and Environment, Paulson Institute, January 2015.
- Ma lays out the core elements of China's energy strategy now and in the near future with insights of the political rationale behind the “energy revolution”.
- **国务院办公厅关于印发能源发展战略行动计划（2014-2020年）的通知** [State Council's notice on issuing the energy development strategic action plan (2014-2020)], June 7, 2014. Central government lays out its grand energy development strategy for the next seven years.
- **“Special Issue: China's 13th Five-Year Plan”**, Bloomberg Intelligence and Bloomberg New Energy Finance, Bloomberg Brief, November 10, 2015. Bloomberg's data-heavy outlook into the country's 13th Five-Year Plan

policies. Read Sectors: Metals, Cement & Coal, Oil & Gas, Power, and New Energy.

- **“China's Wind and Solar Sectors: Trends in Deployment, Manufacturing, and Energy Policy”**, Jacob Koch-Weser and Ethan Meick, U.S.-China Economic and Security Review Commission, March 9, 2015. This report assesses recent developments in China's wind and solar industries and the implications for the United States.
- **“China's Renewables Curtailment and Coal Assets Risk Map”**, Yiyi Zhou and Sophie Lu, Bloomberg New Energy Finance, October 25, 2017. Zhou and Lu give a systematic look at China's curtailment coal risks.
- **“The Greening of China's Black Electric Energy System? Insights from 2014 Data”**, John Mathews and Han Tao, the Energy Collective, March 19, 2015. Mathews and Tao

dig deep into renewable energy's growth in China's power sector.

- **“中国2050高比例可再生能源发展情景暨路径研究（摘要报告）** [China 2050 High Renewable Energy Penetration Scenario and Roadmap Study: Executive Summary]”, April 2015. High profile study by NDRC's energy think tank, Energy Research Institute (ERI), which lays out how China can achieve 60% renewables in its primary energy consumption by 2050.
- **“China's Power Sector Reform: Progress for Clean Energy,”** Max Dupuy, Regulatory Assistance Project, May 22, 2017. Dupuy provides an update on China's power sector reform.
- **“构建全球能源互联网 推动能源清洁绿色发展** [Construct global energy internet, push clean green energy development]”, State Grid, October 22, 2015. Liu Zhenya of State Grid explains “global energy internet”, a term he coined and being advocated by President Xi at the 2015 UN Sustainable Development Summit as China's main initiative to advance global clean energy development.
- **“China Hastens the World Toward an Electric-Car Future,”** Keith Bradsher, The New York Times, October 9, 2017. Bradsher reports on China's progress on electric vehicles.
- **“China and the New Energy Economy,”** Ross McCracken, S&P Global Platts, October 31, 2017. McCracken looks into China's new

energy development and its connection to commodities.

- “[China and The New Climate Economy: Executive Summary](#)”, the Global Commission on the Economy and Climate, 2014. The report proposes recommendations for China to achieve a transition towards green and low-carbon development in the next 15 years.

- [China 2030: Building a Modern, Harmonious, and Creative Society](#), the World Bank and the Development Research Center of the State Council, 2013. World Bank and China State Council’s landmark report provides rationale and policy recommendations for critical institutional reforms needed to achieve green development. Read the Overview of “Chapter 5. Seizing the Opportunity of Green Development”, skim its supporting reports in Part II, section 3.

一集 [美丽新时代](#) [Clear waters and green mountains are gold and silver, episode 1: a beautiful new generation] (29:09). Footage showing Xi Jinping when he first spoke of the slogan as Party Secretary of Zhejiang.

### **MULTIMEDIA:**

- [Infographic] “[Chinese direct investment in the U.S. energy economy](#)”, Melanie Hart and Angela Luh, Center for American Progress, July 30, 2015. Interactive infographic maps Chinese investments in renewable energy products across the United States. Accompanying long-form report [here](#).
- [Video] [《绿水青山就是金山银山》 第](#)

# Week Five: Climate Change

## *China's Impact, Ambitions, and Implementation*

### Overview

China's climate actions have far reaching global consequences because of its domestic carbon reductions as well as its international influence. This week's readings dives first into why China needs to/is acting on climate change, then provides several high-profile examples of its unilateral and multilateral climate pledges, and concludes with a brief discussion on the potential challenges to turning these pledges into reality.

- “[Mapping China's Climate Policy Formation Process](#)”, Craig Hart, Zhu Jiayan, and Ying Jiahui, China Carbon Forum, November 2015. This report details China's current climate policy making structure.
- “[China's 'new normal': structural change, better growth, and peak emissions](#)”, Fergus Green and Nicholas Stern, Grantham Research Institute on Climate Change and the Environment and Centre for Climate Change Economics and Policy, June 8, 2015.
- Green and Lord Stern argue that China's new normal will help it peak GHG emissions by 2025 if not earlier.
- “[A closer look at China's stalled carbon emissions](#),” Jan Ivar Korsbakken and Glen Peters, Carbon Brief, January 3, 2017. Korsbakken and Peters explain why China's carbon emissions slowdown can be

structural.

- “[China, the Climate and the Fate of the Planet](#)”, Jeff Goodell, Rolling Stone, September 15, 2014. Goodell takes an insider look at the power struggle between U.S. and China in working together on climate change.
- “[Rising Waters Threaten China's Rising Cities](#),” Michael Kimmelman, The New York Times, April 7, 2017. A look at climate impacts in China's Pearl River Delta region.
- “[Why China Is No Climate Leader](#),” Elizabeth Economy, Politico Magazine, June 12, 2017. Economy lays out why its current track record doesn't grant China a climate leader status.
- “[Through China, a green financing leader emerges](#),” Fatima Arkin, Devex, August 31, 2017. Arkin lays out how China understands

and exercises green finance.

- “[China's Global Energy Finance](#),” Kevin Gallagher, Global Economic Governance Initiative, Boston University, 2017. Interactive tool detailing China's overseas energy investments.

### MULTIMEDIA:

- [Video] [国新办就《中国应对气候变化的政策与行动2015年度报告》有关情况举行发布会](#) [State Council Information Office press conference on China's Policies and Actions on Climate Change (2015)], November 19, 2015. (55:57). Xie Zhenghua, China's chief climate negotiator, discusses the government's climate actions in 2015.
- [Video] “[环保女神PK中科院副院长](#) [Environmental protection goddess confronts the vice-president of Chinese Academy of Sciences]”. (21:53). Chai Jing interviews Ding Zhongli on Copenhagen Climate Agreement.
- [Video] [Who Pays the Price? The Human Cost of Electronics](#), Mar 4, 2014. (9:31).

# Appendix: Key Chinese Language Terms and Phrases

## 中文

边缘化  
大气环境保护  
氮氧化物  
地方保护主义  
低硫煤  
地热  
低碳发展  
地源热泵  
电动汽车  
二氧化硫  
非石化能源  
高耗能行业  
工业革命  
公益诉讼  
光伏  
过剩产能  
国土空间  
环境权威主义  
混合动力车  
近零排放  
可持续发展  
可再生能源  
矿产资源  
煤改电  
煤改气  
煤炭净调入地区  
内燃机  
气候变化  
氢能  
群体性运动  
燃煤锅炉

## 拼音

biān yuán huà  
dà qì huán jīng bǎo hù  
dàn yǎng huà wù  
dì fāng bǎo hù zhǔ yì  
dī liú méi  
dì rè  
dī tàn fā zhǎn  
dì yuán rè bèng  
diàn dòng qì chē  
èr yǎng huà liú  
fēi shí huà néng yuán  
gāo hào néng háng yè  
gōng yè gé mìng  
gōng yì sù sòng  
guāng fú  
guò shèng chǎn néng  
guó tǔ kōng jiān  
huán jīng quán wēi zhǔ yì  
hún hé dòng lì chē  
jìn líng pái fàng  
kě chí xù fā zhǎn  
kě zài shēng néng yuán  
kuàng chǎn zī yuán  
méi gǎi diàn  
méi gǎi qì  
méi tàn jīng diào rù dì qū  
nèi rán jī  
qì hòu biàn huà  
qīng néng  
qún tǐ xìng yùn dòng  
rán méi guō lú

## 英文

marginalized  
atmosphere environment protection  
nitrogen oxide  
local protectionism  
low sulfur coal  
geothermal  
low-carbon development  
geothermal heat pump  
electric car  
sulfur dioxide  
non-fossil energy  
energy intensive industry  
industrial revolution  
public interest litigation  
photovoltaic  
excess production  
national land space  
environmental authoritarianism  
hybrid car  
close to zero emission  
sustainable development  
renewable energy  
mineral resources  
convert coal to electricity  
convert coal to natural gas  
net importing area of coal  
combustion engine  
climate change  
hydrogenic energy  
mass scale movement  
coal-burning boiler

## 中文

热电联产  
 生态补偿  
 生态红线  
 生态环境  
 生态文明  
 生态现代化  
 生物柴油  
 生物多样性  
 生物质能源  
 湿地  
 石化能源  
 石漠化  
 石油炼制企业  
 水土保持  
 酸雨  
 碳关税  
 碳交易  
 特高压技术  
 退耕还湿  
 退牧还草  
 脱硫  
 脱硝  
 外部性  
 卫星遥感技术  
 物联网  
 雾霾  
 先进煤炭燃烧和气化  
 循环发展  
 循环经济  
 液化天然气  
 页岩气

## 拼音

rè diàn lián chǎn  
 shēng tài bǔ cháng  
 shēng tài hóng xiàn  
 shēng tài huán jīng  
 shēng tài wén míng  
 shēng tài xiàn dài huà  
 shēng wù chái yóu  
 shēng wù duō yàng xìng  
 shēng wù zhì néng yuán  
 shī dì  
 shí huà néng yuán  
 shí mò huà  
 shí yóu liàn zhì qǐ yè  
 shuǐ tǔ bǎo chí  
 suān yǔ  
 tàn guān shuì  
 tàn jiāo yì  
 tè gāo yā jì shù  
 tuì gēng hái shī  
 tuì mù hái cǎo  
 tuō liú  
 tuō xiāo  
 wài bù xìng  
 wèi xīng yáo gǎn jì shù  
 wù lián wǎng  
 wù mái  
 xiān jìn méi tàn rán shāo hé qì huà  
 xún huán fā zhǎn  
 xún huán jīng jì  
 yè huà tiān rán qì  
 yè yán qì

## 英文

heat and power cogeneration  
 ecological compensation  
 ecological redline  
 ecological environment  
 eco-civilization  
 ecological modernization  
 biodiesel  
 biological diversity  
 bioenergy  
 wetland  
 fossil energy  
 stony desertification  
 oil refinery company  
 earth and water conservation  
 acid rain  
 carbon tariff  
 carbon trading  
 ultra high-pressure technology  
 return farmland to grassland  
 return grazing land to grassland  
 desulfuration  
 denitrification  
 externality  
 satellite remote sensing technology  
 internet of things  
 smog  
 advanced coal burning and gasification  
 cyclical development  
 cyclical economy  
 liquified natural gas  
 shale gas

中文

乙醇  
一次性用品  
因变量  
有机产品认证  
有机农业  
有色金属  
战略储备  
沼气  
智能电网  
智能交通  
自变量

拼音

yǐ chún  
yī cì xìng yòng pǐn  
yīn biàn liàng  
yǒu jī chǎn pǐn rèn zhèng  
yǒu jī nóng yè  
yǒu sè jīn shǔ  
zhàn lüè chǔ bèi  
zhǎo qì  
zhì néng diàn wǎng  
zhì néng jiāo tōng  
zì biàn liàng

英文

ethanol  
disposable product  
dependent variable  
organic product certification  
organic agriculture  
non-ferrous metal  
strategic reserve  
methane  
smart grid  
intelligent transportation  
independent variable

### Recommended books on China's Environment and Energy

- Elizabeth C. Economy, *The River Runs Black, Ithaca: Cornell University Press* (2010).
- Mark Elvin, *The Retreat of the Elephants: An Environmental History of China*, New Haven: Yale University Press (2004).
- Ma Jun, *China's Water Crisis*, Norwalk, CT: EastBridge (2004).
- Jonathan Watts, *When A Billion Chinese Jump: How China Will Save Mankind - Or Destroy It*, New York: Simon & Schuster (2010).
- Elizabeth C. Economy and Michael Levi, *By All Means Necessary: How China's Resource Quest is Changing the World*, New York: Oxford University Press (2014).
- Judith Shapiro, *Mao's War Against Nature: Politics and the Environment in Revolutionary China*, New York: Cambridge University Press (2001).
- Joanna Lewis, *Green Innovation in China: China's Wind Power Industry and the Global Transition to a Low-Carbon Economy*, New York: Columbia University Press (2012).
- Kelly Sims Gallagher, *The Globalization of Clean Energy Technology: Lessons from China*, Cambridge, MA: MIT Press (2014).
- Damien Ma and William Adams, *In Line Behind a Billion People: How Scarcity Will Define China's Ascent in the Next Decade*,

- New Jersey: FT Press (2013).
- Sam Geall, and Isabel Hilton (eds), *China and the Environment: The Green Revolution*, London, UK: Zed Books (2013).
- Chris P. Nielsen, Mun S. Ho, *Clearer Skies over China: Reconciling Air Quality, Climate and Economic Goals*, Cambridge: The MIT Press (2014).
- Philip Andrews-Speed, *Governance of Energy in China: Transition to a Low Carbon Economy*, Palgrave Macmillan (2012).
- Andrew Mertha, *China's Water Warriors: Action and Policy Change*, Cornell University Press (2008).
- Rachel Stern, *Environmental Litigation in China: A Study in Political Ambivalence*, Cambridge University Press (2014).

### Online Sources for China's Environment and Energy

- [China and the Environment](#), The New York Times
- [The Sinocism China Newsletter](#)
- [China Environment Forum](#), Woodrow Wilson Center for International Scholars
- [Chinadialogue](#)
- Lauri Myllyvirta, [Greenpeace EnergyDesk](#)
- Barbara Finamore, [NRDC Switchboard](#)
- [Choke Point: China, Circle of Blue](#)
- [Environment](#), ChinaFile
- [Environment](#), Caixin Online
- [环境 \(Environment\)](#), The Paper]

- [China Water Risk](#)
- [China FAQs](#), World Resources Institute
- [中国能源报](#) [China Energy News]