

China's Green Future

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中国的绿色未来

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Given the ailing state of the economy in the United States, many believed that President-elect Barack Obama would backtrack on his campaign promises on climate change. Yet he reiterated his message recently at a major climate-change conference by pledging to spend \$150 billion over 10 years to secure a clean-energy future for America. This is a wise strategic direction which could help move the U.S. out of its economic malaise, and restore its leadership on the issue of carbon-dioxide emissions reductions.

考虑到美国各个州经济不景气的现况，很多人相信总统当选人巴拉克·奥巴马将会反悔他在参加竞选时关于气候变化问题上的承诺。然而最近他在一个重要的气候变化会议上，重申在 10 年之内花费 1500 亿美元用以确保美国拥有一个洁净能源的未来。这是一个明智的战略方向可以用来帮助美国摆脱它的经济不振，并且重新竖立它在减少二氧化碳排放问题上的领导地位。

A clean-energy future will not come to the U.S. cheaply or easily. Nor will America be able to achieve it working alone. China needs to be involved. The two largest energy-consuming nations in the world—China and the U.S.—can complement each other's efforts toward sustainable, cleaner energy. The spillover effects—increased employment, economic growth, enhanced long-term energy security and stronger foreign-policy initiatives—should tantalize politicians searching for 21st-century policy solutions.

一个拥有洁净能源的未来将不会如此轻易地降临美国。并且仅单靠美国这一个国家将无法实现此梦想，所以中国也必须为此而付出、参与。世界上两个最大的能源消耗国——中国和美国——应当相互扶持、共同努力创造可持续的洁净能源。这样的努力还可以带来其它的效益，如工作机会增加，经济增长，加强了长期的能源保障并强化了外交政策的主动性——以吸引政治家们寻找 21 世纪的政策方案。

Understanding China's huge energy-related challenges illuminates the out-sized opportunity for America. China took the lead from the U.S. as the greatest carbon emitter in 2006: The trajectory continued with China emitting an estimated 1.8 billion

tons of carbon to the U.S.'s 1.6 billion in 2007, with India ranked third. Notably, between 1980 and 2000, China quadrupled its GDP, but only doubled its energy consumption. The squeeze on energy demand, through conservation and efficiency measures, was achieved by focused policies and management practices, investment targeted in energy-conservation projects, and new conservation institutions.

了解中国庞大的有关能源方面的挑战对美国来说是一个非常大的机遇。自 2006 年以来，中国取代了美国成为世界第一的碳排放国；延续至 2007 年中国的碳排放量约为 18 亿吨，美国为 16 亿吨，而印度位居第三。值得注意的是，在 1980 年到 2000 年期间，中国的 GDP（国内生产总值）增涨了 4 倍，但是能源消耗仅增涨了 2 倍。能源需求的缩减，来自于对能源的节约和有效衡量，并通过针对性的政策方针及管理措施，重点投资于节能项目和新的节能机构来实现这个目标。

China's unexpectedly high emissions in the period 2000-06 were driven by market reforms, urbanization, increased trade and coal dependence, says China energy expert Mark Levine of the U.S. Berkeley National Laboratory. Investment clustered in heavy polluting industries, such as cement and steel production, stimulated economic growth and increased energy usage. The legacy of the controlled economy meant conservation in energy use was not prioritized. Greater urbanization—city dwellers jumped by 26% to 577 million people in 2000-06—brought more building, infrastructure development and greater energy consumption.

中国能源专家——美国伯克莱国家实验室的马克·莱文说，中国在 2000 到 2006 年间意想不到的高排放量主要来自于市场改革，都市化，贸易增长以及对煤的依赖。对于高污染工业集中大量地投资，比如水泥和钢铁的生产，进而刺激了经济的增长和能源使用的增加。有效管制经济的优势——能源使用的节约——并未被放在重要地位。日趋壮大的都市化——2000 到 2006 年期间城市人口增长了 26%，达到了 5.77 亿人——因此带来了更多的建筑物，基础建设以及更大地能源消耗。

China's current and future energy portfolio mix contributes greatly to its increasing CO₂ emissions, called an oncoming "carbon tsunami" by China energy expert Mikkal Herberg of the Pacific Council on International Policy. The International Energy Agency projects that coal, the heaviest polluter, will produce 80% of China's energy, in spite of intentions to use more renewable and nuclear power. The IEA says China, with four times the population, will overtake the U.S in primary energy consumption after 2010.

太平洋理事会国际政策中心的中国能源专家米卡·赫伯格提到，中国当前与未来的能源组合将极利于增加二氧化碳的排放，并称其为即将降临的“碳海啸”。国际能源总署预测，尽管中国意图使用更多的可再生能源及核能源，但煤这一最严

重的污染物质仍将用于生产出中国 80% 的能源。国际能源总署并说，2010 年以后，4 倍于美国人口的中国，将超越美国成为主要能源消耗国。

China's problem is the need to supply power now to upwardly mobile urbanites, growing businesses, and an expanding economy versus moving toward longer term goals of an energy mix that's clean and sustainable. China has to do both simultaneously. Slower economic growth brought by the global financial crisis could give China breathing room to further policy objectives in energy, in spite of Beijing's recently announced \$586 billion stimulus plan.

中国的问题是当前既要提供足够的能源给因都市化扩大，商业成长，以及经济扩充的能源需求，又要将洁净及可持续能源的组合作为能源的长期目标。中国需要同时做好这两方面的工作。尽管北京当局最近刚刚宣布了一项 5860 亿美元的刺激经济的计划，但是由全球金融危机所带来的经济增长减慢，或将给予中国对于未来能源政策目标一个喘息的空间。

Given the challenges facing China, Beijing's energy goals can be fast-tracked with the help of American companies, and both countries will benefit from enhanced green trade routes.

考虑到中国所面临的这些挑战，北京政府的能源目标将在美国企业的帮助下快速步入轨道，并且两个国家将在加强的绿色贸易路径中共同获益。

Powering China Together

与中国共同发电

Cooperation in energy between the U.S. and China has a rich but overlooked history. Three decades ago, the U.S. Department of Energy (DOE) and China's National Development and Reform Commission began cooperation in science and technology, a relationship that has grown increasingly complex and broad. Cooperative projects in renewables—solar, biomass, hydropower (including the Three Gorges Dam), geothermal and ocean energy—were launched in 1978. Joint programs on high-energy physics, nuclear physics, fusion and fossil energy accompanied the introduction to clean coal technology.

美中之间的能源合作关系有着一段丰富但被忽略的历史。30 多年前，美国能源部（DOE）及中国国家发展改革委员会开始在科学与技术领域合作，这样的一种关系已经复杂且广阔地增长。在可再生能源上的合作开始于 1978 年，包括：太阳能、生物质能、水力发电（包括三峡大坝工程）、地热能以及海洋能等项目。在核能物理、核能物理、聚变能和火电能源等方面的合作上附带进入了洁净煤的技术领域。

Just 14 years ago, the Chinese considered themselves too poor to worry about climate, recalls then-senior DOE executive Robert Price. But after the U.S. assisted China in climate- change studies and reductions of methane from coal, the Chinese began to grasp the gravity of energy's impact on health and wealth.

美国能源部高级执行官罗伯特·普莱士回忆说，仅仅 14 年前，中国人认为他们太贫穷以至于没有能力去担忧环境气候问题。但是在美国协助中国关于气候变化的研究以及减少煤中的甲烷后，中国开始重视能源对于健康和财富的影响的重要性。

Importantly, helping China power its country would require U.S. private-sector capabilities and create export opportunities. One American energy firm and its Chinese partners show how joint ventures can evolve, and are a future source of synergies. To serve the natural-gas rich regions of Xinjiang Province, Patrick Jenevein and Yih-Min Jan formed the clean energy firm Tang Energy in 1996, helping China National Petroleum process gas more efficiently.

重要的是，帮助中国提供能源给自己，需要美国私有企业的能力和创造出口的机会。一个美国能源公司和他的中国合作伙伴们展示了如何能够发展合资企业并且将这作为一个未来协同发展的源头。为了新疆这个拥有丰富天然气地区提供服务，派崔克·坚尼凡和詹益明于 1996 年成立了洁净能源公司—美腾能源集团，帮助中国国家石油业更加有效地处理天然气。

Soon Tang entered China's developing wind-energy market, but wind-farm development proved unprofitable. Instead, the joint venture, HT Blade, was created in January 2001. Formally known as Zhong Hang (Baoding) Huiteng Windpower Equipment Company, it's now the second largest global manufacturer of wind-turbine blades. The first Chinese wind turbines were recently exported to the U.S. through the partners. Mr. Jan says that even European manufacturers of wind-turbine components are setting up shop in China, helping China become the global manufacturing hub for the turbines.

很快地，美腾能源集团进入了中国的风力发电市场。但是风力发电厂的开发在过去是被证实是没有利润的。而合资企业惠腾，则于 2001 年 1 月成立。它的全称为中航（保定）惠腾风电设备有限公司，现在已经成为全球第二大风机叶片生产商。最近第一批中国合作伙伴们制造的风机已被出口至美国。詹先生说，甚至欧洲的风机设备生产商也在中国设置工厂，帮助中国成为全球风机的生产中心。

The networks required to achieve synergies will take time, but they exist in varied forms. Over 15 years, Tang Energy developed working relationships with an array of Chinese players. This created new green-tech trade routes, a “real” \$1 billion to \$2 billion asset in the form of a blade company, and a blueprint of sustainability.

合作以不同的形式存在，但要达到默契则是需要时间的。过去 15 年间，美腾能源集团与一系列的中国伙伴们发展出了合作关系。这些创造出了崭新的绿色科技贸易路径，包括一个真实的拥有 10 亿至 20 亿美元资产的风机叶片公司以及一幅有着永续发展的蓝图。

At the same time, government policies on both sides are guilty of inhibiting sustainable- energy ventures. China's energy policy is surprisingly similar to the U.S.'s in that it is "fragmented, diffuse and not very coherent," says Mr. Herberg. "Many 'half-policies' exist which work at cross purposes." Moreover, China doesn't have an overarching DOE, making policy coordination even more difficult. Though the central government passes stringent measures, some provincial and local leaders circumvent them.

于此同时，中美双方的官方政策对于可持续性能源的发展都起了抑制的作用。赫伯格先生说，中国的能源政策在“零散并且不是非常连贯性”上，与美国的能源政策惊人地相似。很多现行政策不健全，并且为了不同的目的而被执行着。此外，中国没有一个具权威性的能源部门，使得政策的协调更加困难。尽管中央政府通过严格的法规，但是一些省级和地方级领导仍然想方设法绕道而行。

Governments, eager to claim clean-energy victories, must engage the private sector to ensure that policies, whether subsidies or incentives, do no harm. At two different intervals, both the U.S. DOE and U.N. Development Programme policies had negative impacts on projects. A DOE reverse auction proposal discouraged experienced wind-farm developers, clearing the way for the politically motivated and inexperienced to participate. Today, the most successful developers in China's wind-energy market are either government-, grid- or power-generation-related firms. Tang's Dabancheng wind farm was dealt a "fatal blow" when the U.N. gave a grant to a competitor immediately adjacent to their wind farm, who ultimately allowed the wind farm to languish. This "energy welfare" deterred long-term players that would maintain the farms, with profitability driving sustainability.

政府如渴望洁净能源政策能够成功，那就必须让私营企业参与以确保政策的实施，不论是津贴补助或是鼓励措施，不会妨害行业的发展。在两个不同阶段，美国能源部和联合国发展计划政策对洁能项目都产生了负面影响。一次能源部的反拍卖提议令有经验的风力发电厂开发商们退出，而为有政治企图与无经验的参与者扫清了障碍。目前，在中国风能市场上最成功的开发者不是政府机构，就是与电网或大型电力生产相关的企业。美腾准备开发的大阪城风力发电厂，在联合国给予与其紧邻的另一风电厂竞争者一笔拨款时，历经了一次致命的打击；但竞争者的风电厂最终倒闭了。这种“能源福利”式的政策阻止了抱着以可持续利润为动力的风电厂长期运营者的参与。

Top-ranking government officials' participation in energy and economic dialogues, initiated by the U.S. Treasury's Hank Paulson, are promising, Mr. Herberg believes. And a 10-year plan will focus on renewables, noncoal-based generation, clean-coal technology and other generation efficiencies. But high-level communiqués do not necessarily foster understanding at the House and Senate levels, where a good deal of policy bartering and protectionism is born. Mr. Price suggests more action and less talk. These strategic dialogues spend resources needed to fund projects which further the energy paradigm over reporting on what's been done. The DOE and the Department of Commerce should engage key, smaller U.S. firms in energy efficiency and renewables, offers Mr. Price.

赫伯格先生相信，由美国财政部长汉克·博圣发起，有中美高级政府官员参加的能源与经济对话是令人期待的。这个对话包括一个 10 年计划将集中在可再生能源，非煤发电，洁净煤等技术和其它发电效率的提高上。但是高级别的对话并不见得能增加参、众两院对这事的理解。很多的政策利益交换和贸易保护主义又出笼了。普莱士先生建议少说话多做事。这些策略对话消耗了本应该用来资助能源项目的经费和资源，这些经费本应用于更进一步地开发能源模式而不是汇报我们已经做过些什么。普莱士先生提议美国能源部门和商务部门应该让关键的，小一点的企业来从事能源效率与可再生能源方面的开发。

Energy System Overhaul

能源系统的大整修

China's energy system developed according to its needs and resources, now moving a step away from its fossil-fuel beginnings. American firms have a vast array of technologies that can be deployed to help China reduce its greenhouse gas emissions. 中国的能源系统是根据其需求和拥有的资源来发展的，现在，它想进一步离开最初以化石为燃料的情况。而美国的企业有着大批的技术可以被用来帮助中国减少它的温室气体排放量。

Coal power: For China, the reduction of pollution from coal is a priority. True "clean" coal technology is expensive, and its commercial application is still many years away. Yet there are interim steps that can be taken. Tang Energy and its Chinese partners recently piloted the Tengjin power plant in Shanxi Province. The 60-megawatt plant captures the exhaust emissions from a coal-based manufacturing plant, cleaning the atmosphere, and then recycles the emissions to make electricity. Yet examples such as this are still rare.

煤能源: 对于中国减少污染这个问题上，当前的首要任务就是减少煤污染。真正的“洁净”煤技术是昂贵的，并且它的商业应用仍旧离我们很遥远。然而我们可

以采取一些过渡的办法。美腾能源集团和它的中国合作伙伴们最近以山西省腾锦电厂为试点，这个六十兆瓦的发电厂将回收由炼煤焦炭厂所排放的废气，既清洁了空气，又将废气循环用以发电。然而像这样的例子在目前仅仅算是少数。

Oil as transport fuel: China's consumption of oil is an escalating concern, as its vehicle market is expected to surpass the U.S. in 2015, thus quadrupling oil demand. Though concerned about global warming, surveys show that young Chinese still want cars. U.S. automakers already have a foothold in the Chinese market. They should factor in a China strategy as they develop smaller, more fuel-efficient cars, including hybrids, electric and dual-fuel vehicles, while both governments work together on next-generation efficiency technologies. At the same time, Beijing can set the agenda for its citizens on personal versus public-transit options—weighing the manufacturing of autos or infrastructure investment for congested cities.

石油作为运输类燃料: 中国对石油的消耗呈直线上升趋势，它的汽车市场可望在 2015 年超越美国，从而达到 4 倍于目前的石油需求量。虽然全球气候变暖令人担忧，但是调查显示年轻的中国人依然希望拥有自己的汽车。美国的汽车制造商已经在中国市场有了自己的据点。当双方政府共同致力于新一代高效率能源科技时，他们应当有汽车生产的中国策略，比如发展小型的，燃油经济型的车，包括混合动力，电力和双燃料汽车等。于此同时，北京可以在私家车或是公共交通选项上为居民设定进程——在为拥挤的城市生产更多的汽车还是投资于基础建设方面做出衡量。

Natural gas: Cleaner burning natural gas has played a small role in China's energy mix. Natural gas may hold untapped potential, emitting 45% less CO₂ than coal and 30% less than oil. It has the ability to morph into a variety of end uses, including transportation fuel. China intends to increase power generation from natural gas by 13% annually to 2030, which will require more liquefied natural gas imports.

天然气: 在中国的综合能源应用中，燃烧得更清洁的天然气仅仅扮演了一个很小的角色。天然气有着还未被开发的潜能，它的二氧化碳排放量比煤少了 45%，比汽油少了 30%。它拥有转变成很多种用途的能力，包括运输燃料。中国打算每年增加 13% 的天然气发电一直持续到 2030 年，因此将需要进口更多的液化天然气。

Natural-gas reserves, beyond its 80 trillion cubic feet, may exist in China in places that are yet to be discovered. In the last decade, U.S. drilling technology advances have allowed gas to be captured more cost-effectively from difficult, shale formations. A U.S. business group plans to export their experience in drilling techniques to aid China's exploration of gas. But it will cost billions of dollars in infrastructure development to bring the gas to market. GE Oil & Gas recently completed work

related to China's landmark West-to-East gas pipeline, revealing how American expertise and techniques can further natural gas expansion.

大约超出 80 兆立方英尺的天然气储量仍存在于中国还未被发现的地方。在过去 10 年间，美国钻井技术的进步可从艰难的页岩层构造里获取成本更低的天然气。一个美国的企业集团计划出口他们的钻井技术经验用以帮助中国勘探天然气，但是能将天然气带入市场的基础建设将耗资数十亿美元。通用电气的油气公司最近协助中国完成了一个里程碑——西气东输管道的工程，显示了美国技术专家们可以帮助中国更进一步地开发天然气。

Nuclear power: China's nuclear-power program is ambitious. The government plans to install 45 gigawatts by 2030, an 8.8% growth rate. This would supply around 5% of China's electricity generation. Westinghouse Electric of the U.S. is helping China use new third generation nuclear-power technology in a series of nuclear reactors. Through China's market, engineering costs are defrayed for future production, thus allowing more cost-effective nuclear-power plants to be built in the U.S. But a tension remains. "What the Chinese build over the next 25 years in nuclear energy, they are now building every five months in coal generation," says energy expert Mr. Herberg.

核能: 中国对于核能项目是雄心万丈的。政府计划到2030年核电装机45千兆瓦，呈8.8%的年增长率，这将提供中国大约5%的发电量。美国西屋电器公司正帮助中国在一系列的核反应堆里使用新型的第三代核能技术。通过中国市场的推广，未来生产的工程技术成本将降低，因此，美国将能建造更多的节约成本的核能发电厂。但是压力依然存在，能源专家赫伯格说：“现在每五个月中国在煤发电上的投入等于其在未来25年在核能领域上的投入”。

Renewables: China recently took the global lead in renewables with 152 gigawatts of installed capacity, two-thirds of it from hydropower. It leads in the manufacturing of solar photovoltaic technology. The country could claim, by 2009, the title of the world's leading exporter of wind turbines. With many clean-energy projects stalled because of dried-up funds, Tang's Mr. Jan suggests allowing the cash-rich Chinese opportunities to invest in U.S. green-energy projects such as wind farms. China's "green tech" in terms of export possibilities and scale of usage domestically could become the envy of the world.

可再生能源: 伴随着 152 千兆瓦的装机容量，其中三分之二来自水力发电，最近中国在可再生能源的利用上位居全球领先地位。中国也引领了太阳能光伏技术的制造。到了 2009 年，中国甚至可能挂上世界头号风机出口国的头衔。由于金融危机产生的资金短缺，导致了美国很多洁净能源项目的投资停滞不前；美腾能源的詹先生建议，应当允许现金充足的中国投资者去投资美国的绿色能源项

目，像是风力发电厂等。中国的“绿色技术”，按照出口可能性和国内使用的规模，可以变成让全世界羡慕的东西。

Regeneration

再生

A sustainable energy system will require consumers of a critical mass to start a different Cold War—one that cools the planet through cooperation. This “race” is really more of a dance, where one partner leads at times and, at other times, they dance in unison. The stakes are high, with the opportunity to “outperform” attainable. The CNOOC-Unocal incident created the oil competition story, and a shape-shifting cloud of protectionism against China. Better cooperation on energy and environment can bring more transparency and build trust to extinguish protectionist embers.

可持续能源系统需要足够数量的用户来发起一场不一样的冷战——一场通过合作使地球降温的行动。这场竞赛更像舞蹈，某些时候一个同伴起领舞的作用，其他的时候，他们则一起跳。投资将非常大，并有机会超额达成预计的回报。中国海洋石油总公司和加州联合石油公司的事件创造了一个原油竞争的故事，也显示了一个变形的，对抗中国的贸易保护主义的乌云。在能源和环境领域更好的合作可以带来更多的透明度并建立信任以熄灭贸易保护主义者的余烬。

New forms of regional cooperation can cut through policy clutter. In the U.S., state and city-level green initiatives outpace federal efforts, with China evolving similar green hubs. States and cities with their Chinese counterparts could “adopt” each other to share their best practices and innovations from the bottom up. Areas that have similar energy-mix problems (a heavy dependence on coal), natural-resource advantages (gas- or wind-rich topographies), or shared goals (high energy efficiency clusters) could develop cooperative ventures. Initiatives in sustainable cities could be co-opted: Guangzhou’s push for a greener city, sprucing up brownfield sites, could inspire Dallas’ southern sector revival efforts.

新形式的区域性合作可以清理政策上的混乱。在美国，就如中国展开了类似的绿色枢纽区，州和市级别的绿色步伐要快过联邦政府所做的努力。不同的州和市政府与他们的中国的合作者可以从下而上的相互采纳并分享他们最有创意的实践方式。这样的领域包括，有相似的综合能源问题的地区（如过度依赖煤炭），自然资源优势（如有丰富的天然气和风资源），或者是共同的目标（如高能效群组）可以开展出彼此的合作。在可持续城市采取的行动是可以被复制的：如广州希望成为一个更加绿色的城市而改造城市的棕色地带，这可以被达拉斯南城拿来作借鉴。

Moderate technology improvements and structural shifts in the economy could help

China reach its goal, according to Mr. Levine and colleagues. China's 11th Five-Year Plan targets a 20% reduction of energy intensity over the 2005-10 period—one of the most significant carbon-reduction efforts on the globe. It will require efficiency gains on all energy fronts for China: in the industrial sector, power generation and consumer goods; expansion of the services sector; plus more rounds of this policy.

根据莱文先生和他的同事们的看法：经济上的适度技术改进和结构调整可以帮助中国达到以下的目标：中国的第十一个五年计划目标是在2005至2010年期间减少20%的能耗量——这是全球范围内非常具有意义的一个碳排放减低计划。这将需要在中国的所有能源领域里争取能效，包括：在工业领域，电力工业和消费产品；扩展服务领域；加上更多涉及到这个政策的领域。

Entrepreneurs want and need consistent policies by both U.S. and Chinese governments to facilitate exchange. China's potential as a U.S. export market, tripling to \$62 billion since China's WTO entry, can be leveraged by natural technological advantages. China also needs to allow the market mechanism of price to encourage a sustainable energy system. Artificially low prices and subsidies deter adoption of better technologies and waste resources. Both the U.S. and China need to reduce barriers, policies, and practices that blunt clean energy ambitions.

企业家们期望也需要美中双方政府有始终如一的政策来促进交流。中国是美国潜在的出口市场，自从加入世界贸易组织以后，在绿色科技优势的杠杆作用下美国出口中国已经以翻三倍的速度增长到620亿美元。中国当然还需要市场价格的调节机制来鼓励一个可持续的能源系统。但人为地降低价格和提供津贴，阻止了采纳更好的技术并且浪费资源。美中双方都需要降低那些使得洁净能源的雄心壮志遭到减缓的阻碍，政策和做法。

A U.S. economic revival will come partly by way of clean energy. While cooperation has been a key element of U.S.-China energy relations in the past, populist cries for energy security are distracting to the dialogue. The private sector's penchant to create sustainable markets far outweighs governments' ability to pick winners. Though the U.S. has lacked a comprehensive energy policy, it has delivered more energy in varied forms at lower prices—that is increasingly clean—over the past 30 years to 50 years, says Mr. Jenevein.

一部分的美国经济复苏将由洁净能源来实现。以往，合作是美中能源关系的主要元素，但大众对能源安全的渴求正在转移目前的对话。私营企业对创造可持续市场的倾向远远强过政府在选择优胜者上的能力。坚尼凡先生说到：虽然美国缺乏一个全面的能源政策，但在过去的30到50年间，美国提供了更多的各种形式的低成本的能源，它们也越来越环保。

The push toward cleaner energy should include further U.S.-China green-tech and

clean energy trade routes. China is projected to need \$3.7 trillion in energy-supply related infrastructure from 2006-30. The IEA calculates that each dollar invested in more efficient electrical appliances saves \$3.50 of investment on the supply side. When China makes more efficient consumer goods that it exports, the world wins. Price says that public funds spent on U.S.-China programs have a high rate of return—leading to sales for U.S. firms. Allowing greater Chinese participation and investment in U.S.-based green-energy ventures would complement the intended \$150 billion investment.

对洁净能源的推动应该包括未来美中绿色能源科技与绿色能源贸易的加强。中国从 2006 到 2030 年将需要 3.7 兆美元投入绿色能源基础设施建设。国际能源总署计算出，用在高效节能电器设备上的每一块钱将为能源提供方节省约 3 块 5。当中国出口更高效节能的消费品时，世界也跟着受益。普莱士说，在对美方投资公司的销售上发现，用于美中项目投资的公共基金有很高的回报率。同时在美国绿色能源商业风险项目上允许更多的中国公司参与和投资将补足预定的 1500 亿美元的投资计划。

The U.S. must lead on climate change before we get closer to an unknown tipping point. Games of emission's brinkmanship are harmful to the entire world, and deter action now needed for the development of clean-energy markets. Some have suggested that the country that dominates clean energy or green technology will dominate the 21st-century economy. This extension of 20th-century Cold War thinking relies on the gimmickry of rhetoric and protectionist ideals that stir crowds but achieve no desired results. The mirage of self-sufficiency in energy neglects the reality of our ability to harness competitive advantages that would help attain goals more quickly.

在我们接近一个未知的重大变化之前，美国应当引领气候变化的努力。对排放行为玩弄边缘处理手法对整个世界来说都是有危害的，目前相关的制止行动对洁净能源的市场发展是非常必要的。有人暗示，那些支配着清洁能源或绿色科技的国家也将支配着 21 世纪的经济。这种 20 世纪冷战思维的延伸依赖于花言巧语的伎俩和保护贸易论者的理想，它能鼓动群众，但是无法达到渴望的结果。对能源自给自足的幻想忽略了善用竞争优势能帮助我们尽快达到目标的事实。