



Meeting series 系列会议

Jackson Hole Diplomacy

杰克逊霍尔外交

Three meetings that launched the Wyoming-Shanxi partnership, 2003-2004

开启怀俄明州—山西省伙伴关系的三次会议（2003-2004年）

Dates 时间

November 2003 to
October 2004

2003年11月至2004年10月

Where 地点

Jackson Hole, Wyoming,
and Taiyuan, Shanxi

美国怀俄明州杰克逊霍尔、
中国山西省太原

Organized by 组织方

Jackson Hole Center for Global Affairs,
now the Jackson Hole Institute

杰克逊霍尔全球事务中心（现杰克逊霍尔研究院）

Readout

Jackson Hole and Taiyuan, November 2003 to October 2004

Between November 2003 and October 2004, the Jackson Hole Center for Global Affairs (JHCGA) convened three meetings of its U.S.–China Clean Energy Initiative to bring the two countries together around market-driven clean energy solutions. Shanxi, then China’s largest coal producer, emitted about a fifth of the world’s coal mine methane.

- **November 14–16, 2003, Jackson Hole.** Organized with the U.S. Department of State, the first meeting was co-chaired by Assistant Secretary of State John F. Turner and Shi Dinghuan, Secretary-General of China’s Ministry of Science and Technology. Turner, a Jackson Hole native, welcomed a Chinese delegation that included Shanxi Vice Governor Niu Renliang, and Chongqing officials described their city’s growing use of natural gas. “I want to thank the Jackson Hole Center for Global Affairs for creating this watering hole for these two countries to come together,” he said.
- **June 21–25, 2004, Taiyuan.** Wyoming Senate Majority Floor Leader Grant Larson led an 18-member delegation, ten of them from Wyoming, to Shanxi. After an opening evening with Governor Zhang Baoshun, it joined the Symposium on Clean Energy Cooperation between Shanxi Province and the State of Wyoming and toured the Taiyuan Gasification Plant and the Yuanquan Power Plant. Larson and Vice Governor Niu Renliang signed a memorandum of understanding establishing the Wyoming–Shanxi Clean Energy Cooperation Partnership.
- **October 2004, Jackson Hole.** A Shanxi delegation led by the chair of the provincial Development and Reform Commission came to Jackson Hole for the third meeting, on turning coal’s waste into energy: waste coal, coal mine methane, and coal byproducts. Experts joined from Idaho National Laboratory, the Energy Foundation, West Virginia University, the University of Wyoming, and the Wyoming Business Council.

The ideas took root. Wu Dongsheng of the Shanxi Provincial Development and Reform Commission later recalled first learning of carbon capture and storage at the 2004 meeting in Jackson. Five years later, Shanxi created a Climate Change Division, and Wu went on to lead it.

At a glance

When

November 2003 to October 2004

Where

Jackson Hole, Wyoming, and
Taiyuan, Shanxi Province

Co-chairs

John F. Turner, U.S. Department
of State; Shi Dinghuan, China’s
Ministry of Science
and Technology

Organized by

JHCGA, now the Jackson
Hole Institute

Three meetings

November 14–16, 2003,
Jackson Hole

June 21–25, 2004, Taiyuan

October 2004, Jackson Hole

Outcomes

The Wyoming–Shanxi Clean
Energy
Cooperation Partnership

Interim, summary, and
final reports

A proposed joint coal mine
methane project in Shanxi

会议纪要

杰克逊霍尔和太原，2003 年 11 月至 2004 年 10 月

2003 年 11 月至 2004 年 10 月，杰克逊霍尔全球事务中心（JHCGA）举办了三次中美清洁能源倡议会议，推动两国围绕市场化清洁能源解决方案开展合作。当时，山西是中国最大的产煤省，煤矿瓦斯排放量约占全球五分之一。

- 2003 年 11 月 14 日至 16 日，杰克逊霍尔：首届会议由 JHCGA 与美国国务院合作举办，由美国助理国务卿约翰·特纳（John F. Turner）与中国科学技术部秘书长石定寰共同主持。特纳是杰克逊霍尔本地人，他在家乡欢迎了包括山西省副省长牛仁亮在内的中国代表团，重庆市官员介绍了本市日益扩大的天然气利用。特纳说：“我要感谢杰克逊霍尔全球事务中心为两国搭建了这样一个交流汇聚之地。”
- 2004 年 6 月 21 日至 25 日，太原：怀俄明州参议院多数党领袖格兰特·拉森（Grant Larson）率领 18 人代表团访问山西，其中 10 人来自怀俄明州。与山西省省长张宝顺举行开幕晚间会谈后，代表团出席中国山西省与美国怀俄明州清洁能源合作交流洽谈会，并参观了太原煤气化厂和一座燃煤电厂。拉森与山西省副省长牛仁亮签署谅解备忘录，建立怀俄明州—山西省清洁能源合作伙伴关系。
- 2004 年 10 月，杰克逊霍尔：山西省发展和改革委员会主任率山西代表团赴杰克逊霍尔出席第三届会议，聚焦将煤炭废弃物转化为能源：废弃煤炭、煤矿瓦斯和煤炭副产品。爱达荷国家实验室、能源基金会、西弗吉尼亚大学、怀俄明大学和怀俄明州商业委员会的专家参加了会议。

这些理念落地生根。山西省发展和改革委员会的一位与会者后来回忆，他正是在 2004 年的杰克逊会议上第一次了解到碳捕集与封存。五年后，山西省成立了应对气候变化处，他出任该处负责人。

概况

时间

2003 年 11 月至 2004 年 10 月

地点

美国怀俄明州杰克逊霍尔、
中国山西省太原

联合主席

美国国务院约翰·特纳、中国科学技术部石定寰

组织方

JHCGA（现杰克逊霍尔研究院）

三次会议

2003 年 11 月，杰克逊霍尔

2004 年 6 月 21 日至 25 日，太原

2004 年 10 月，杰克逊霍尔

成果

怀俄明—山西清洁能源伙伴关系

中期报告、摘要报告和最终报告

在山西开展中美煤矿瓦斯联合项目的提议

From the record

Reports and agreements, 2003–2004

Each meeting left a written record. The originals are posted on the Jackson Hole Institute website, linked at right.

- **Interim report, November 2003.** Participants in Jackson agreed on four principles: the unprecedented scale of the energy and environmental challenges facing China, a nation of 1.3 billion people; the need for diverse approaches; the need for sustained U.S.–China cooperation on sustainable energy; and the importance of market-based approaches and private-sector involvement. They proposed coalbed methane development in Shanxi, a compressed natural gas vehicle demonstration, joint work on mining safety and waste utilization, and a U.S.–China clean energy investment clearinghouse, and agreed to meet next in China.
- **Summary of findings, July 2004.** The delegation's report on Shanxi recorded three memoranda of understanding signed during the visit: the Wyoming–Shanxi Clean Energy Cooperation Partnership, a mechanism for public and private organizations in both places to work together; a partnership between the Shanxi Energy Industry Group and the U.S.–China Energy and Environmental Technology Center to study purifying and liquefying coal mine methane; and a Wyoming–Shanxi tourism exchange. It also noted a surprise. With China averaging more than 6,000 mining deaths a year, Vice Governor Niu and other hosts welcomed a United Mine Workers representative and asked that mining safety be put front and center.
- **Final report, 2004.** Titled “U.S. Clean Energy Cooperation with China: A Test Case for “Thinking Locally and Acting Globally,”” the final report called for recycling coal's waste energy through waste coal power, coal mine methane recovery, coking gas use, and cogeneration. It drew three lessons from U.S. experience: get the prices right, set strict caps like those behind U.S. sulfur dioxide trading, and invest at scale in advanced technology. “Cooperation in preserving the planet we all share,” it concluded, “can help build trust between these two great countries.”

By the numbers, 2004

Coal's share of China's energy
Over 60 percent

Waste coal piled up in Shanxi
One billion tons

Methane vented by Shanxi's mines
One to five billion cubic
meters a year

Mining deaths in China
Over 6,000 a year

Read the originals

[Interim report, November 2003](#)

[Summary of findings, July 2004](#)

[Memorandum of
understanding, June 2004](#)

[Final report, 2004](#)

Meeting pages

[November 2003](#)
jacksonholeinstitute.org/november-2003

[June 2004](#)
jacksonholeinstitute.org/june-2004

[October 2004](#)
jacksonholeinstitute.org/october-2004

会议文件

报告与协议，2003–2004 年

三次会议均留有书面记录，原件刊载于本院网站，链接见右栏。

- 2003 年 11 月，中期报告：与会者在杰克逊商定了四项原则：中国作为拥有 13 亿人口的国家，所面临的能源与环境挑战前所未有；应对这些挑战需要多样化的方法；中美需要在可持续能源领域开展持续合作；市场化方法和私营部门参与至关重要。与会者还提出在山西开发煤层气、开展压缩天然气汽车示范、合作推进矿山安全与废弃物利用、建立中美清洁能源投资信息交流中心，并商定下一次会议在中国举行。
- 2004 年 7 月，调查结果摘要：代表团的山西访问报告记录了访问期间签署的三份谅解备忘录：怀俄明州—山西省清洁能源合作伙伴关系，为两地公共和私营机构建立合作机制；山西能源产业集团与中美能源与环境技术中心建立合作，研究煤矿瓦斯的提纯与液化；以及怀俄明州与山西省的旅游交流。报告还记录了一项意外成果：中国每年矿难死亡人数超过 6000 人，牛仁亮副省长等中方人士欢迎美国矿工联合会代表与会，并提议将矿山安全置于合作的首要位置。
- 2004 年，最终报告：最终报告题为《美国与中国的清洁能源合作：“本地思考、全球行动”的试验案例》，建议回收利用煤炭生产中的废弃能源，包括废弃煤炭发电、煤矿瓦斯回收、焦炉煤气利用和热电联产。报告从美国经验中总结了三条启示：理顺价格；像美国二氧化硫排放交易那样设定严格的总量上限；大规模投资先进技术。报告最后写道：“共同保护我们共有的地球，有助于在这两个伟大的国家之间建立信任。”

数据一览（2004 年）

煤炭在中国能源中的占比
60% 以上

山西累积的废弃煤炭
10 亿吨

山西煤矿每年排放的瓦斯
10 亿至 50 亿立方米

中国每年矿难死亡人数
6000 人以上

文件原件

2003 年 11 月，中期报告

2004 年 7 月，调查结果摘要

2004 年 6 月，谅解备忘录

2004 年，最终报告

会议网页

2003 年 11 月
jacksonholeinstitute.org/november-2003

2004 年 6 月
jacksonholeinstitute.org/june-2004

2004 年 10 月
jacksonholeinstitute.org/october-2004

Jackson Hole, November 2003 杰克逊霍尔，2003年11月



Chinese and American participants in the snow in Jackson Hole

中美与会者在杰克逊霍尔的雪地里合影



Wu Lianfan (center), Deputy Secretary-General of the Chongqing Municipal People's Government, with Chen Xiaoping, Zhang Qi, Yu Mingzhen, and Qu Jianping
重庆市人民政府副秘书长（中）与其他中方代表在会上



From left: David Wendt, co-chair John F. Turner, and Grant Larson at the first meeting

左起：大卫·温特、联合主席约翰·特纳和格兰特·拉森出席首届会议

Between sessions 会下交流



Milton Russell (third from left) and David Wendt (fourth from left) with members of the Chinese delegation between sessions
会议间隙，米尔顿·拉塞尔（左三）和大卫·温特（左四）与中国代表团成员合影



A Chinese delegate speaks at dinner as David Wendt listens
晚宴上，一位中方代表发言，大卫·温特聆听

Taiyuan, June 2004 太原，2004年6月



Grant Larson presents a gift to his Shanxi host on the delegation's first day in Taiyuan
抵达太原首日，格兰特·拉森向山西东道主赠送礼品



David Wendt and Grant Larson with a television crew in Taiyuan
大卫·温特和格兰特·拉森在太原接受电视采访

The Shanxi–Wyoming symposium 山西—怀俄明清洁能源合作交流洽谈会



The Symposium on Clean Energy Cooperation between Shanxi Province of China and the State of Wyoming, with David Wendt and Grant Larson third and fifth from left at the head table

中国山西省与美国怀俄明州清洁能源合作交流洽谈会，大卫·温特和格兰特·拉森在主席台就座（左三、左五）



Beneath the JHCGA emblem, from left: an interpreter, David Wendt, Diana Hulme, Patrick Pitet, Grant Larson, and Milton Russell

JHCGA会徽下，左起：翻译、大卫·温特、戴安娜·休姆、帕特里克·皮泰、格兰特·拉森、米尔顿·拉塞尔

Touring Shanxi's coal industry 参观山西煤炭企业



The delegation tours a coke oven battery in Shanxi

代表团参观山西的一座焦炉



Hard hats on in a plant control room

代表团戴上安全帽参观控制室

On the road in Shanxi 山西途中



Industry along the road in Shanxi

山西沿途的工业景象



A warrior guardian statue in Shanxi

山西的武士守护像



About the Jackson Hole Institute

The Jackson Hole Institute (JHI) turns Jackson Hole's Power of Place into ideas and action. Founded in 2002 and formerly known as the Jackson Hole Center for Global Affairs, JHI has built partnerships with China since 2003, beginning with clean energy collaboration between Wyoming and Shanxi Province.

关于杰克逊霍尔研究院

杰克逊霍尔研究院（JHI）致力于发挥杰克逊霍尔的“地方的力量”（Power of Place），推动思想转化为行动。研究院成立于2002年，原名杰克逊霍尔全球事务中心。自2003年起，研究院持续推动与中国的合作，首先在美国怀俄明州与中国山西省之间开展清洁能源合作。