

# “中美新能源科技论坛暨 煤矿气回收利用会议”上的讲话

市委常委、常务副市长 郭长青

尊敬的温特先生、尊敬的各位嘉宾、女士们、先生们、朋友们：  
上午好！

今天上午“中美新能源科技论坛暨煤矿气回收利用会议”在我市隆重召开。我代表晋城市人民政府和全市 220 万人民，向会议的召开表示衷心祝贺！向温特先生和美国杰克逊侯全球事务中心的专家、官员，向与会的各位专家、学者表示热烈真诚的欢迎！

晋城市位于山西省东南部，辖 1 区、1 市、4 县，总面积 9490 平方公里，总人口 220 万人。近年来，在省委、省政府的正确领导下，晋城市委、市政府团结带领全市人民，坚持以科学发展观统领发展全局，紧紧依托资源、区位和产业优势，切实加大改革开放力度，积极推进结构调整，我市经济社会发展取得了令人瞩目的成绩，主要经济指标位居山西省前列，先后摘取了全国卫生先进市、全国科技进步先进市、国家园林城市、中国优秀旅游城市、全国文明城市创建工作先进市、全国社会治安综合治理优秀市、世界投资中国中小魅力城市和山西省环保模范市等多项桂冠。现在，全市上下正在朝着建设经济发达、人民富裕、生态良好、社会和谐的新兴现代化城市而努力。

晋城市地处沁水煤田腹地，无烟煤储量大，分布广、品质优。全市含煤面积 4654 平方公里，总资源储量 459 亿吨，含煤面积占总面积的 49%，已探明无烟煤储量 272 亿吨，占全国的 1/4 以上、全省的 1/2 以上，是全国最大的无烟煤基地，在化肥、化工企业用煤中占有绝对大的份额。煤层气资源储量达 6.8 万亿立方米，占全国的近 1/4、全省的 2/3 以上，且纯度高、埋藏浅、可采性好，是全国勘探程度最高、储量条件稳定、开发潜力最好的煤层气气田。煤层气产业作为我市重要支柱产业，在建设经济强市和构建和谐晋城中发挥着重要的作用。

作为全国最大的无烟煤生产基地和最具煤层气开发前景的地区，近年来，我们坚持以科学发展观为指导，认真贯彻落实国家关于煤层气产业发展的一系列方针政策，坚持“应抽尽抽，抽用并重，培育新兴产业”的发展思路，依靠市场引导、政策驱动、技术创新，加大煤层气开发利用力度，加快煤层气产业发展，保障煤层气安全运作，增加清洁能源供应，减少对生态环境的污染，煤层气综合开发体系不断完善，煤层气开发利用势头良好，初步形成了安全、节能、环保的煤层气产业新格局。

我们的主要做法是：

## **一、提高认识，加强领导，增强煤层气开发利用的紧迫感和自觉性**

煤层气是一种比常规能源更清洁、更高效、更安全的新型能源，具有广泛的综合利用前景。抓好煤层气的开发利用，对提高

煤矿安全生产水平，节约利用资源，改善能源结构，培育新的经济增长点，都具有重要的现实意义和深远的战略意义。但是，多年来，由于认识不足和抽采技术的限制，致使大部分煤层气白白排放，不仅造成了大气污染，而且浪费了宝贵的能源，同时也给煤矿安全生产留下了不少隐患。如何既发挥资源优势，加快煤层气开发，培育新的产业，成为摆在我们面前的一个重大课题。如果不能有效地开发和利用煤层气资源，就不能真正依托丰厚的煤炭资源禀赋造福人民群众，就不能真正体现以人为本和科学发展。基于这样的认识，我们在工作中将煤层气开发利用工作作为煤矿产业结构调整的重点工程，以人为本的民心工程，解决煤矿安全事故高发的“金钥匙”工程，全力组织实施，力争使巨害变新宠，祸源变能源。

为了切实抓好这项工作，我市坚持政策引导，建立健全了各项配套制度，努力做到科学发展、可持续发展，全力打造晋城能源新产业。

**一是政策先行。**我们认真贯彻落实国务院办公厅《关于加快煤层气抽采利用的若干意见》和国家发改委、财政部、国家税务总局《关于印发“国家鼓励的资源综合利用认定管理办法”的通知》以及我省《煤层气开发利用“十一五”规划》等一系列文件精神，紧密结合晋城实际，先后制定出台了一系列相应的规章制度，为煤层气的开发利用提供了政策保证。从标准入手，用标准化的工作方法解决问题，加快标准的制定、更新和提高，引导产

业升级换代。2007年晋煤集团沁水蓝焰煤层气有限责任公司起草、制定了《煤层气》和《车用压缩煤层气》两个省级地方标准，经审批后进行了发布，填补了我国煤层气标准的空白。2008年5月，我市第三个煤层气省级地方标准《压缩煤层气汽车改装技术要求》进行了专家组内部评审，此标准的出台，对推动压缩煤层气在汽车中的应用和汽车改装要求提供了统一的技术标准，也使改装汽车的检验有了统一的判定标准，排除了压缩煤层气汽车改装技术存在的安全隐患。此外，煤层气系列标准《车用压缩煤层气》、《发电用煤层气》、《民用煤层气》和《液化煤层气》4个标准已申请制定国家标准。

**二是产研结合。**科技先行科技是第一生产力。为了保证煤层气产研结合，深层次地挖掘发展潜力，晋城市积极促成企业与高校及科研机构的交流和合作，建立高层次人才培养、继续教育、学术交流基地，研究建立煤层气开发利用人才培养和学术交流机制。沁水蓝焰煤层气有限责任公司与中国矿业大学、中国地质大学、中国石油大学、河南理工大学、西安煤科院、重庆煤科院共同建设了煤层气产学研基地，拥有了一批煤层气专业领域的权威人士和学术带头人，为全市煤层气产业发展提供了人才和技术支撑，探索了一套适宜于本地区钻井设计、钻井、采气，集输、压缩技术为一体的具有自主知识产权的煤层气地面抽采技术，打破了无烟煤煤层气地面抽采的“禁区”。其技术能力在煤层气相关领域达到了国内先进水平，获得了丰硕的科研成果。

**三是加强责任制。**把煤层气开发利用的任务分解到了各县（市、区）、市直有关部门和各煤炭企业“一把手”的头上，作为工作考核和干部考核的重要指标，与干部升降挂钩，与经济待遇挂钩，完成任务者奖，完不成任务者罚，从组织上保证了煤层气开发利用工作的有效开展。

## **二、综合利用，全面开发，大力培育煤层气新型产业**

为了加快煤层气的开发利用，近年来，我市积极支持和帮助晋煤集团、中联公司、大宁公司、中石油等四家企业积极开展煤层气的地面抽采和开发，大力培育煤层气产业，取得了良好成效。

晋煤集团于上世纪 90 年代初，就在国内率先引进美国地面煤层气开发技术进行煤层气的抽采，1994 年 9 月在潘庄井田建成我国第一口煤层气地面抽采示范井，现已掌握了拥有自主知识产权，包括钻井、压裂、排采、集输等技术在内的自成体系的煤层气地面抽采成套技术，2006 年底已建成地面煤层气抽采井 490 口，成为国内最大规模的地面煤层气抽采井群。中联公司在沁水县建成了 240 口地面煤层气抽采井，大宁公司在大宁煤矿首采区建成了 11 口多分支水平羽状井。中石油引进美国 CDX 天然气公司的羽状水平钻井技术，在我市沁水县端氏镇开工建设了国内第一口煤层气定向羽状水平抽采井示范工程，使用该技术建成后的单井组（4 口井）控制采气面积可达 5 平方公里，日产气量可达 10-20 万立方米。目前，全市已建成地面煤层气抽采井 2621 口，地面煤层气年抽采能力达到 22 亿立方米以上。

与此同时，我市积极开拓煤层气利用新领域，在煤层气发电、煤层气汽车，以及民用和工业用燃气等方面进行了有益的探索。

**一是利用煤层气发电。**1995年，晋煤集团与胜利油田机械动力厂合作，在沁水县李庄村建成总装机240千瓦的国产煤层气发电站；2001年，晋煤集团寺河煤矿利用井下瓦斯抽放系统，建成了总装机1.5万千瓦的煤层气发电厂，其规模目前为亚洲之最；大宁煤矿煤层气发电机组单机容量为2000千瓦，是单机容量最大的国产煤层气发电机组。我市已建成煤层气发电厂（站）24座，总装机容量20万千瓦，年发电量2.6亿度，年利用煤层气2亿立方米以上，是全国利用煤层气发电规模最大的地区。目前，全球最大的煤层气发电厂已在晋煤集团寺河煤矿建成投产，总装机容量12万千瓦。

**二是推广煤层气汽车。**我市将推广使用煤层气汽车作为实施“蓝天碧水”工程的重要内容之一，成立了公交车和出租车推广使用煤层气领导小组，出台了《晋城市汽车推广使用煤层气管理办法》，目前已建成煤层气汽车改装厂2座，煤层气加气站4座，改装煤层气车2000多辆，市区内出租车全部改装为双燃料汽车，部分公交车已完成改装。此项工作推广了清洁燃料，大大降低了出租车运营成本，有效地改善了市区空气质量，广大老百姓得到了实惠。最近由晋城煤业集团等企业联合发起的煤层气能源新干线项目正式启动，该项目将打造一个以晋城为基地，太原为中心，辐射周边七个省市的煤层气汽车运输网络。预计到2010年山西

省将有上万辆重型卡车使用煤层气。

**三是煤层气民用和工业利用。**利用槽车对矿区和部分市区送气，煤层气居民用户达到近8万多户，市区内部分宾馆、饭店、洗浴等行业也已采用煤层气作为燃料，年供气规模达到2000万立方米。九州玻璃厂、富基新材料公司等企业已改用煤层气做燃料，年用气规模5000万立方米。晋煤集团于2005年10月开始向郑州燃气公司供气，日供气量1万立方米。总投资20.7亿元的煤层气综合利用项目已经国家发改委批复，该项目将把沁水地区的煤层气通过管道输送到我市的城区和阳城县城，通过槽车供应高平市区、沁水县城和陵川县城，年供气量可达2.5亿立方米，为我市后续开发利用煤层气打下良好的基础。

### **三、变废为宝，延伸链条，晋城煤层气产业潜力巨大**

我市虽然在煤层气开发利用方面进行了一些探索，取得了一些成效，积累了一些经验，但总体上讲我市的煤层气开发利用整体上还处于起步阶段，还有许多需要完善的环节。据有关方面统计，2003年我市共有煤矿579座，由于部分煤矿存在开采率低、煤炭资源浪费的现象，近年来通过煤炭资源整合，晋城市关闭、报废矿井220个，现在还有126座资源枯竭矿井列入似关闭对象。煤矿现在仍存在煤矿气闲置浪费的现象，如果我们借鉴采用国际先进技术和设备将此类煤矿气采集加以利用，不仅可以解决当地群众的燃料来源问题，也可大大有利于环境保护，取得良好的社会和生态效应。

我们要以这次新能源科技论坛为契机，与国内外专家、学者共同探讨煤层气产业开发利用的成功经验，吸收和引进各国先进技术，以建设全国重要的煤层气基地为目标，加大煤层气利用技术合作攻关和引进推广力度，不断延伸煤层气产业链条，力争在煤层气精细化工等方面取得突破。到 2010 年，全市地面抽采煤层气要达到 30 亿立方米，井下抽采煤层气达到 16 亿立方米，基本形成规划科学，布局合理，勘探开发与煤层气发电、煤层气汽车、煤层气化工、民用和工业用燃气等综合利用相结合，经济效益、社会效益和环境效益相统一的产业格局，为我市的能源多元化和能源安全，做出新的更大的贡献！

谢谢大家！

Respected Mr. Wendt, Respected every guest, Ladies and gentlemen  
Friends:

Today China-U.S. New Energy Science and Technology Forum and  
CBM Recovery and Utilization Conference is opened in Jincheng. On  
behalf of Jincheng government and 2.2 millions Jincheng people, I would  
like to present my sincere congratulations on this meeting. And present  
the warmest welcome to Mr., Wendt, the experts from U.S. Jackson Hole  
center for global affairs, and the scholars!

Jincheng is located in southeast part of Shanxi province; it has 1 city,  
1 district and 4 counties. The total area is 9490 square kilometers and it  
has 2.2 million populations. Recent years, follow the Shanxi  
government guide, through insisting on the scientific development  
concept, utilizing the advantages of source, location and property,  
strengthening the opening and development force and improving the  
industry structure Jincheng government lead the Jincheng people to  
receive a remarkable achievement: the main economic indexes are  
standing at the first range of Shanxi province, Jincheng achieved the  
titles of National Excellent City on Sanitation, National Excellent City on  
Advanced Technique, National Garden city, National Excellent City on  
Travel, National Excellent City on Civilization Establishment, National  
Excellent City on Comprehensive Society Security, the Attractive Small

City of China for Foreign Investment and Shanxi province Excellent City on Environment Protection etc. Now our targets are to build a new and modern city with developed economy , with rich people ,with good environment, and harmonious society. Jincheng people are making great efforts on this target.

Jincheng is located at the center of Qinshui coalfield. Blind coal is the main production; the advantages are rich reserves, board distribution and high quality. The total distribution area of the coal is 4654 square kilometers and the total reserve is 459 hundred million tons. The coal distribution area accounts for 49% of the total Jincheng area, the proved blind coal reserves is 271.2 hundred million tons, it accounts for one quarter of national reserve and one half of whole province reserves. Jincheng is the biggest blind coal distribution area of China, and account for large share of coal using on fertilizer and chemical plant. The methane reserve is 6.8 trillion cubic meters, account for one quarter of national reserves and one half of Shanxi province reserves. The advantages are high concentration and easily to excavate. The methane field is the best field with stable deposited condition and big exploitation potential. Methane industry is the main industry of Jincheng, it plays an important role to establish a developed economic city and harmonious society.

As the biggest blind coal production area of China , has great

development future, recent years we insist on the guide of science development concept; earnestly implement the national guidelines and policies about developing methane industry; insist on the development strategy of “degas the methane farthest, both methane degassing and using are important, cultivate the new industry”; base on the market, policies and technology to power the methane development and utilization, push the methane industry development, ensure the safety operation, increase the clean energy supply and decrease the pollution. Now the methane comprehensive developing system is improving, the methane utilizing is in good trend, we just created a new situation on safe, economic and clean methane industry.

Our main practices are:

- 1.Improve the knowledge, strengthen the lead, buildup the pressure and consciousness about developing and using methane

Methane is a new energy. It is cleaner, more effective and more safety than the normal energy and has good future. Do well work on developing and utilizing the methane has important actual meaning and long time strategy meaning, and it is good to improve the coal mine safety production, save the energy, reform the energy structure and create new economic rising points. But, in recent years, due to the lacking knowledge and limited degassing technology the great mass of the methane is discharged. It is not only polluting the environment, wasting

the rare energy but bring the hidden problems to the coal mines. How to develop the advantages of the new energy as we quicken the methane developing and cultivate the new industry is the big problem to us. If we can not develop and use the methane source effectively, we can not create the benefit for the people, we can not carry out the principle of human-oriented and science development. Base on this thinking we regard the methane developing and utilization as the important project of coal mine industry construction adjusting work, as the morale project and key project to solve the coal mine problems. We will work hard on this work and try out best to turn the bane to good thing, turn the trouble maker to usable things.

In order to do well on this work, Jincheng City insists on the policy, establishes the regulations, and follows the principle of scientific development and sustainable development to create a new energy industry.

The first one is the policy. We earnestly carry out *the suggestions about quickening the methane degassing and utilization*, from State Council, *the notice about issuing the comprehensive utilization confirming and management method for the resource encouraged by state* which is issued by National Development and Reform Commission ,Ministry of Finance People's Republic of China and State Administration of Taxation and *the "eleventh five-year" layout about*

*developing and utilize the methane* which is issued by Shanxi province . Follow the above documents and link the actual situation we made and issued a series regulations and give the policy guarantee to develop methane. According to the indication of the Jincheng City government, we start from standard, use the standard method to solve the problems, quicken the standard making and promote the industry. In 2007, Qinshui blue flame methane Ltd of Jincheng Mining Group, drafted out and made two province level standards: *Coal Bed Methane* and *Compressing Methane for Vehicle*. The two standards are approved and issued by the government, and the standards supply a gap of national methane standard. On May 2008, the third methane province level standard, *modification requests for vehicles using compressed methane*, was verified by the expert group. This standard supplies the uniform technique standard to utilizing the compressed methane on vehicles and modifying vehicle, also supplies the estimation standard to verify the modified vehicles and eliminate the hidden problems about modification technique. In addition, the methane standards, *compressed methane for vehicle, methane for power plant, methane for civil using, and compressed petroleum gas* are put in for national standard.

Second one is the link of production and science investigation. Science and technology are the first productivity. To ensue the production and investigation are linking well and to excavate the development

potential Jincheng government actively urges the communion and cooperation between enterprises and universities, scientific institution, actively set up the training, education and science intercommunion center, and investigate and set up the training and science intercommunion system for methane development. Qinshui Blue Flame Methane Ltd. establishes the methane scientific center with China University of Mining and Technology, China University of Geosciences, China University of Petroleum, Henan Institute of Technology ,Xi'an Coal Research Institute, and Chongqing Coal Research Institute; know well some authorities on methane scientific area; supply the professional people and technique support to Jincheng methane industry; explored a set of methane degassing technique and get the property right, which is fitting to local situation, it includes design, drilling, gas collecting , methane gathering and ground transportation and compressing, the technique breaks the preserve of degassing at blind coal area. The technology reaches the national advanced level on methane industry.

Third one is the responsibility system. The task of developing and utilizing the methane is distributed to every county (city and district), the departments of government and the principals of the coal mine industries. And it is regarded as an important index to appraise the officers' performance; it links with the promotion and wage. The government will reward the department who fulfill the task and will punish the department

who fail the task.

2. general utilization, comprehensive development and concentration on new industry

In order to quicken the methane development and utilization, recent years, base on the former work we give further support and help to Jincheng Coal Mine Group, China United Company, Daning Company, China Petroleum Corporation on degassing and develop the methane. We achieved great effect.

In the beginning of 1990s Jincheng Coal Mine Group fetched in the methane developing technology from USA. On Sep 1994 the group built the first degassing well of china at panzhuang field , now it has its own intellectual property rights and a set of technology includes drill, fracture technology, collecting and methane gathering and ground transportation. To the end of 2006, they have built 490 degassing wells and formed the biggest degassing well area. China United Company built 240 wells at Qianshui County, and Daning Company built 11 pinnate horizontal multilateral wells at Daning mine. China Petroleum Corporation fetched in pinnate horizontal drilling technique from USA CDX Natural Gas Company, and built the first directional pinnate horizontal well of china at Duanshi Town of Qinshui County. The controllable degassing area of the well group (4 wells) is about 5 square kilometers and daily output is 100-200 thousands cubic meters. At present, we have 1764

wells in Jincheng and the degassing ability is about 12 hundred million cubic meters,

Also we actively develop the new range of methane utilization and do the great research on methane power, methane vehicle, civil methane and industry methane.

First is methane power. In 1995 Jincheng Coal Mine Group cooperated with Shengli Oil Field Engine Power Factor in building methane power plant, the total generated capacity is 240 kilowatts, at Lizhuang village of Qinshui County; in 2001 Sihe mine use the UG degassing system to build the methane power plant, the total generated capacity is 15 thousand kilowatts and it is the best of Asia in the scale; the single unit capacity of the power generation unit group of Daning mine is 2000 kilowatts and is the biggest capacity power generation unit in china. Now in Jincheng we have 21 methane power plants, the total generated capacity is 180.95 thousand kilowatts; the annual generated energy is 2.58 hundred million degrees and uses the methane at least 2 hundred million cubic meters. The generate scale by using methane of Jincheng is the biggest one in China. At present the biggest methane power plan of the world has established in Sihe mine, the total capacity is 120 thousand kilowatts.

Second one is develop the methane vehicles. We make the methane vehicles utilization as the main content of “blue sky and clean

water” project, fund the leader group on extending methane utilization on bus and taxi, and issued *the management method about extending methane utilization on vehicles*. Up to now we built 2 methane vehicle modification factors and 4 gas stations, and 2000 vehicle were refitted, all of the taxi and part of bus were refitted. This work developed the clean energy, lowered the running cost of the taxi, improved the air condition and created the benefit to the Jincheng people. Recently the methane energy line project, organized by Jincheng Coal Mine Group and other enterprises, was started. This project will establish methane ground transportation net, this net base on Jincheng, around Taiyuan, radiate the 7 provinces and districts. To 2010 about tens of thousand heavy trucks in Shanxi Province would use methane.

Third one is the civil methane and industry methane. Tank car is used to send the methane gas to mine area and city area. There are 80 thousand families are using the methane. Some hotels, restaurants and public bath in Jincheng are using the methane. About 10 million cubic meters gases are used per year. Jiuzhou glasswork and Fuji New Material Company are using the methane as the fuel and they are using about 6 million cubic meters per year. From Oct of 2005 JCMG started supply gas to Zhengzhou Gas Company; daily supply is 10 thousand cubic meters. The methane comprehensive utilization program, total investment is 20.7 hundred million RMB, is approved by National

Administration of Development and Reform. When the program is done the methane will be delivered from Qinshui County to Jincheng and Yangcheng County by pipe, delivered to Gaoping City, local area of Qinshui County and Linchuan County by tank car. Annual gas supply is about 2.5 hundreds million cubic meters. It is the good base for Jincheng to develop and utilize the methane.

3. Turn the waste to the available stuff, extend the link, and the methane industry in Jincheng is of great potential.

We have explored an area of methane development and utilization, achieved certain success and gathered some experience, but in total the methane development and utilization work in Jincheng still at the beginning, it still needed to be perfected. According to the statistical data, up to 2003 there were 579 coal mines are running in Jincheng and government closed 220 coal mines due to the low mining rate of the mine. Now there are 126 coal mines will be closed because the energy is run out. Most of the coal mines in Jincheng release the methane by burning it, if we could use the international advanced technology and equipments to utilize the released methane we will solve the local energy problem, protect the environment better and gain good domino effect on society and environment.

We will take this chance of the New Energy Science and Technology Forum to discuss the success experiences with the foreign

experts and scholars and learn the advanced technique. Base on the target of building an important national methane base of China to we will strengthen the power on technique cooperation and technique introduction, extend the industry chain, and try the best to get outstanding achievement on methane liquefaction and methane fine.

To 2010, the surface degassing amount of Jincheng will reach 30 hundreds million cubic meters, UG degassing amount of Jincheng will reach 16 hundred million cubic meters. Basically we will link the science layout, reasonable distribution, exploration and development with the methane power, methane vehicle, methane chemical, civil methane and industry methane, make the economic befit, society befit and environment befit together. We will do the new and greater contribution for Jincheng pluralistic energy and safety energy.

Thank you.