

加强环保 实现煤层气开发利用 与环境协调发展

晋城市环保局局长 李成太

尊敬的各位女士、各位先生：

大家好！

首先，我代表晋城市环保系统的干部职工向与会的各位代表、外国友人表示热烈欢迎，对大家长期以来关心环保、支持环保、参与环保的行动表示诚挚的谢意！

近几年来，煤层气的开发利用正在全球形成热潮，许多国家在煤层气勘探开发利用等方面积累了各具特色的经验和做法。这次论坛必将加快我市煤层气的开发利用工作。下面我就煤层气开发利用与环境保护讲几点意见：

一、煤层气开发利用环保意义重大

在这里，我先介绍一下煤层气的大致属性，它与环境的联系。煤层气属于非常规天然气，又称煤矿瓦斯或煤田沼气，是煤系地层中以腐植质为主的有机质在成煤过程中形成，并以吸附和游离状态赋存于生气源岩（煤层、炭质页岩、泥岩等）中的自储式天然可燃气体。其基本成分为高纯度甲烷，含量超过 95%，属优质能源和化工原料。矿井瓦斯气实际上就是煤层气和空气的混合气体。在热值上，煤层气与常规天然气相当，发热量在 8000—9000

大卡。煤层气作为一种危险气体，是煤矿瓦斯爆炸事故的根源。在采煤之前如果先开采煤层气，煤矿瓦斯爆炸率将降低 70%到 85%。煤层气直接排放到大气中，其温室效应约为二氧化碳的 21 倍，甲烷排入大气，不仅因其温室效应将引起气候异常，而且还消耗大气平流层的臭氧，它对臭氧层的破坏能力是二氧化碳的 7 倍，可削弱地球对太阳紫外线侵袭的防护作用，危害人类健康。据相关资料统计，我国每年因采煤向大气排放的甲烷量约占世界采煤排放甲烷总量的三分之一，引起了国际社会的普遍关注。《京都议定书》中规定了各国的温室气体减排量，我国对煤炭生产中排放的瓦斯气进行治理迫在眉睫。煤层气作为一种优质高效清洁能源，基本不含硫，对各种设备腐蚀小，在热值上与常规天然气相当，燃烧产生污染物少，燃烧后的废气更是一种气态肥料，可增强植物的光合作用，减少甲烷排放，有效缓解温室效应。在国际能源局势趋紧的情况下，煤层气的开发利用具有一举多得的功效：一是提高瓦斯事故防范水平，具有安全效应；二是有效减排温室气体，产生良好的环保效应；三是作为一种高效、洁净能源，产生巨大的经济效益。总之，煤层气的开发利用对全球保护环境将起到积极作用。煤层气作为一个新兴的基础产业，对于保证能源的可持续发展和保护大气环境具有重要的现实意义，是功在当代、利在千秋的大事、好事。

二、煤层气开发的环保政策要求

根据国家发改委下达的《煤层气（瓦斯气）开发利用“十一

五”规划》和《当前优先发展的高技术产业化重点领域指南》（2007），煤层气开发利用属于国家煤炭行业国家重点鼓励发展的产业之一，也是我省我市“十一五”期间能源可持续发展的重点项目，更是我市《“十一五”环境保护规划》中二氧化硫减排的重要举措的硬件支持。

由于我国的煤层气开发事业刚刚起步，目前我国尚未制定出相应的环保法规。为确保我市在煤层气开发中不至于造成对环境的破坏和污染，我局在积极为煤层气开发利用做好服务的同时，将严格执行环境影响评价法，根据环境影响评价报告要求，监督企业严格落实各项污染防治措施，确保煤层气开发在环保方面达到国际水平。

三、煤层气开发利用过程中环境注意事项

沁水煤田煤层气资源储量初步预测为 10 万亿立方米，约占山西煤层气储量的三分之二。1994 年 9 月，山西晋城无烟煤矿业集团有限责任公司潘庄井田建成我国第一口煤层气地面抽放示范井，目前我市已有晋煤集团、中联公司、中石油、大宁公司、格瑞克等五家企业从事煤层气的地面钻孔抽采，这些企业项目开发均履行了环保审批手续。

现在，已建成煤层气地面抽采钻井 1000 余口，地面煤层气年抽采能力达到 13 亿立方米规模，随之也带来一些环境问题，为了解决这些问题，在开发煤层气的工作中，应当注意四个方面的问题：

1、严格履行项目环保审批手续。煤层气开发项目应根据《中华人民共和国环境保护法》、《中华人民共和国环境影响评价法》开展环境影响评价工作，按规定进行审批。

2、在开发建设中保护好生态环境。项目设计、建设、运营过程中要严格落实各项污染防治措施，重点做好项目施工期生态防护恢复工作，尽量减少施工对周边生态环境的影响，尤其是废弃井口封井后的生态恢复工作一定要及时到位，确保质量。

3、做好事故防范工作。建设单位要跟踪国际上对风险控制及防范的先进做法，借鉴事故应急实时计算机评估系统，不断完善事故应急预案。

4、搞好环保服务，为开发利用煤层气做出积极的贡献。

在能源局势趋紧的情况下，煤层气的大规模开发，特别是沁水煤田的煤层气开发，将对改善我市能源结构、减少污染、提高环境质量起到重要作用。我们环保系统将遵照国家、省、市政府的要求，积极支持煤层气开发工作，为煤层气开发铺设环保“绿色通道”，为加快煤层气开发利用项目热情服务、主动服务，为我市节约利用资源，改善能源结构，培育新的经济增长点做出新的贡献。

谢谢大家！

Enhancing Environmental Protection and Striving
for a Harmonious Development of CBM and Environment

Director of Jincheng Environment Protection Bureau
Li Chengtai

Ladies and gentlemen, dear friends,

Good morning!

On behalf of all the staff of Jincheng's environmental protection system, I would first of all extend my warm welcome to the representatives and foreign friends who have come for our forum here and also give my sincere thanks to those who have long been interested in, in favor of and a part of the protection of our environment.

In recent years, global opening up and utilization of coal gas is increasingly on the upsurge, many countries have had various experience and methods of their own in the coal gas exploration, development and utilization, which, after this forum, will help speeding up our local use of coal gas. Taking the chance of the occasion, I am honored to say something about the development and utilization of coal gas of our city.

1. It is of great environmental significance to open up and utilize coal gas

First of all, please allow me to give a simple introduction to the general property of coal gas and its connection with our environment. Coal gas is a kind of irregular natural gas, or we can call it coal mine gas or coal mine methane, which is an self-ignitable natural gas formed in coal measure stratum

by some organic materials which were mainly humus in the process of coal layer formation and exists in gas-generating source rocks as coal bed, carbonaceous shale and mudstone either in absorptive or free form. As a kind of superior energy and chemical material, the basic composition of coal gas is methane of high degree of purity, which is over 95%. Actually coal gas is a mixture of gas and air. Its heat value is commensurate with ordinary natural gas, whose calorific value is up to about 8000 to 9000 calories. With a property of being very dangerous, coal gas is the source of coal mine explosion accidents. The rate of accidental explosion of coal gas could be reduced to 70% to 80% if the gas could be extracted before a coal mine is opened up. The greenhouse effect resulting

from coal gas emitting directly into the atmosphere is 21 times that of carbon dioxide. The emission of methane into the air will not only lead to abnormal climate because of the greenhouse effect, but also consumes the ozone in the upper atmosphere. Its damage to ozonosphere is 7 times as that of carbon dioxide, which can weaken the earth shielding from ultraviolet radiation of the sun and do harm to people' s health. It is estimated from the related statistics that in China the methane emission from coal mines into the atmosphere every year takes one third that of the world, drawing a universal attention from the international society. The Kyoto Protocol has regulated the emission amount of greenhouse gases for countries in the world. It is very urgent for China to reduce its gas emission into the atmosphere in the procedure of coal production. Coal gas, a highly-effective clean energy, does primarily not contain sulfur, and results in less equipment erosion. Its heat value is as equal as natural gas, giving less pollution while it is burning, and its waste gas is a kind of manure which can help photosynthesis, reduce methane emission and also decrease greenhouse effect.

At a situation in which the global demand for energies is increasingly urgent, it is of multi-winning effects to open up and utilize coal gas since it is of secure effect to reduce gas accidents, of environment-friendly effect to lessen greenhouse waste gases, and of significant economic effect as a highly-effective and clean energy.

In a word, the opening up and utilization of coal gas will play an active role in protecting global environment. As a newly-emerged basic industry which is important to sustainable energy development and atmosphere protection, coal gas opening up and utilizing is a brilliant cause that will benefit our people and society at present and in the far future.

2. The requirements of environment policies on opening up coal gas

According to The Eleventh Five Year Plan on Opening up and Utilizing Coal Gas and A Guideline to Current Priority Key Fields of Hi-tech Industrialization of 2007 issued by the National Development and Reform Commission, opening up coal gas is one of our country's key industry in coal mining, also a key project of sustainable energy of Shanxi and Jincheng during the period of Eleventh Five Year Plan,

meanwhile it is a strong support to the sulfur dioxide emission reduction of our city' s Environmental Protection Plan during the period of the Eleventh Five Year Plan.

Since coal gas opening up in our country is just making a start, the related environmental-protecting laws and regulations have not yet been established and released. To ensure that in our city it will not pollute and do damage to the environment in the process of opening up the coal gasy, we will strictly carry out the Environment Impact Assessment while making a good service to coal gas development, and supervise how the enterprises practice their pollution-preventing measures to meet the demands of the Environment Impact Assessment so as to guarantee the environment protection of our coal gas development and keep pace with international level.

3. Matters needing attention in the process of opening up and utilizing coal gas

It is estimated that there are 1,000 cubic meters of coal gas reserves in Qinshui Coal Field, which takes up two thirds of that of Shanxi Province. In Sept. 1994, the first sample ground coal gas extracting well was made in Panzhuang Well Field by Jincheng Anthracite Mineral Group

Co.Ltd. By now there have been five companies as Jinmei Group, Zhonglian Corporation, Daning Cprporation and Grake engaging in ground coal gas extracting production, all of which have gained the approval of environment protection examination.

Now over 1,000 coal gas extracting wells have been built with a capacity of 1.3 billion cubic meters annually. As the production undergoes, some problems have emerged. To deal with these problems we should focus on the following four aspects:

a. We must strictly go through the procedures of environment protection examination and approval. The environment impact of opening up coal gas project should be assessed and examined according to the Environmental Protection Law of the People' s Republic of China and the Environmental Impact Assessment Law of the People' s Republic of China, and the approval should be released according to related regulations and laws.

b. Safeguard ecology while the gas opening up is being carried out. In the process of designing, constructing and operating, it must take strict measures to prevent pollution, pay great attention to restore the original

ecology during the construction, try to reduce the impact on the surrounding ecological environment, and in particular make sure the restoration of the original surrounding must in time and quality—proof after the deserted wells are closed.

c. Measures to prevent accident must be taken. The companies of coal gas construction should keep up with the international advanced methods in accident control and prevention, drawing on the experience of real-time computer assessment system to handle emergency, and constantly improve contingency plans.

d. Supply service for environment protection and make contributions to the development and utilization of coal gas.

Under a circumstances that energy is in short supply, the large-scaled opening up of coal gas, especially coal gas development in Qinshui Coal Field, will play a significant part in our city' s energy restructure, pollution reduction and the environmental quality improvement. The environmental protection system of Jincheng will give firm supports to opening up coal gas in accordance with the demands of central, provincial and

municipal governments so as to pave a environment-protecting green passage for coal gas development, give warm and active service, and make new contributions to the economization and utilization of natural resources, energy restructure and new economic growth of our city.

Thank you!