



# 全球环境基金东亚家畜废物 管理项目（中国）工作报告

Working Report of the GEF Livestock Waste  
Management in East Asia Project, China

广东省农业环保与农村能源总站  
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# 一、项目概况

## Project overview

- 全球环境基金提供赠款
- Fund donated by GEF
- 世界银行作为执行机构
- World Bank as implementing organization
- 参与国：中国、泰国、越南
- Participating countries: China, Thailand, Vietnam
- 2006年正式实施，建设期5年
- Formally implemented in 2006, construction period is 5 yrs
- 取得了显著的经济、社会和生态效益
- Achieved remarkable economic, social and ecological Benefits
- 走在三个项目实施国前列
- China steps ahead of project implementation countries
- 副省长等各级领导多次亲自考察
- Vice provincial governor's multiple on-site visits



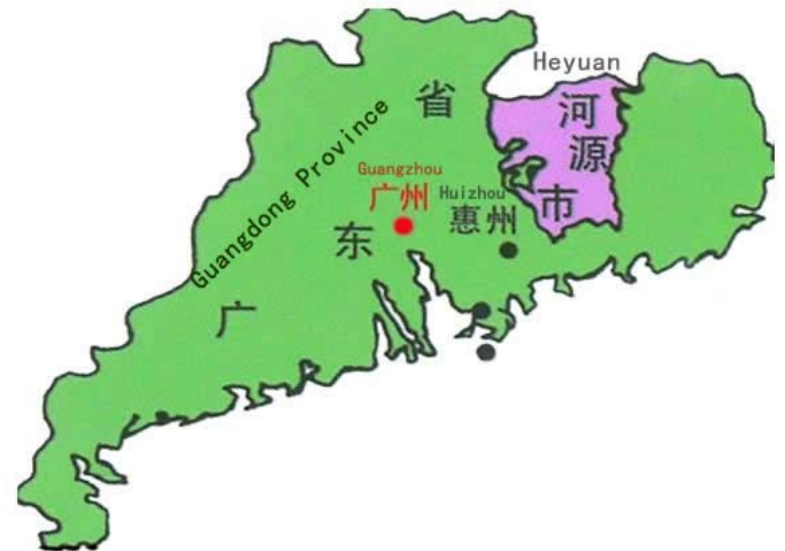
- 2009年9月1-3日，在广州召开“减少水体污染及缓解气候变化——牲畜废物管理东亚项目经验国际研讨会”
- “Reducing water body pollution and mitigating climate change —international workshop of East Asian experience in livestock waste management” was held in Guangzhou on Sep 1-3 2009.
- 与会人员达150人，包括：
  - 1.来自10多个国家，25个国际机构的60名外宾
  - 2.来自全国各省（市、县）农村能源办负责人及高校代表
- Number of attendees reached 150 including:
  1. 60 foreign visitors from over 10 countries and 25 international organizations
  2. responsible persons from provincial (city and county-level) rural energy resource offices and university representatives



## ➤ 项目主要工作介绍

## ➤ Introduction of main project work

- 项目主要围绕项目示范猪场沼气建设为中心，摸索并实践各种适合广东的沼气建设模式
- The project mainly revolves around demo swine farm biogas construction, explores and practices various biogas construction models that may suit Guangdong
- 项目示范点主要集中在惠州市博罗、河源市东源和连平三县；
- Demo implementation points cluster in three counties: Huizhou County in Boluo City, Dongyuan County and Lianping County in Heyuan City
- 截止至2009年12月底，项目15个猪场的示范工程中已竣工13个；
- Until end of Dec 2009, 13 out of 15 demo swine farm projects have been completed



## 二、项目的沼气利用情况

### Biogas Utilization Situations



泰美猪场采用了红泥塑料储气袋

Taimei Swine Farm adopted red mud plastic air storage bag



益湖猪场采用搪瓷钢一体化储气罐

Yihu Swine Farm adopted glassed steel integrated air tank



➤沼气的利用方式也各有不同

➤Ways of biogas utilization are also diversified



罗兴猪场将沼气免费供给周边学校使用

← Luoxing Swine farm supplies free biogas to surrounding schools

马石岗、益湖猪场将沼液  
提供给农场作为肥料

Mashigang and Yihu Swine  
Farm supplies biogas slurry  
as fertilizers to farms



- ◆ 泰美、圣盖博、致富、灯塔和恒昌五个猪场实现了完全达标排放
- ◆ Completely standard emission has been achieved at five swine farms including Taimi, Shenggaibo, Zhifu, Dengta and Hengchang
- ◆ 其它11个猪场采用生态养殖、生态种植等方式对废物进行处理
- ◆ The other 11 swine farms adopted ecological cultivation and growth method for waste management
- ◆ 大大减少了猪场排放物对附近水体及环境的污染
- ◆ Greatly reduced pollution of swine farm emissions on surrounding water bodies and environment
- ◆ 也为全省畜禽养殖场的废物管理工程提供了很好的借鉴。
- ◆ Provided a good reference for the province's livestock farm waste management projects



- 同时开展相关政策研究和监测工作，形成八份报告：
- Meanwhile relevant policy research and monitoring work has been undertaken with 8 reports produced:

1、《推广策略》 Promotional strategies

2、《猪场实施规程》 Swine farm implementation regulations

3、《空间分布计划》 Space distribution plan

4、《营养管理计划》 Nutrition management plan

5、《示范猪场环境监测报告》（分期完成）

Demonstration swine farm environment monitoring report  
(to be completed in phases )

6、《示范猪场卫生监测报告》（分期完成）

Demonstration swine farm hygiene monitoring report  
(to be completed in phases)

7、《广东省养猪业温室效应气体减排关键技术与实施方案研究》

《Research on Guangdong Province key technologies and implementation plans for swine industry reduced green gas emission》

8、《广东省畜禽废物沼气化与温室气体减排潜力分析研究》

《Research on Guangdong province livestock waste-based biogas production and potential of green gas emission reduction》





# 沼气发电取得的经济效益

## Economic benefits of biogas power generation

### 每年节约资金

### yearly amounts saved

沼气发电带来的经济效益  
Economic benefits

14个猪场都安装了沼气发电机组。沼气发电机组平均每天运行8小时，可发电共9872 KW, 全年发电3,603,280 KW，平均每个猪场每年可节省将近16万元。

Biogas power generator sets are installed on 14 swine farms, operating 8 hrs a day, generating electricity 9872 KW daily, 3,603,280 KW yearly. Each swine farm could save nearly 160,000 Yuan per year.

节约电费超过220万元  
saving power cost over 2200,000 Yuan.

农户节省燃气支出所产生的经济效益  
Economic benefit generated by farmers saving gas expenditures

泰美、旭卉猪场将沼气作为燃气供给农户，共供250家农户，按使用液化石油气2瓶计算（折人民币约150元），受惠农户每月总共可节省37500元

Taimei and Xuhui Swine Farms supply biogas in replace of gas to 250 households, if 2 LPG tanks are normally used ( approx RMB 150 Yuan ), benefited households could save 37500 Yuan per month.

节省费用45万元  
saving power cost over 450,000 Yuan

罗兴猪场把沼气供给附近的中、小学使用  
Luoxing swine farm supplies biogas to nearby schools

每年可节省燃料成本10万元左右  
Saving fuel cost 10,000 Yuan each year

共计：Total：

每年可增加直接收入275万元  
Direct annual income increase 2750,000 Yuan

### 三、项目选用的发电机组——

南通河海动力设备有限公司生产的纯沼气发电机组

Generator set selected by the project—pure biogas generator set manufactured ——

by Jiangsu Tonghai Power Equipment Co. Ltd

选择原因：Reasons for Selection:

➤ 价格相对便宜，用户反映良好

Price is relatively cheap with good user feedback

➤ 售后服务快捷周到，一般配件免费提供

Expedient after-sales service, free supply of general accessories

➤ 该公司在项目点聘请并培训技术员，负责河源、惠州片的机组日常巡回维护

The company appointed and trained technical staff to take charge of daily maintenance of generator sets in Heyuan and Huizhou



## 四、其它赠款对项目的支持和帮助

### Other funds which supported the project

- ◆ 日本政策与人力资源开发赠款 ( PHRD 赠款 )

Fund donation from Japan Policy and Human Resources Development

- ◆ 甲烷市场化 ( M2M ) 组织赞助用于购买三台发电机组的11万美元专项赠款

M2M's 110000-dollar special fund in support of purchase of three generator sets

## 五、项目下一步计划——“三个着力”

### Next steps——three emphases

- 着力推广资源节约、环境友好型生产技术；

- Promote resource-saving, environmental-friendly production technology with emphasis;

- 着力推进农业清洁生产，农村生活废弃物的资源利用；

- Promote agricultural clean production and utilization of countryside solid waste with emphasis;

- 着力推广农业面源污染治理项目的示范推广，特别是规模化养殖场大中型沼气项目的推广。

Promote non-point pollution control projects' demonstration with emphasis, particularly the promotion of large to medium sized biogas projects on large-scale farms.



谢谢！

Thank you very much !

二〇一〇年 三月      March, 2010