

中国的电力法：
能源可持续发展的选择
An Electricity Law for China:
Sustainable Energy Options

Regulatory Assistance Project

监管援助项目

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RESTRUCURING AND THE ENVIRONMENT

电力重组与环境




- Detailed presentation to CEC last spring includes experience of many other countries
- Focus today on the most important needs relating to the environment
- 去年春给中国电力联合会（CEC）的报告已提到了许多其它国家的经验
- 今天着重探讨与环境有关的重要需求



Restructuring and Sustainability

重组与可持续性

- Restructuring will effect the environment, energy efficiency, renewables
- Narrowly focused electricity law will hurt end-use energy efficiency, renewables, and the environment
- There are good lessons to be learned
- 重组将对环境、能源效率、可再生物质产生影响。
- 覆盖范围过窄的电力法将危及最终使用的能源效率，可再生物质和环境。
- 有很多教训值得吸取。



Purpose Of Electricity Law


电力法的目的

- Provide basic legal framework for SERC and industry reforms
- Establish stakeholder rights and obligations
- Define government role
- Establish the role of the power sector in meeting other national goals
- Establish the issues SERC and NDRC must consider
- 给电监会和电力行业重组提供基本的法律框架
- 确定利益相关者的权力和义务
- 界定政府职能
- 确定电力行业为实现国家的其它目标而应扮演的角色
- 确定电监会和国家发展改革委必须考虑的问题

Sustainability Types of Laws

可持续性法律的类型

- Electricity Laws
 - Renewable Energy Promotion Laws
 - Environmental Laws
 - Tax Laws
 - Energy Conservation Law
 - Clean Production Promotion Law
 - Environmental Impact Assessment Law,
 - **Most important is consistent and careful integration of policies**
- 电力法
 - 可再生能源推广法
 - 环境法
 - 税法
 - 节能法
 - 清洁生产推广法
 - 环境影响评估法
 - **最重要的是一致性以及政策间的良好融合**



Existing Electricity Law

现行的电力法

- The construction, production, supply and utilization of electric power shall **protect the environment** according to law, adopt new technologies, minimize discharge of poisonous waste, and **prevent pollution** and other public hazards. **The State encourages and supports electricity generation by using renewable and clean energy resources.**
- 电力的建设、生产、供应和使用应该严格依法保护环境，采用新的技术，尽量减少有害物质的排放，防止污染和其它危害的发生。国家鼓励和支持采用可再生的、清洁能源资源发电。



China Conditions

中国的现实条件

- Laws may come after reforms have been implemented
- Laws are very general. Much more general than laws of other countries
- Internationally the trend is toward more detailed laws
- 法律可能在改革实施后才出台
- 法律很宽泛，比其它国家的法律宽泛得多
- 国际上的趋势是法律趋于更为详尽

Need More Than General Goals

需要更详尽的内容

- General goals are not enough
- Law should set priorities
- Specify mechanisms, timetables, and Agencies responsible for meeting goals
- 宽泛的目标是不够的
- 法律应该设置优先级别
- 详细说明机制、时间表和负责实现目标的机构

International Examples: UK

国际案例：英国

- UK Energy Savings Trust established at the outset
- PBF overseen by regulator
- NFFO from the outset followed by renewable obligation
- UK also has Climate Fee
- 英国一开始即建立了节能信托基金
- PBF(公共利益基金)受监管机构监督
- 从制定NFFO(非化石燃料公约)开始，再规定可再生能源责任
- 英国也收取气候费

Recent UK Direction

近期英国的发展方向

- 2003 Blair government issues whitepaper
- http://www.dti.gov.uk/energy/whitepaper/wp_summ.pdf

- 2003 年布莱尔政府发布白皮书
- http://www.dti.gov.uk/energy/whitepaper/wp_summ.pdf



Environment/Efficiency – NZ

环境/效率：新西兰

- New 180 page law includes 40 pages on Greenhouse gas Emissions
- *“establishes State greenhouse gas benchmarks and individual greenhouse gas benchmarks for the reduction of greenhouse gas emissions that are to be met by retail suppliers, market customers and certain other persons who supply or consume electricity,”*
- 180页的新法律中40页是关于温室效应气体的排放。
- *“制定国家温室效应气体的标准以及单独的温室效应气体的标准，以减少温室效应气体的排放，并要求零售商、市场客户和某些供应或使用电力的其它人员必须遵守这些标准。”*

Environment/Efficiency Denmark

环境/效率：丹麦

- 50 page 1999 law
- *“The objective of the Act is to ensure ... consideration for security of supply, the national economy, the environment and consumer protection*
- *to promote, **in particular**, sustainable energy application, including by energy savings and the use of CHP, renewable and environmentally benign energy sources”*
- 1999年法律中占50页
- *“ 该法的目的是保证.....充分考虑供电安全性、国家经济、环境和消费者保护等多方面因素。*
- *特别是，促进可持续能源的应用，包括能源节约和使用CHP（热电联产）、可再生的和环境友好的能源资源”*

Environment/Efficiency Denmark

环境/效率：丹麦

- Environmental improvement was a major reason for reform
- Regulators have been given broad powers to increase investment in energy efficiency and environmental improvement
- 改善环境是改革的一个主要原因
- 监管人员被赋予了宽泛的权力，可以增加投资以提高能源效率和改善环境

Environment/Efficiency – US

环境/效率：美国

- No new national law on restructuring
- Prior laws (PURPA) very supportive of energy efficiency and renewables
- State laws include substantial support for energy efficiency
- State laws have been strengthened since California crisis
- 没有关于电力重组的全国性新法律
- 以前的法律(PURPA公用事业管制政策法案)非常支持能源效率和再生能源的利用
- 州法律包括对能源效率的有力支持
- 自加州电力危机后州法律已得到加强



Build It In/Add It On

融入其中/加乎其上的

- Some Policies such as RPS, SBC, PBF, can be added on to any structure
- Other policies must be built into the structure of the new markets and regulatory systems
- 有些政策如RPS（可再生能源配额制）、SBC(系统效益收费)、PBF（公共利益基金），可以加到任何市场结构之上
- 其它政策则必须融入到新的市场结构和监管系统之中



Build It In/Add It On

融入其中/加乎其上

Interconnection guidelines:

- US (PURPA) “any electric utility shall make such interconnections with any qualifying facility as may be necessary...on a non-discriminatory basis...”
- UK whitepaper re CHP...

互联指导方针:

- 美国 (PURPA) “任何电力公用事业单位，如有必要，应...在无歧视的基础上...与任何具有资质的设施互联”
- 英国关于CHP（热电联产）的白皮书



Build It In/Add It On

融入其中/加乎其上的

Grid operation rules

- Denmark - “[Renewable energy plants] ... shall only pay the cost that would have been incurred in being connected to the 10-20kv grid,... Other costs including costs for grid boosting and grid expansion, shall be met by the grid company.
- UK Whitepaper

网络运营规则:

- 丹麦—“可再生能源厂...只需支付连接到10—20千瓦高压输电网所需的成本，...其它成本包括高压输电电网的增压和高压输电电网的扩大，应该由输电网公司承担”
- 英国白皮书



Market Design Rules Examples

市场设计规则实例

➤ Market Rules

- **European Union –**
Directive Concerning Common Rules for the Internal Market in Electricity, 1996
- *Article 8. A Member State may require the system operator, when dispatching generating installations, to give priority to generating installations using renewable energy sources or waste or producing combined heat and power*

➤ 市场规则

- 欧盟 – 1996年颁布关于内部电力市场的通用规则
- 第8条. 一个成员国可以要求系统运营商, 在处理发电设施时, 首先考虑采用可再生能源资源或废弃物或同时供电和供热的发电设施



Build It In/Add It On

融入其中/加乎其上

➤ Transmission pricing

➤ Capacity based hurts renewables

➤ CA, NY

➤ Bidding rules

➤ Can hurt renewables

➤ 电力传输的定价

➤ 基于容量的定价规则对可再生能源不利

➤ 加州，纽约

➤ 竞价规则

➤ 可能损害可再生能源



Build It In/Add It On

融入其中/加乎其上

➤ Energy efficiency

- Price/revenue setting methods must encourage with energy efficiency
- Philippines
- Environment
- Generation Performance Standards (GPS)
- Information disclosure
- Green certificates

➤ 能源效率

- 价格/税收的制定必须考虑鼓励提高能源效率
- 菲律宾案例
- 环境
- 发电绩效标准 (GPS)
- 信息披露
- 绿色环保证书

China's Sustainability Experience

中国可持续能源方面的经验

- Sustainable power sector reform has been a major focus for CSEP for many years
- Chinese and international experts have developed innovative and practical options for China
- 可持续能源行业的改革是能源基金会中国能源效率项目(CSEP)多年的主要工作
- 中国专家和国际专家共同为中国设计了具有创新性和可操作性的方案



Recent Experience in China

中国近期的经验

- Good early experience with PBF Hebei, Jiangsu
- DSM Centers, pilots, and DSM policy recommendations
- Major studies on applying international PBF experience to China's situation are nearing completion
- 河北、江苏的公共利益基金（PBF）取得了良好的早期经验
- DSM(需求侧管理) 中心，试点项目，DSM政策建议
- 把国际PBF经验应用于中国实际，这方面的主要研究已接近尾声



Recent Experience in China

中国近期的经验

➤ Environmental reforms

- GPS and GPS pilots
- Recent research by CRAES presents practical options to meet State Council decree that declares need to equalize environmental requirements

➤ CHP barriers and options

➤ Renewables

- MMS study, wind concession

➤ 环境方面的改革

- 发电绩效标准 GPS和GPS试点
- 中国环境科学研究院 (CRAES)最近的研究提出了具有可操作性的选择，能满足国务院提出的均衡考虑环境的要求

➤ CHP的障碍和选择

➤ 可再生能源

- MMS（强制市场份额）的研究，风力发电优惠

Conclusions

结论

- Sustainable power sector reform will not happen without Government leadership
- Electricity Law should incorporate best international experience in sustainability policies
- Law should incorporate China's long-term energy and environmental strategy
- 没有政府的领导，可持续能源行业的改革不可能发生
- 电力法的制定应该结合可持续性政策方面的最佳国际经验
- 法律的制定应结合中国长期能源和环境方面的发展战略