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Australia's Experience with White Certificate Schemes 澳大利亚的白色证书计划经验

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Energy Efficiency Policy Initiatives

能效政策行动方案

- **Market-based instruments complement other EE policies:**
 - regulation (minimum appliance standards)
 - consumer information (energy labeling)
 - Government funding for energy audits, rebates, education, consumer awareness, training
- 市场主导型工具作为其他能效政策的补充：
 - 法规（最低电器标准）
 - 消费者信息（能效标签）
 - 政府为能源审计、退税、教育、消费者意识、培训等提供资金支持

Australian White Certificate Schemes (1)

澳大利亚白色证书计划（1）

- 2 state-based schemes
- New South Wales Energy Saving Scheme (ESS) from July 2009
- Victorian Energy Saver Incentive Scheme (VEET) from January 2009
- Also South Australian Residential Energy Efficiency Scheme (REES) from January 2009
- 两个州级计划
- 新南威尔士州节能计划（ESS），自2009年7月起开始实施
- 维多利亚州节能奖励计划（VEET），自2009年1月起开始实施
- 以及南澳大利亚州住宅能源效率计划（REES），自2009年1月起开始实施

Australian White Certificate Schemes (2)

澳大利亚白色证书计划（2）

- All schemes cover residential electricity use
- VEET and REES also cover gas
- ESS covers commercial and industrial use
- ESS and VEET include trading, REES does not
- Overall aim is for a national EE scheme, or greater harmonisation
- 所有计划均包括住宅电力消耗
- VEET与REES还包括天然气
- ESS涵盖商业与工业消耗
- ESS与VEET包括贸易，但REES则不包括
- 总体目标是形成国家级能效计划，或者更有效的协调

Targets for Australian Schemes

澳大利亚计划的目标

ESS Targets

0.5% of liable electricity sales in 2009 [270 GWh; 0.3 MtCO₂-e] rising to 5% of sales in 2014 [2900 GWh; 3.1 MtCO₂-e]

Total 12 years target ~ 30 TWh

VEET Targets

2.7 MtCO₂-e in each year from 2009 to 2011

REES Targets

0.155 MtCO₂-e in 2009 rising to 0.255 MtCO₂-e in 2011

ESS目标

将清洁电力销售比例从2009年的0.5% [270 GWh; 0.3 MtCO₂-e]提高到2014年的5% [2900 GWh; 3.1 MtCO₂-e]

12年的总目标约为30TWh

VEET目标

从2009年至2011年，每年2.7 MtCO₂-e

REES目标

从2009年的0.155 MtCO₂-e提高到2011年的0.255 MtCO₂-e

Link to Carbon Trading

与碳交易的联系

- Schemes complement a carbon trading scheme or price
- Transition until a sufficient carbon price applies (ESS to 2020)
- By delivering energy savings and low cost carbon reduction, schemes will ease the transition to a carbon trading scheme at lower cost
- 机制作为碳交易计划或价格的补充
- 在采用适当碳价格之前的过渡（ESS至2020年）
- 通过实现节能与低成本减排，上述机制可以使向碳交易计划的过渡更加简单，并且成本更低

Objectives of the New South Wales ESS

新南威尔士州ESS计划的目标

- Assist households and businesses to reduce electricity use and costs
- Reduce the cost of, and delay need for, extra energy infrastructure
- Complement a national emissions trading scheme
- Net economic benefits
- 协助家庭与企业减少电力消耗与成本
- 减少额外能源基础设施的成本，并推迟对该基础设施的需求
- 作为国家级排放交易计划的补充
- 净经济效益

How ESS Works (1)

ESS如何发挥作用（1）

- Energy savings targets set for electricity retailers to 2020 – must be able to be met at acceptable cost (from economic modeling)
- Set of eligible energy savings activities and deemed savings which can create energy saving certificates
- 截至**2020**年，电力零售商应实现的节能目标——必须以可接受的成本实现（经济模式）
- 一系列符合条件的节能活动，以及可发放节能证书的认定节能量

How ESS Works (2)

ESS如何发挥作用 (2)

- Administrator accredits certificate providers and sets up registry where certificate ownership is tracked
- Certificates are created and traded to retailers
- Retailers report yearly against their targets
- Pay penalty (\$A25) for each MWh below target
- 政府授权证书提供商，并成立登记处，对证书的所有权情况进行跟踪
- 发放证书，并交易给零售商
- 零售商每年报告其目标完成情况
- 对低于目标的每MWh支付25澳元罚款

ESS – Setting Targets

ESS — 确立目标

- **ESS is based on the energy efficiency part of GGAS – the NSW emissions trading scheme operating since 2003**
- **New economic modeling was used to set EES targets as affordable and achievable, and to set a penalty to enforce**
- **ESS以GGAS的能效部分为基础——自2003年开始实施NSW排放交易计划**
- **采用新经济模式，确立可承担、可实现的目标，并设立补偿标准**

ESS – Obligated Parties

ESS——责任方

- **Obligation on electricity retailers most efficient and effective approach**
- **Lowest costs of energy savings, reporting, administration and governance compared to obligation on electricity distributors or customers**
- **Consistent with GGAS**
- 规定电力零售商的指标，是最有效率和最有力量的方法
- 与电力公司或消费者的指标相比，可以实现最低的节能、报告、管理与治理成本
- 与GGAS保持一致

Deemed Energy Savings

认定节能量

- All Australian schemes allow deeming of lifetime energy savings from specified activities
- Reduces transactions costs for small items
- Need to ensure factors are conservative and realistic
- Major source of changes
- 澳大利亚所有计划均允许认定特定活动的有效期节能量
- 降低小型项目的交易成本
- 需要确保采用保守和实际的系数
- 主要的变化源

Experience of Schemes to Date

截至目前上述计划的经验

- 2009 targets met, but targets to get tougher
- Main activities are lighting, showerheads, ceiling insulation, and water heating
- All schemes faced teething problems needing changes to designs
- Mostly deemed savings
- 2009年的目标已经实现，但其后的目标将更加严格
- 主要活动包括照明、淋浴器喷头、天花板隔热与热水采暖
- 所有计划均面临初期问题，需要对设计进行改变
- 通常采用被认定的节能量的方法

Key Lessons – Flexibility (1)

主要经验——灵活性 (1)

- **Scheme design parameters based on limited data so need to be able to modify readily, and add eligible activities**
- **VEET and REES currently in formal review process, ESS already amended Rule re showerheads**
- **计划设计参数以有限的数据为基础，所以必须容易进行修改，并增加符合条件的活动**
- **VEET与REES目前正在正式审查过程中，ESS已经修改了关于淋浴器喷头的规定**

Key Lessons – Flexibility (2)

主要经验——灵活性 (2)

- Market may respond to price signals in creative unintended ways, which may not give energy efficiency benefit [free product, low quality?]
- ESS has a mechanism to increase or decrease targets depending on price of certificates [with 2 years notice]
- 市场可能以一种创造性的、无意识的方式响应价格信号，但可能不会带来能效效益[免费产品，质量低下？]
- ESS有根据证书价格提高或降低目标的机制[提前2年通知]

Key Lessons – Clear Targets

主要经验——明确的目标

- All schemes have legislated targets and penalties necessary for market to respond
- Strong demand and firm prices for certificates necessary to bring in new players
- Providing clear information about a scheme to possible players is vital
- 所有计划均设有符合法律规定的目标与惩罚机制，便于市场做出必要的反应
- 对证书的殷切需求以及稳定的价格，便于吸引新的参与者
- 为潜在参与者提供关于机制的明确信息，至关重要

Key Lessons – Regulatory Regime

主要经验——监管制度

- Scheme integrity is vital and requires strong and active regulator and audit regime
- Powers for scheme regulator and scheme administrator need to be clear and legislated
- 机制整体性至关重要，需要强有力的、主动的监管机构与审计制度
- 机制监管机构与主管部门的权力必须明确，并进行立法

Conclusions

总结

- Schemes complement other energy efficiency policies and an emissions trading scheme
- Markets can access savings not accessed by other policy means
- Integrity of schemes is critical (regulator)
- Deeming a key method
- Design needs to be flexible to allow changes
- 机制作为其他能效政策和排放交易机制的补充
- 市场可以使带来其他政策手段无法实现的节能量
- 计划的整体性非常重要（监管机构）
- 认定关键方法
- 设计必须足够灵活，可以进行改变

Further Information 更多信息

New South Wales Energy Savings Scheme

新南威尔士州节能计划

www.ess.nsw.gov.au

Victorian Energy Saver Incentive Scheme

维多利亚州节能奖励计划

www.new.dpi.vic.gov.au/energy/policy/efficiency

South Australian Residential Energy Efficiency Scheme

南澳大利亚州住宅能源效率计划

www.escosa.sa.gov.au/electricity-overview/residential-energy-efficiency-scheme-rees-.aspx

Cost of Saved Energy

已节约能源的成本

- Certificate spot prices for ESS (\$A31), VEET (\$A15) reflect supply and demand not cost
- Firms do projects up to value of certificates + energy saved
- Helps reach hurdle rate
- GGAS had lots of EE projects at \$A10/tCO₂e, few at \$A5/tCO₂e
- ESS (31澳元)与VEET (15澳元)证书的现价反应了供应与需求，而不是成本
- 企业参与相当于证书价值+节约的能源量
- 帮助达到最低预期回报率
- GGAS拥有多个10澳元/tCO₂e的能效项目，以及少数5澳元/tCO₂e的项目。