

Regional Greenhouse Gas Initiative: First Auction of GHG Allowances Considered a Success

区域温室气体行动计划： 首次拍卖温室气体排放配额取得成功

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Overview/ Background

概览/ 背景

- What is RGGI?
- Complementary policies
- Achieving RGGI's stated goals
- Auctioning allowances
- Relevance to future GHG programs
- 什么是“区域温室气体行动计划”?
- 辅助政策
- 实现“区域温室气体行动计划”的既定目标
- 拍卖配额
- 与未来温室气体项目的关联

Map of RGGI Region

“区域温室气体行动计划”区域地图



What is RGGI?

什么是“区域温室气体行动计划”？

- Ten Northeastern States
- Affects power plants >25 MW
- Cap baseline = 2000-04 emissions (~188 million tons)
- Program starts 1/1/09
- Emissions kept at baseline through 12/31/14; then
- Reduce GHG 10% from baseline by 12/31/18
- 东北部 10 个州
- 对发电量超过 25 MW 的发电厂产生影响
- 基准上限 = 2000-2004 年排放量 (约 1.88 亿吨)
- 项目开始于 2009 年 1 月 1 日
- 2014 年 12 月 31 日前，排放量保持在基准水平；然后
- 2018 年 12 月 31 日前使温室气体排放量比基准下降 10%

Achieving RGGI's GHG Goals

实现“区域温室气体行动计划”的 温室气体目标

- Allowances allocated to state
- Generators responsible for compliance
- Banking allowed
- Offsets: five categories
 - Energy Efficiency is NOT an offset
- Additionality: financial and regulatory
- Emphasis: GHG reductions to occur based on reduced consumption
- 向各州分配排放配额
- 发电厂负责合规
- 允许银行介入
- 补偿：五个方面
 - 能效不在补偿范围
- 额外性：金融与监管
- 重点：在降低耗用量的基础上减少温室气体排放量

“Complementary” Policies Needed to Achieve GHG Objective

实现温室气体目标所需的“辅助”政策

- Should really be called “essential, critical” policies
- Energy Efficiency/ Renewable Energy, Combined Heat and Power
- Modeling (IPM) reflected that 3 times the current level of EE savings could reduce GHG sufficiently to meet RGGI goals
- MOU required minimum 25% auction. All states agreed to auction higher %; several to auction 100%.
- 实际上应当被称为“不可或缺、至关重要的”政策
- 能效/可再生能源，热电联产
- 建模 (IPM) 显示，如果能达到目前节能水平的三倍，则会大幅度减少温室气体排放量，足以实现“区域温室气体行动计划”的目标
- MOU 规定拍卖率至少达到 25%。各州均同意提高拍卖率；有些州甚至赞同拍卖率应达到 100%。

RGGI Auction Design

“区域温室气体行动计划”拍卖设计

- Univ. of Virginia/ Resources for the Future hired to inform RGGI states
- Two reports: 16 recommendations to guide auction design
 - Uniform-price, sealed bid, single round
 - Reserve price
 - Market monitoring per US Treasury bonds
- EPA data base (EATS) for acid rain and NO_x adjusted for CO₂; administered by third party (now called COATS)
- 聘请弗吉尼亚州大学/ Resources for the Future对参加“区域温室气体行动计划”的州提供情报
- 两份报告:16条建议作为拍卖设计的指南
 - 统一价格、密封式投标、单循环
 - 保留价
 - 以美国国库券为基础进行市场监督
- 根据 CO₂ 调整用于酸雨和 NO_x 的 EPA 数据库 (EATS) ; 由第三方管理 (现被称为 COATS)

RGGI Auction Mechanics

“区域温室气体行动计划”拍卖机制

- Six states offering 1/14 of allowance pool for 2009-11 period
- Four states will offer 1/12 of pool for 2009-11
- Auction conducted by World Energy
- Monitored by Potomac Economics
- 2009-2011 年期间，6 个州占配额池的 1/14
- 2009-2011 年期间，4 个州占配额池的 1/12
- 由 World Energy 进行拍卖
- 由 Potomac Economics 监督



Auction Example

拍卖示例

Bidder 投标者	Bid Price 投标价格	No. allowances bid 配额投标数量	Cumulative Bids 累积投标数量
E	\$5.00	20,000	20,000
A	\$4.50	10,000	30,000
B	\$4.10	10,000	40,000
D	\$4.05	20,000	60,000
E	\$4.00	10,000	70,000
A	\$3.95	10,000	80,000
C	\$3.85	10,000	90,000
E	\$3.80	10,000	100,000
D	\$3.75	5,000	125,000
A	\$3.75	10,000	125,000
B	\$3.75	10,000	125,000
A	\$3.25	30,000	155,000
C	\$3.00	40,000	195,000

Bidding Behavior

投标行为

- Did generators outside RGGI- but who supply MW to RGGI- bid high?
- Did nuclear/RE plants inside RGGI bid low?
- Difficult to know for sure. Data are not public yet, even for RGGI state agencies. COATS data not yet accessible by states
- 未参加“区域温室气体行动计划”，但却向“区域温室气体行动计划”提供 MW 电力的发电厂投标价格是否高？
- 参加“区域温室气体行动计划”的核能/可再生能源发电厂投标价格是否低？
- 难以获得准确消息。数据尚未公开，甚至是参加“区域温室气体行动计划”的州机构仍不知晓。COATS 数据尚未向各州公布

Results of September 2008 Auction

2008年9月的拍卖结果

- ~12.5 million allowances offered (six of ten states)
- Number of bids = ~300% of the amount of allowances offered
- Auction cleared at \$3.07 = ~\$38 MM raised for state programs
- Secondary market established (www.ccfef.com), 3 Nov 2008 price for 2009 allowances = \$3.95 (\$4.25 a week earlier)
- States' preference/requirement that revenue be used for EE/RE (more on this later)
- 约 1,250 万个配额参加竞拍(10个州中的6个)
- 投标数量 = 占参加竞拍配额数量的约 300%
- 成交价 \$3.07 = 为州项目筹集到约 \$38 MM
- 建立二级市场(www.ccfef.com) 2008年11月3日的2009年配额价格 = \$3.95 (一周前为 \$4.25)
- 各州倾向于/规定将收入用于节能/可再生能源 (后面作更详细对比说明)

Results of September 2008 (2)

2008年9月拍卖结果 (2)

- ME, MA, NJ, NY, RI, VT require ~100% auction – 91% weighted average for all RGGI states.
 - Success! Amidst financial turmoil, first emissions program to auction ALL allowances (no allocations), and still everyone posted financial assurance and participated.
- 59 different bidders
- 80% of the total bids (by allowances) were from compliance entities
- Largest bid = 2,528,000 allowances
- Highest bid = \$12 / Lowest = \$1.86 (reserve price)
- Median = \$2.51 / Mean = \$2.77
- 缅因州, 马萨诸塞州, 新泽西州, 纽约州, 罗得岛州, 佛蒙特州要求拍卖率达到近 100% – 占所有参加“区域温室气体行动计划”州加权平均值的 91%.
 - 成功! 尽管处于金融风暴当中, 但却是拍卖 (不进行任何分配) 所有配额的首个排放项目, 并且所有人仍然对金融情况充满信心且积极参与。
- 59 个不同投标者。
- 投标总量的 80% (除以配额) 来自于合规实体
- 最大投标量 = 2,528,000 个配额
- 最高投标价格 = \$12 / 最低 = \$1.86 (保留价)
- 中间价 = \$2.51 / 平均价 = \$2.77

State Allocations and Energy Efficiency

Reinvestment

州分配与能效再投资

State	% of Permits to be Auctioned	% of Proceeds Earmarked for Energy Efficiency
Connecticut	77%	69.5%
Delaware	60% (increasing to 100% by 2014)	up to 65%
Maine	100%	up to 88%
Maryland	85%	46%
Massachusetts	98%	at least 80%
New Hampshire	at least 71% (at least 83% after 2011)	up to 90%
New Jersey	up to 99%	up to 80%
New York	97%	up to 100%
Rhode Island	99%	up to 95%
Vermont	99%	100%

The Fine Print...

附加说明...

- 100% auction \neq 100% of \$ returned to states
- 5-10% of \$ to be used for administration
- Revenue from first auctions also directed to fund start-up costs for new programs
- Important for consumers to ensure that auction revenue is used as required by state statute or regulation
- 100% 拍卖 \neq 所有收入均返还各州
- 收入中的 5-10% 将用于管理
- 首次拍卖所得收入还用作对新项目投资的启动经费
- 对于消费者确保拍卖收入按照州法令与法规要求进行使用至关重要

RGGI \$ Will Help States to Better Integrate Environmental and Energy Programs

“区域温室气体行动计划”收入将有助于各州更好地整合环保与能源项目

- RGGI adds 10-30% more for efficiency and renewable energy
- Both are key to meet EPA ozone standard
- Both programs in the “top ten” measures to reduce GHG
- “区域温室气体行动计划”使能效与可再生能源提高 10-30%
- 两者对于符合 EPA 臭氧标准至关重要
- 两个项目均位于减少温室气体排放量的“十大”举措行列



Future Steps 未来计划

- RGGI has already informed the US national discussion to regulate GHG. Allowance auctions included in Congressional bills
- CT, NJ now have mandatory requirements to reduce GHG economy-wide 80% by 2050.
- Western Climate Initiative covering multiple economic sectors
- “区域温室气体行动计划”已经为美国关于管制温室气体的全国性讨论提供了依据。配额拍卖已被纳入国会法案当中
- 康涅狄格州与新泽西州目前规定在 2050 年前使整个经济范围内的温室气体排放量减少 80%。
- “西方气候行动计划”覆盖多个经济领域

Thank You!

谢谢!



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