

**UK Climate Change Levy
Addressing Industrial Efficiency
英国气候变化税与工业能效**

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英国气候变化项目

UK Climate Change Program

- Established in 2000
 - Kyoto Protocol commitment of a 12.5% reduction in greenhouse gas emissions by 2008-2012 relative to 1990
 - Domestic goal of a 20% CO₂ emissions reduction relative to 1990 by 2010
- 建立于2000年
 - 京都议定书承诺，到2008-2012年，温室气体排放相对于1990年的数值将减少12.5%
 - 到2010年，国内CO₂的排放量相对于1990年减少20%



英国气候变化项目

UK Climate Change Program

- **UK emissions of carbon were 156MtC in 2003 – 40% from industry and commerce**
- **Over the last 30 years, UK output has doubled, but energy use in industry has hardly risen.**
- **But UK industry and businesses still waste an estimated 30% of their energy – especially in service sectors**
- **2003年，英国的碳排放为156MtC，其中40%源自工商业**
- **在过去的30年，英国的产值翻了一番，而其工业耗能却几乎没有增长**
- **但是，英国的工商业部门的能源浪费据估计仍达30%，服务部门能源浪费尤其严重**

针对工业和商业的项目

Programs Aimed at Industry and Business

- Climate Change Levy and Agreements
- Carbon Trust
- Enhanced Capital Allowances
- EU Emissions Trading Scheme
- 气候变化税和协议
- 碳基金
- 提高的投资补贴
- 欧盟排放交易方案

气候变化税

Climate Change Levy

- Energy tax applied to industry, commerce, agriculture, and the public sector
- Does not apply to domestic customers or charities
- Electricity produced through combined heat and power (cogeneration) units or with renewable sources is not taxed

- 能源税用在工业、商业、农业和公共部门
- 未应用于家庭消费者和慈善机构
- 使用热电联产或利用可再生资源的电力生产可免税

气候变化税

Climate Change Levy

- **Introduced in 2001**
 - **Adds about 10-15% to fuel bills**
 - **Exemptions for renewable sources and CHP**
 - **Most companies could save the cost of the levy by simple better management, without investment**
 - **But, for non-energy intensive sectors, the costs of energy are too low to incentivise this action**
- **2001年引入**
 - **燃料费用将增加10-15%**
 - **可再生能源与热电联产免税**
 - **多数公司可以不需投入，仅通过好的管理即可得到减税**
 - **但是，对于非高能耗部门而言，其能源费用太低，而对此没有兴趣**

气候变化税

Climate Change Levy

燃料Fuel	税率Tax Rate (£)	税率Tax Rate (\$US)
天然气Gas	£0.0015/kWh	0.0028 \$US/kWh
煤 Coal	£0.0117/kg (£0.0015/kWh)	0.02202 \$US/kg (0.0028 \$US/kWh)
液化天然气 Liquified Petroleum Gas	£0.0096/kg (£0.0007/kWh)	0.01807 \$US/kg (0.001318 \$US/kWh)
电力 Electricity	£0.0043/kWh	0.008094 \$US/kWh

气候变化税—“中性税收”

Climate Change Levy – “Revenue Neutral”

- **Most western governments want environmental taxes to be seen as a good thing to protect the planet, not a way of raising money**
- **In the UK, revenues from the levy are returned to industry through a :**
- 多数西方国家政府希望环境税收是保护地球的好事，而不是为了敛钱
- 在英国，所得税收通过如下渠道返回工业部门：

气候变化税-“税收中立”

Climate Change Levy – “Revenue Neutral”

- **0.3% reduction in the rate of employer’s National Insurance Contributions,**
 - **funding of the Carbon Trust (a public benefit fund) and**
 - **reductions or exemptions for meeting targets or switching to renewables or cogeneration.**
- 减少英国国民保险雇主缴纳率的**0.3%**
 - 碳基金项目资助（一项公共收益基金）
 - 在达到能效目标或应用可再生能源或热电联产的条件下减免税

碳基金

Carbon Trust

- Funded from Climate Change Levy receipts
 - An independent body to promote carbon reductions in industry and commerce
 - Advises industry e.g. through site visits
 - Provides low costs loans for energy efficiency projects
 - Provides venture capital for investments in early-stage carbon reduction technologies
- 由气候变化税设立
 - 作为一个促进工商业领域碳排放减少的独立机构运作
 - 通过现场走访等方式给工业企业提出建议
 - 为能效项目提供低成本贷款
 - 为碳减排技术的早期阶段提供风险投资

提高投资补贴方案

Enhanced Capital Allowance Scheme

- **Part of the CCL “package”**
- **Business can claim 100% tax allowances on their capital spending on energy saving equipment (specified in a government list) against their taxable profits**
- **气候变化税（CCL）一揽子方案的一部分**
- **企业可以申请由税前利润冲抵节能设备（由政府清单列明）100%的投资。**

气候变化协议

Climate Change Agreements

- Energy efficiency agreements
- 80% discount on Levy for meeting targets
- Duration: 2001 to 2013
- First assessment period: 2001-2002
- Projected carbon savings of 2.5MtC by 2010
- Ten times the estimated price effect of the levy alone

- 能源效率协议
- 达到目标的情况下，可以减税80%
- 持续时间：2001年-2013年
- 第一次评估期间：
2001年-2002年
- 计划到2010年碳排放减少250万吨
- 估算效益相当于税收的10倍

气候变化协议

Climate Change Agreements

Actual savings

2002 – target 1.6MtC
– performance 4.4 MtC

2004 – target 1.5MtC
– performance 3.9 MtC

实际减排效果

2002 – 目标为 1.6MtC
– 达到 4.4 MtC

2004 – 目标为 1.5MtC
– 实现 3.9 MtC

气候变化协议如何产生了这些影响？

How did the CCAs produce this response?

- **Crucial link between the levy and the agreements**
- **CCAs were not a simple price signal**
- **To get the discount on the tax, the companies HAD to take action and report the results**
- **The same companies had not responded to 25 years of energy efficiency advice programmes.**
- 征税与协议间的重要关系
- 气候变化协议不是一个简单的价格信号
- 公司获取减免税的条件是必须采取行动并汇报有关结果
- 同样的公司在过去**25**年没有响应提高能效的建议

企业如何能实现目标？

Why did industry beat the targets?

- **Industry genuinely believed they were energy efficient prior to initiation of CCAs**
- **But, for first time, company Finance Directors took interest because a tax reduction was available, and authorised spending**
- **Industry found savings were easier than expected**
- **Psychology, not economics**
- 企业认为其在设计气候变化协议前就已实现了能源高效
- 但是，公司的财务领导首次因为税收减免和有权使用而对提高能效感兴趣。
- 企业发现减少排放比所预期的要容易
- 心理因素，而非经济因素

时间表

Timescales

- **March – November 1998 :** Lord Marshall drew up proposals for an emissions trading scheme and energy tax
 - **March 1999 :** government announced that the tax would be introduced in April 2001
 - **March 1999:** government began negotiations with industry
 - **December 2000 - March 2001:** agreements signed with 40 sectors and around 6000 companies
- Around three years from conception to implementation**

- **1998年3-11月:** Lord Marshall起草了排放交易计划及能源税项目建议书
 - **1999年3月:** 英国政府宣布将于2001年4月实施能源税
 - **1999年3月:** 政府开始与企业磋商
 - **2000年12月—2001年3月:** 英国政府与40个行业的大约6000家公司签署了协议
- 从概念的设计到实施历时大约3年**

商议的主要问题

Issues for negotiations

- **Terms of the agreements took the most time**
- **Actual target negotiation was not as difficult**
- **Industry wanted many risk management options**
- 多数时间用于协议的条款的商议
- 实际目标的协商并不困难
- 企业希望有风险管理的多种选择

需要可量化的目标

Need for measurable targets

- **The potential to lose the levy discount must be real to force action**
- **Failure to implement energy plans not enough – very difficult to determine what is failure**
- **Most industries constructed targets on a “bottom up” basis**
- **Largest sectors applied a % reduction across all operators eg food and drink sector with > 1000 sites**
- **公司必须确实采取行动，否则就会失去减免税的机会。**
- **能源计划的实施失败并不足以成为理由，或很难定义失败意味着什麼**
- **大多数企业是在“由下至上”的基础上建立其目标**
- **最大的行业是使其所有的企业减少一定比例的能耗。例如食品与饮料行业超过1000家企业。**

英国排放交易计划

UK Emissions Trading Scheme

- **Companies that do not meet their targets can purchase carbon allowances**
 - **Companies that exceed their target savings can sell carbon on the emissions trading market or bank the carbon for future periods**
 - **During the first assessment period, 0.16 MtC (0.58 MtCO₂) was bought and used to help meet over 1000 of the CCA targets, while 1.3 MtC (4.7 MtCO₂) was allocated or saved for future use**
- 不能达到自己减排目标的公司可以购买碳排放指标
 - 超过自己减排目标的公司能在排放交易市场中，出售它们的碳指标或者留做将来使用
 - 在最初的评估阶段，碳指标的购买量为0.16 MtC (0.58 MtCO₂)，用来满足超过气候变化协议(CCA)中1000个目标，而1.3 MtC (4.7 MtCO₂) 留做将来使用。

英国排放交易计划

UK Emissions Trading Scheme

- Enabled the UK to “practice” emissions trading before an international trading market became established.
- The UK therefore developed an effective trading registry which is used in many other countries.
- UK firms had experience of trading in advance of using the EU market at the beginning of 2006.
- 使得英国在国际交易市场建立前就开始尝试了排放交易
- 因此英国建立了有效的交易方案并被许多其他国家引用
- 英国公司因此可以在2006年初参与欧盟市场时就已获取了经验

气候变化征税和相关项目对工业的影响

Impact of the Climate Change Levy and Associated Programs on Industry

- **Energy has become a high-level issue. Chief executives and finance directors are alert to the additional costs of their energy and to the importance of ensuring they meet their targets and maintain their levy reductions.**

- 能源已经是高层重视的问题。首席执行官和财务主管开始关心所增加的能源成本，意识到了确保实现减排目标的重要性，以享受税收的减免。

气候变化征税和相关项目对工业的影响

Impact of the Climate Change Levy and Associated Programs on Industry

- Industry is saving over £450 million (\$832 M) a year on the energy it has not bought as a result of meeting the CCA targets, in addition to the savings on the Climate Change Levy itself.
- 除了气候变化税带来的节约外，企业每年节约能源支出**4.5亿英镑（8.32亿美元）**。

总结：气候变化征税和气候变化协议一揽子项目的收益

Summary – benefits of CCL/ CCA package

- **The levy sends price signals, but is low enough for firms to offset it by simple energy efficiency measures and therefore does not affect general profitability**
- **For energy intensive sectors, linking the levy with agreements ties these sectors into real action to obtain a tax reduction**
- **The levy can also fund energy efficiency advice eg through the Carbon Trust**
- **Produces real savings to industry in lower energy costs**
- **征税给出了价格信号，但是因其很低，企业可以采用简单的能效手段抵消此费用，从而并不影响总的收益**
- **对于高能耗行业，将征税与协议相结合可以使这些行业真正采取行动以获得税收减免**
- **税收也可以资助提高能效建议的研究，例如通过碳基金给予支持**
- **帮助企业通过较低的能源费用实现真正的节约**



英国气候变化项目
UK Climate Change Programme

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www.defra.gov.uk/environment/ccl/index.htm

