

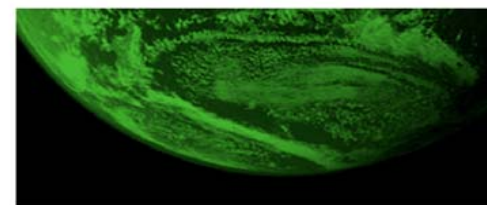
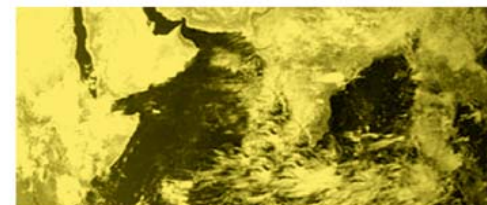
energy for a better future

UNECE

Ad Hoc Group of Experts on CMM

Perspectives on UK CMM Industry

Ad Hoc Group of Experts on Coal Mine Methane, Geneva, 6th Dec.
2004



Dr. Cameron Davies - December 6th 2004



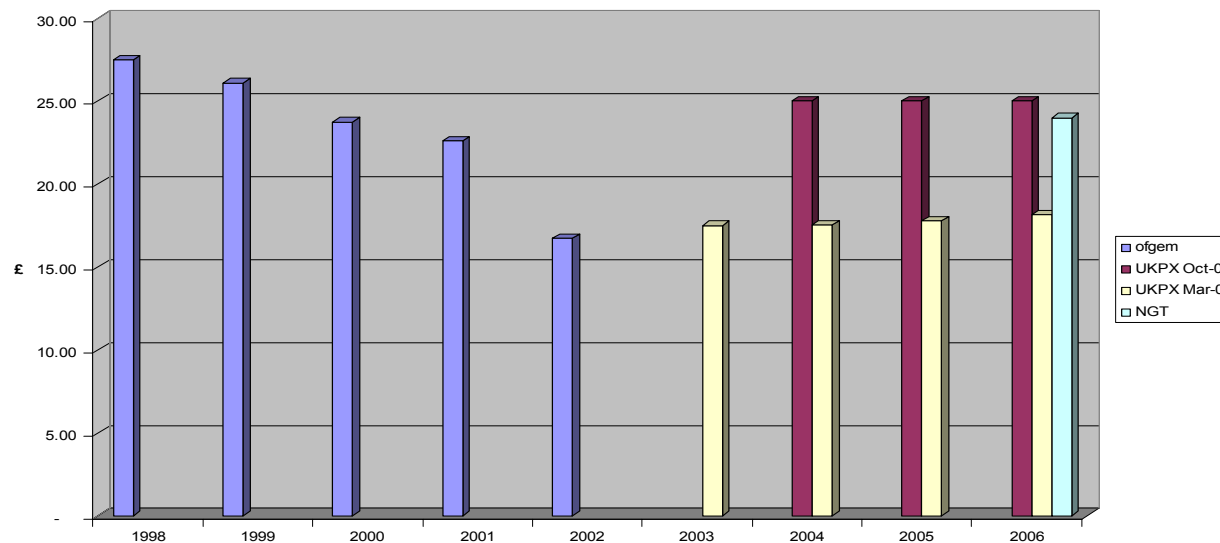
International Drivers for CMM Utilisation

- Methane to Markets Partnership raised political profile
- Huge opportunities and strong world interest in CMM:
 - Russia, India, USA, Iran, Ukraine, Kazakhstan, China, etc
 - Operating mines raising safety standards to best practice
 - Dangerous, old mines being closed worldwide
 - Alkane's 1st containerised extraction plant sold to Iran
- UK industry finally on track to develop new power generation sites
- CMM industry booming in Germany c. 200MW installed
- Many deep coal mines under development
- Additional revenue from carbon mitigation projects

CMM Power Generation Projects in the UK

- Established abandoned mine projects – 6 totaling c. 35MWe
 - Shirebrook, Markham, Wheldale, Barnsley, Bentinck, Hickleton
- Projects under development – 9 totaling c. 33MWe
 - Alkane Energy - Whitwell, Mansfield, Bevercotes, Markham
 - Greenpark Energy - Grimethorpe, Frickley, Brodsworth, Selby, Houghton Main
- Established working mine projects-
 - Tower, Maltby, Thoresby, Selby, Welbeck c. 21MWe
- Economics driven by Government grant - £21 million via UK ETS
- Electricity prices returned to 2000 levels c. €40/MWh
- Bank financing for CMM still difficult following ENRON, TXU etc.

UK Electricity Market – Expectations 2004



- Prices fell to around €24 in 2002 NETA in 2001
- Prices rising rapidly and market expectations changing
- Expectation in January 2004 of up to €40
- Actual short term contracts now in excess of €45 rumoured
- Impact of EU ETS uncertain
- Outlook for CMM projects in UK - better

UK Government and CMM - CCL and Renewables

- **Climate Change Levy (CCL) exemption from 1/11/2003**
- **DTI study concluded:**
 - CMM emissions small and diminishing rapidly
 - Excluded Renewable Obligation as solution
 - Potential for only 20MW of electricity generation
 - Preferred DTI solution is to flare gas not to use it!
- **Evidence contradicts DTI view:**
 - 33MWe of projects underway
 - Hazardous gas emissions blight communities
 - German research suggests that CMM is renewable

UK Government and CMM – Background

- PM makes Climate Change top priority - 2004
- Actual Government policy on CMM contrast with warm words
- Emissions from Government owned mines continue
- CMM is still a major hazard in old mining areas
- Abandoned mine CMM captured in:
 - Germany - allowed for EU ETS
 - UK – not allowed for EU ETS
 - excluded from UK Emission Trading Scheme
 - working mines included – pay the polluter!
- ACMMO arguments have largely been ignored by DTI
- Good News? - DEFRA report on Kyoto baseline for CMM due 2005

Contrast Between German & UK Legislation

	Germany	UK
Licence Fees	One off fee of €2,000 covering 30 years.	Sliding scale of rentals over 31 years. Typically start at £625pa rising to £30,000pa
Price Support	€76.70 (£54) per MWh for first 0.5MW of installed electrical output and €66.50 (£47) per MWh thereafter. Price guaranteed for 20 years	Only CCL exemption worth £4.30/MWh. No green Premium. Current market price £25/MWh. Short term contracts £28/MWh
Carbon Emissions Trading	Eligible to sell the carbon emissions mitigated by the methane capture project	Not eligible to sell carbon emissions mitigated, even under the UK's own ETS. Working mines can sell emissions credits
Business rates	No local tax payable by German CMM operators. No royalties payable on CMM	Tax based on a royalty on gas captured plus charge on land, buildings and plant. Total cost for a site £27,000pa
Planning	As a result of inclusion in the Renewable Sources category, CMM projects receive favourable attention at all stages of development of projects	Not given renewable status. CMM projects therefore receive no special help, resulting in cancellation of tens of projects

UK CMM Industry - Conclusion

- Climate for CMM projects improving as energy price rises
- No Government support yet for CMM utilisation
- Hope that DEFRA will set reasonable Kyoto baseline
- DTI prefers to flare and waste this domestic energy resource
- Debt finance unavailable due to:
 - volatility of wholesale electricity price market
 - banks burnt by failure of British Energy, ENRON, TXU etc.
- Rising energy prices but still need CMM in green energy scheme
- W/wide interest in CMM capture - abandoned and working mines
- Drivers – safety, climate change politics, carbon emissions trading

Alkane Energy - Pro2

Leaders in Climate Change Mitigation Technology

