

Coal Mine Methane (CMM) Ownership Rights and Issues: a Global Overview

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The Importance of Clear Rights in CMM Utilization

- Ownership is a form of incentive for CMM
 - Poorly defined ownership and leasing rights can create conflicts and obstacles to utilization
- Clear rights reduce uncertainty, risks and costs:
 - Basis for producing and selling a valuable commodity (e.g., selling CMM-based electricity on the market)
 - Clear rights is key to multi-party projects
 - **Germany:** Rights to CMM are automatically provided to a coal mining company for the duration of the coalmine lease.
 - Clarity reduces risks!

Ownership vs. Leasing of Mineral Resources

- Who may be the primary owner of geologic formations that contain CMM in countries?
 - National government (Colombia, Russia, China, Mexico, western United States)
 - Regional governments (Argentina, Australia)
 - Private (eastern United States)
 - Owner can sell, lease, gift or bequest ownership rights individually or entirely to others
 - Private ownership might have fewer conflicts
- In the majority of countries: government-owner leases mineral rights to others for a limited period

Leasing of Mineral Rights

- A lessee usually pays an up-front lease bonus payment and a royalty percentage of the value of any production
- Aspects of leasing that might affect CMM:
 - Leasing by subsoil space, geologic formation or by resource type
 - Bundling of resource development stages under one lease: exploration, appraisal and production
 - Transferability of rights (subleasing)

Licensing to Develop Natural Resources

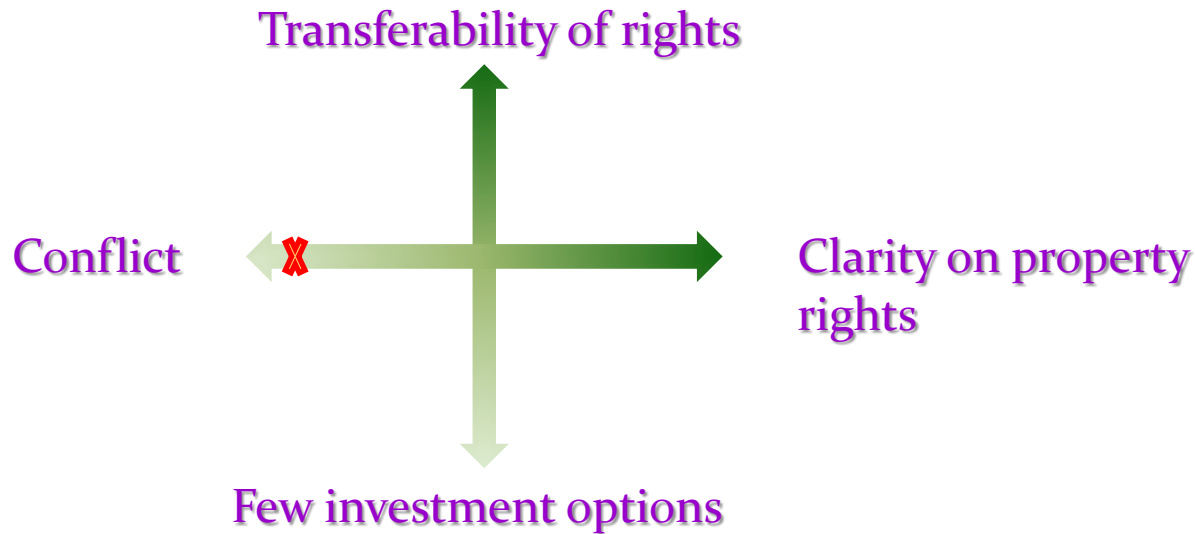
- To develop the natural resource, gov't also requires a **license**:
 - Many countries have different licensing procedures for coal vs. oil and gas
 - **China**: pre-drainage requires a CBM/CMM license but VAM, gob-drained, in-mine drained CMM does not
- Often, the word “license” is used in reference to a lease, e.g., British terminology

Leasing Procedures



- Legal framework for subsoil resource ownership should aim to:
 - Provide clear legal definition of ownership rights
 - Describe how exploration and production rights are to be granted and by whom (e.g., in a mining law)
 - Specify conditions under which private and state entities will exploit the resource
- If needed, then also:
- Establish process for how conflicts are resolved

Clarity of Property Rights vs. Conflicts



– Questions for legal framework:

- Is CMM acknowledged as a resource? Are there leasing procedures for CMM?
- How easy is it to obtain a license to operate a CMM project?
- Who are the regulatory agencies and do they have a conflict of interest (owner plus regulator)?

Conflicting Rights and Resolution

- Conflict: two or > owners in the same space:
 - Conflicts over overlapping allocation/non-exclusive right (poor record keeping)
 - Ownership of rights to gas vs. ownership of rights to coal in the same geologic space
 - Conflicts because of production in the same space (“split estate”):
 - Surface vs. subsoil, e.g., United States
- One solution: treat CMM as part of the coal estate & assign CMM rights to coal company
 - E.g., Germany, but a company must demonstrate planned activities

Conflict Resolution Options

- Other options for resolution:
 - *Australia*: Coal lessee has the right to CMM and can utilize on-site; off-site sales require a petroleum lease. In New South Wales, coal lessee may apply for inclusion of petroleum or gas in the mining lease, provided no other petroleum lease exists for the area.
 - If the coal company refuses its CMM rights, auction them to another company



Other Ownership Models

- Other ownership models:
 - **United Kingdom:** Methane Development Licenses are given at operating mines. Leases for abandoned mine methane (AMM) are based on petroleum leasing legislation, since it was impossible to delineate AMM under mining licensing procedures. CMM leases are offered through on-shore leasing rounds every two-three years.
 - **Canada:** Coal lessee may recover CMM with government approval for safety or conservation reasons.
 - “Split estate” conflicts in British Columbia: government has outlined process for mitigating conflicts;
 - In Nova Scotia, government may alter leases to maximize resource development.
 - **United States:** On federal lands, with multiple lease holders => need for conflict management via Conflict Administration Zones. Policy goal: optimizing production of coal and Coalbed Methane (CBM) on federal lands.
 - 50% royalty reduction for oil and gas (CBM) lessees, if they agree to expedite CBM production and, when requested, abandon wells for mining to begin

Other Considerations: Production Economics

- Company that produces CMM-based energy depends on production of coal
 - How to allocate risks?
 - Contractual arrangements: a CMM operator and a coal company may have separate agreements to sell gas, purchase power and lease land to better mitigate production risks
- Other options to boost economics:
 - Access to gas and power markets
 - Feed-in tariffs and obligations
 - Carbon markets
 - Tax incentives

Ownership as an Enabling Condition

- Less supportive enabling conditions require more policy support for to make CMM projects feasible



Conclusions and Implications for Colombia

- To reduce conflicts, countries have allowed coal companies the first right to CMM
- Other best practices: easy transferability of rights and easy licensing procedures for CMM
- Consideration for Colombia:
 - Coal vs. oil and gas rights are given separately ⇒ clear procedures for resolving potential conflicts
 - Allow for easy transfer for CMM rights
 - Expand CMM/CBM licensing to more companies
 - Allowing companies to blend CMM and CBM to improve economics (e.g., straightforward licensing procedures)

Thank you!

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