Royalty Policy Committee - Introduction to Royalties at DOI

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Outline

- Royalty as an economic concept
- Discussion applies to mineral commodities in general (fuel and nonfuel)
- Background on how the current royalty rates and fiscal regime were selected
- The relationship between royalties, bonus bids, and taxes
- Alternative types of royalties
- Comparisons between royalty rates for the federal government, states, and foreign countries
- Criticisms DOI programs

Some history…

“For centuries and almost without exception, the required royalty was a fixed share of the output of the mine, either gross proceeds or more commonly-the actual mineral product. For example, 18th century colonists were required to pay a royalty of one-fifth of all metals or minerals produced in Spanish America to the **King of Spain, and in 1785** the Continental Congress required that **"one-third of all gold, silver and copper mines”** on the public domain should be reserved for the new government of the United States of America… For most of this long history, a royalty has represented nothing more than a payment for the right to mine. Only in the last three decades have mineral leasing and royalty policy deviated from the historical concept that the owner's rightful royalty is simply a share of production without consideration of the lessee's ability to pay or other social or economic factors.”

Source: *Alternative Royalty Systems for Hard-Rock Minerals*, March 31, 1980, Thomas J. O'Neil Office of Minerals Policy and Research Analysis, U.S. Department of the Interior Washington D.C.

U.S. Fiscal Regime

Bonus Bid: reservation value due when lease is granted, exclusive right to drill wells and produce hydrocarbons on the lease

Rental: fixed annual per acre payment, due each year of the lease until production starts

Royalty: fixed percentage of the gross sales value of oil and gas volumes produced

Tax (corporate or individual income): collected by Treasury

Fiscal regimes often account for risk sharing and uncertainty.

Other non-financial aspects: lease term; due diligence requirements; royalty relief.

Revenues collected are shared with states and tribes. Some revenues are distributed to certain Treasury funds (e.g. LWCF, Reclamation Fund).

What is a Royalty? Different from a Tax

Royalty

- Payment to a resource owner (in this case U.S. taxpayers) ,e.g., similar to wage for labor or rental payment for land.
- Voluntary exchange for the flow of services provided by that land over time.
- A “factor payment,” or return, to resource owners as both a marketable capital asset and input to production.

Tax

- Compulsory levy on individuals and businesses to finance the cost of government for the common welfare, and not a return to a factor of production in exchange for specific services provided.

Economic Concepts - Economic Rent

Economic Rent - income accruing over the long run to the owner of a resource (U.S. taxpayer) under conditions of perfect competition, and in the absence of externalities.

- Measured as the difference between the market value of production and various costs including extraction, exploration, development, operations, a normal return on capital, and any risk premium.

- Resource rents belong to the owners of the resource.

Economic Concepts - Fair Market Value, Fair Return

FMV: relative to a particular tract/parcel/lease (market price)

FR: return to the government for its resources (economic rent)

Theoretically, in a competitive sale with enough bidders, the fiscal regime (rent/bonus bid/royalties) would ensure that the public receives FMV for federal resources.

Determining FMV is challenging in situations where competition is limited.

Economic Concepts - Key Components of a Royalty

- Policy choices
    - Royalty “base”
    - Rate
    - Deductions / Exclusions
    - Administration and compliance costs

Resource	Bonus Bid	Rent	Royalty	ROW Fee	Operating Fee	Claim Fee
Fossil Fuels	X	X	X			
Offshore Wind	X	X			X	
Onshore Wind, Solar	X	X		X		
Geothermal	X	X	X			
Hardrock (locatable) Minerals						X
Other Minerals (Sodium, Potash, etc)	X	X	X			

Tribal Land

The Bureau of Indian Affairs (BIA) reviews and approves oil and gas and other mineral leases on Indian lands.

Most tribal leases are sold by tribal governments; allotted leases are negotiated between Indian owners and companies, with BIA involvement.

BIA holds a limited number of lease sales each year for Indian lands, mostly in Oklahoma.

Fiscal regime: bonus bid/rent/royalty

Fair Market Value -- Onshore Minerals

Mineral Leasing Act/BLM regs:

- Value that a lease would receive under a competitive sale.
- Assume the entities offering the highest bonus bids in a competitive bidding process are paying fair market value.
- Land can also be leased under a noncompetitive offer (still subject to minimum bonus bids, acreage rents, royalty rate, etc.).
- BLM Manual lays out systematic process for determining FMV.

Onshore Rent/Royalty Rates

Leasing program	**Royalty rate**	**Minimum bid/acre** **Max acres/lease**	**Rent**
Oil and gas: Federal (except Alaska NPR-A)	12.5%	Min $2/acre; max 2,650 acres	$1.50/acre for first 5 years; $2/acre thereafter
Oil and gas: Alaska NPR-A	16.67%, high potential tracts; 12.5% low potential tracts	$25/acre, high potential tracts; $5/acres low potential tracts	$5/acre high potential tracts; $3/acre low potential tracts.
Coal	Underground: 8%; surface: 12.5%	Sale-by-sale determination	$3/acre

Offshore Oil and Gas

The Outer Continental Shelf Lands Act (OCSLA)

> "Leasing activities shall be conducted to assure receipt of fair market value for the lands leased and the rights conveyed by the Federal Government."
>
> Statutory minimum royalty rate -- 12.5%.

BOEM sets minimum bid levels, rental rates, and royalty rates by individual lease sale based on its assessment of market and resource conditions.

Detailed procedures and models to evaluate bid adequacy.

Evaluating FMV for Offshore Leases

- FMV -- defined in “DOI’s Procedures for OCS Bid Adequacy.”
- Bid adequacy procedures are followed for each block to ensure receipt of fair market value using geological, geophysical, engineering, and economic principles and techniques.
- Considers costs, prices, transportation, drilling and water depths, facility type, fiscal terms.
    - Monte Carlo Simulation to estimate a mean from the range of values (MROV) for the block’s private value after allowing for a normal rate of return.

If Bid is Above MROV - Recommend to Accept Bid

If Bid is Below MROV - Recommend to Reject Bid

- Lookback studies compare results of a wildcat well to G&G information available pre lease.

Offshore Oil and Gas Rental and Royalty Rates (GOM)

Royalty rates

- Minimum statutory royalty rate allowed by the OCSLA - 12.5%
- Early 1980s - August 2006: shallow water - 16.67%; deep water - 12.5%
- Beginning in August 2007: shallow and deep water - 16.67%
- Since 2008: 18.75%
- Most recent lease offering (August, 2017): shallow water - 12.5%; deep water - 18.75%

Rental rates

- Mid 1980s-early 1990s: $3/acre
- Mid 1990s-2005: $5/acre shallow water; otherwise $7.50/acre

Renewables -- Onshore

<u>Solar</u>: Rental fee and $/megawatt capacity fee

- Capacity fees weighted by efficiency factor for different technologies. Rental rates vary depending on the location.

<u>Wind</u>: Rental fee plus $/megawatt capacity fee

- Capacity fee weighted by efficiency factor, average electricity price, and federal bond yield. Rental rate varies by location.

FY 2016 solar and onshore wind rental/capacity fee revenue: $17M.

<u>Geothermal (EPAct)</u>: Bonus, rent, royalty

FY 2016 royalties -- $7.7 million

Renewables -- offshore wind

Energy Policy Act (EPAct) requires that BOEM:

- Lease on a competitive basis;
- Obtain fair return for leases and grants issued;
- Coordinate with other Federal agencies and affected state and local governments

$3/acre rental fee; operating fee of 2% of the wholesale market value of the projected annual electric power production (weighted by capacity factor).

FY 2016 revenues -- about $3 million in wind rental/operating fees and about $2M in bonus bids.

U.S. Fiscal Regime Compared to Other Countries

- 2011 study *Comparative Assessment of the Federal Oil and Gas Fiscal System* found that from a government perspective, the current GOM fiscal lease terms rank generally in the middle of a sample of fiscal terms adopted by other governments for offshore concessions.
- Some conditions have changed since 2011.
- BOEM has contracted for targeted studies looking at international fiscal terms (Mexico, Brazil).

Van Meurs (2011)

- The range of government take in North America is not different from the international range.
- For a base case oil well, the lowest government take is 31% and the highest is 83%.
- For a base case gas well the lowest government take is 38% and the highest is 99%.
- Government take is generally lower on Federal lands than state lands within the same jurisdiction.
- Government take is lower on Federal lands than on private lands.
- On average, Canada offers lower gov’t take, lower income tax, and more incentives than U.S.
- U.S. Federal royalties tend to be lower than State and private royalties (note: did not

Evaluating Fair Return

- GAO has issued reports in recent years on the fair return from federal leases:
    - 2008: DOI should periodically collect information on how U.S. “government take” and attractiveness of oil and gas investment compares with that of other resource owners.
    - 2013: DOI should implement procedures for conducting periodic assessments of the overall fiscal system and establish procedures for determining when and how to adjust lease terms for new offshore leases.
    - 2017: raising federal royalty rates for onshore oil, gas, and coal resources could decrease oil, gas, and coal production on federal lands, but increase overall federal revenue. The report notes that this result depends on market conditions and prices.

Some Responses

- BOEM: Annual evaluation of fiscal terms to ensure receipt of fair return in lease sales. The analysis includes a review of domestic and international market conditions, industry trends, and economic analysis of alternative terms to recommend fiscal terms that provide a fair return while still attracting industry interest.

- BLM : Issued written direction that established the policy and the procedures under which it will conduct broad assessments of the onshore federal oil and gas fiscal system and its performance relative to systems employed by other onshore oil and gas resource owners in order to determine whether changes to the BLM fiscal system or fiscal terms are necessary and appropriate. The fiscal assessments will be conducted at 3 and 10 year intervals.

Coal

OIG (June 11, 2013): *Final Evaluation Report-Coal Management Program*, http://www.doi.gov/oig/reports/upload/CR-EV-BLM-0001-2012Public.pdf

GAO (December 18, 2013), *Coal Leasing: BLM Could Enhance Appraisal Process, More Explicitly Consider Coal Exports, and Provide More Public Information*, http://www.gao.gov/products/GAO-14-140

Issues raised:

- FMV and criteria for accepting bids (i.e. reject bids below FMV estimate);
- Export potential; and
- "Efficient national standards for lease sales and re-offers."

BLM's response:

- FMV: published Coal Evaluation Manual;
- Provided domestic and export market consideration criteria;

Thank you!