Evaluation of ACES with HB 110 Proposal

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House Finance
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Overview

I. How ACES Operates / Problems it Creates
II. International Competitiveness
III. Current Evidence of Problems from ACES
IV. Proposal to Fix ACES
Tax Rate under ACES

• Base rate of 25% of net value (after deducting all costs)
• Progressivity element when net value per barrel exceeds $30/bbl:
  – (Net value per barrel value - $30) X .004
• If oil market price is $90/bbl:
  – Net value per barrel is $58/bbl
  – Progressivity = ($58 - $30) X .004 = 11.2%
  – Total tax rate = 25% + 11.2 = 36.2%
  – 36.2% X $58 X 0.875 (non-royalty) = $18.37/bbl
  – **APPLIES TO ENTIRE NET VALUE**
2010 U.S. Tax Rate for Single Taxpayer

- First $8,375 10%
- Next $25,625 15%
- Next $48,400 25%
- Next $89,450 28%
- Next $201,800 33%
- Anything over $373,650 35%
What Happens to the First Dollar of Value under ACES
Marginal Tax Rate under ACES (All State & Federal Taxes & Royalties)
How Much Gov't Gets When Price Goes Up $1

Marginal Tax Rate vs. ANS Market Price ($/bbl)
Hypothetical Expected Price Outlook

Probability of Certain Price

Oil Price ($/bbl)
International Competitiveness
International Marginal Tax Rates @ $100/bbl Market Price
Tax & Royalty Regimes
Where $100/bbl ($25B) Went in 2008

**Producers**

- $20/bbl ($5B)

**Government**

- $56/bbl ($14B)
  - State: $11B
  - Sev tax: $7B
  - Feds: $3B

**Costs**

- $24/bbl ($6B)
<table>
<thead>
<tr>
<th>Location</th>
<th>After-Tax Income ($billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gulf of Mexico</td>
<td>$10.3</td>
</tr>
<tr>
<td>U.K.</td>
<td>$9.0</td>
</tr>
<tr>
<td>Alberta</td>
<td>$8.2</td>
</tr>
<tr>
<td>Thailand</td>
<td>$8.2</td>
</tr>
<tr>
<td>Australia</td>
<td>$6.9</td>
</tr>
<tr>
<td>Brazil</td>
<td>$6.6</td>
</tr>
<tr>
<td><strong>Alaska</strong></td>
<td><strong>$5.0</strong></td>
</tr>
<tr>
<td>Norway</td>
<td>$4.1</td>
</tr>
</tbody>
</table>
### ConocoPhillips Financial Performance: Alaska vs. Rest of World ($millions)
2008 ($100/bbl) vs. 2009 ($60/bbl)

<table>
<thead>
<tr>
<th></th>
<th>Alaska</th>
<th>Rest of World</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional pre-tax income</td>
<td>$3,673</td>
<td>$14,707</td>
</tr>
<tr>
<td>2009 over 2008</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Additional taxes</td>
<td>$2,898</td>
<td>$7,163</td>
</tr>
<tr>
<td>2009 over 2008*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Additional after-tax income</td>
<td>$775</td>
<td>$7,544</td>
</tr>
<tr>
<td>2009 over 2008</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of additional pre-tax income</td>
<td>21%</td>
<td>51%</td>
</tr>
<tr>
<td>retained after-tax</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Alaska: 80% severance tax / 20% income tax; Rest of World: 10% severance tax / 90% income tax*
### OIL SEVERANCE TAX RATES BY STATE

<table>
<thead>
<tr>
<th>State</th>
<th>Rate (% of gross)</th>
<th align="center">:</th>
<th>State</th>
<th>Rate (% of gross)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iowa</td>
<td>NONE</td>
<td align="center">:</td>
<td>Illinois</td>
<td>5.00%</td>
</tr>
<tr>
<td>New York</td>
<td>NONE</td>
<td align="center">:</td>
<td>Colorado</td>
<td>5.00%</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>NONE</td>
<td align="center">:</td>
<td>West Virginia</td>
<td>5.00%</td>
</tr>
<tr>
<td>Ohio</td>
<td>10 cents/bbl</td>
<td align="center">:</td>
<td>Utah</td>
<td>5.00%</td>
</tr>
<tr>
<td>California</td>
<td>0.10%</td>
<td align="center">:</td>
<td>Mississippi</td>
<td>6.00%</td>
</tr>
<tr>
<td>Indiana</td>
<td>1.00%</td>
<td align="center">:</td>
<td>Wyoming</td>
<td>6.00%</td>
</tr>
<tr>
<td>Nebraska</td>
<td>3.00%</td>
<td align="center">:</td>
<td>Michigan</td>
<td>6.60%</td>
</tr>
<tr>
<td>New Mexico</td>
<td>3.75%</td>
<td align="center">:</td>
<td>Oklahoma</td>
<td>7.00%</td>
</tr>
<tr>
<td>Alabama</td>
<td>4.00%</td>
<td align="center">:</td>
<td>Florida</td>
<td>8.00%</td>
</tr>
<tr>
<td>Kansas</td>
<td>4.30%</td>
<td align="center">:</td>
<td>North Dakota</td>
<td>11.50%</td>
</tr>
<tr>
<td>Kentucky</td>
<td>4.50%</td>
<td align="center">:</td>
<td>Louisiana</td>
<td>12.50%</td>
</tr>
<tr>
<td>South Dakota</td>
<td>4.50%</td>
<td align="center">:</td>
<td>Montana</td>
<td>12.50%</td>
</tr>
<tr>
<td>Texas</td>
<td>4.60%</td>
<td align="center">:</td>
<td>ALASKA @ $90 market (25 % of gross equivalent)</td>
<td></td>
</tr>
<tr>
<td>Arkansas</td>
<td>5.00%</td>
<td align="center"></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The State is Making Lots of Money Now: What is the Problem?
A History of DNR Forecasts of Total Production between 2010 and 2020 (billions of barrels)

Year of DNR Forecast

Billions of barrels

<table>
<thead>
<tr>
<th>Year of DNR Forecast</th>
<th>PPT Passes</th>
<th>ACES Passes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>2.4</td>
<td>2.2</td>
</tr>
<tr>
<td>2003</td>
<td>2.8</td>
<td>2.6</td>
</tr>
<tr>
<td>2004</td>
<td>3.4</td>
<td>3.2</td>
</tr>
<tr>
<td>2006</td>
<td>3.2</td>
<td>3.4</td>
</tr>
<tr>
<td>2007</td>
<td>3.0</td>
<td>3.0</td>
</tr>
<tr>
<td>2009</td>
<td>2.4</td>
<td>2.2</td>
</tr>
</tbody>
</table>
Oil Production Forecast 2010-2050
(Millions of Barrels)

*Core fields are Prudhoe, Kuparuk, Alpine, Endicott, Milne Pt., Northstar

Source: DNR Division of Oil & Gas 2009 Annual Report: p. 29
Total Forecasted Production Losses 2010-2020
between 2006 and 2009 Forecasts
(millions of barrels)
Investment: The Big Picture

• Production requires capital investment
• At the corporate level Alaska competes for capital with other jurisdictions
  – Capital is finite
  – Capital is fluid
  – Capital will go to where it gets the best deal
Resource Potential

• 2007 Department of Energy report: 10 billion barrels of additional economically recoverable oil on the North Slope in current core producing area.*

• DNR’s current production forecast is for 5 billion barrels between now and 2050.

* Department of Energy, National Energy Technology Laboratory, “Alaska North Slope Oil & Gas: A Promising Future or an Area of Decline?,” August 2007, pp. 2 - 152-153.
North Slope Exploratory Wells Drilled: 2005-2010
Context of Spending

• Core fields down*
• Non-core fields up* (Nikaitchuq and Pt. Thomson)
  – A small share of potential reserves
• No other new fields on the horizon
• Gold-plating

* Department of Revenue “Oil and Gas Production Tax Status Report to the Legislature,” January 18, 2011, p. 8.
GOLD-PLATING
Spending more because someone else is picking up the tab

<table>
<thead>
<tr>
<th>Before</th>
<th>Spend $1 in Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANS Market Price</td>
<td>$90.00</td>
</tr>
<tr>
<td>Less:</td>
<td></td>
</tr>
<tr>
<td>Transportation Cost</td>
<td>$6.00</td>
</tr>
<tr>
<td>Capital Cost</td>
<td>$13.00</td>
</tr>
<tr>
<td>Operating Cost</td>
<td>$13.00</td>
</tr>
<tr>
<td>Net value</td>
<td>$58.00</td>
</tr>
</tbody>
</table>

Severance Tax

| Severance Tax Rate | 36.20% | 35.80% |
| Credit            | $2.60   | $2.80   |
| Severance Tax     | $15.77  | $15.06  |

Pre-income tax income | $42.23 | $41.94 |
Combined state/federal income tax (41%) | $17.31 | $17.20 |
After-income tax income | $24.91 | $24.75 |

Reduction in income | $0.17 |

Bottom Line:
Spent $1 but reduced income by only 17 cents
The purchase only cost 17 cents after-tax
The other 83 cents picked up by the state/feds in reduced taxes
Gold-Plating: Percentage of Capital Cost Paid by Producers After-Tax under ACES (with 20% capital credit)
Implications of Gold-Plating

- Gold-plating is not efficient spending (spending to produce barrels)
- Gold-plating happens because of high marginal tax rates at high prices under ACES
- Gold-plating may explain a lot of spending without the commensurate increase in production
Fixing ACES
Fair Share:
Economic Aspect

• Maximizing benefit to people
  – Long-term benefit
  – Linked to maximizing long-term production
  – Production maximized by continual investment

• In designing a tax need to be mindful of how Alaska stacks up internationally

• What is “fair” is what you can get in a competitive environment
Cash Flow Impact: Credits vs. ACES Severance Tax
Proposal for Fix:
Bracketed Tax Structure

• The problem is not progressivity – but the progressivity structure
• Changing the progressivity structure
  – HB 110:
    – Bracketed progressivity structure
• Values within structure
Proposed Bracket Structure: HB 110  
(Existing Units)*  
Based on Net Value p/bbl**

• $0/bbl - $30.00/bbl  25.0%  
• Next $12.50/bbl ($30.00 - $42.50/bbl)  27.5%  
• Next $12.50/bbl ($42.50 - $55.00/bbl)  32.5%  
• Next $12.50/bbl ($55.00 - $67.50/bbl)  37.5%  
• Next $12.50/bbl ($67.50 - $80.00/bbl)  42.5%  
• Next $12.50/bbl ($80.00 - $92.50/bbl)  47.5%  
• Anything over $92.50/bbl  50.0%

* For other fields outside existing units the tax rates are 10 percentage points less
** These net values are approximately $30 less than market values (the ANS West Coast price).
Comparison of Effective Severance Tax Rates (Before Credits)

![Graph showing the comparison of effective severance tax rates for ACES, HB 110 - Existing Units, and HB 110 - Other Fields. The graph plots the severance tax rate against net value, with different lines representing each category.]
Marginal Tax Rates
(All state & federal taxes and royalties)
Gold-Plating: HB 110 (Existing Units) vs. ACES
(Pct. of Capex Paid by Producers After-Tax)
Revenue Losses from Proposal?

• Initial revenue losses likely
• DOR’s production forecast does not consider availability of capital  
  – Very plausible that status quo production forecast is too high
• Very plausible that with lower taxes there will be greater investment and production  
  – Very plausible that production forecast under HB 110 is too low
• Cannot compare revenues between taxes using the same number of barrels