ACES vs MAPA (SB21): REVENUES AND JOBS

Commonwealth North
Anchorage, Alaska
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ACES Revenue Volatility

ACES REVENUE (BILLION $)

$112.65

$107.57

FY2012

FY2013
Deficit Spending Started Under ACES

REPORT: ALASKA FACES BUDGET SHORTFALL IN FY 2013 AND BEYOND

“...at the close of the 2012 session, lawmakers projected a $490 million surplus for FY13. However, due to declining oil production and lower-than-projected oil prices, Alaska now faces a $410 million deficit for FY13.”
No Production Tax is a Silver Bullet against the Fiscal Gap
Production Tax 101

**TAX BASE =**

**PRODUCTION TAX VALUE (PTV) =**

\[(\text{Market Price} \times \text{Production}) - \text{Transportation Costs} - \text{Royalties} - \text{Lease Costs}\]

**TAX LIABILITY =**

\[\text{nominal tax rate} \times \text{PRODUCTION TAX VALUE} - \text{TAX CREDITS}\]
<table>
<thead>
<tr>
<th></th>
<th>ACES</th>
<th>MAPA</th>
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</thead>
<tbody>
<tr>
<td>Nominal Tax Rate</td>
<td>25% - 75%</td>
<td>35%</td>
</tr>
<tr>
<td>Credits</td>
<td>Capital Costs</td>
<td>Production</td>
</tr>
<tr>
<td>Some New Oil</td>
<td>No adjustments</td>
<td>Reduced tax base (GVR)</td>
</tr>
</tbody>
</table>
Effective Tax Rates Vary with Price and Cost
Estimated Effective Tax Rates This Year (FY2014)
The Disappearing “Giveaway”

The Disappearing Billions: What Happened to $2.1 Billion in Expected Oil Tax Revenue in FY 2014?

- Production Tax: $1.29
- Royalty: $0.32
- Income Tax: $0.14
- Payment of Expiring Credits: $0.3
- Shift To New Tax: $0.09

Revision of Market Assumptions
Why Did the Production Tax Projection Fall $1.29 Billion?

WHAT EXPLAINS THE $1.29 BILLION DROP IN FORECASTED FY 2014 PRODUCTION TAX REVENUE (Million $)

- 14% HIGHER LEASE EXPENSE: $304
- 4% LOWER MARKET PRICE: $242
- 6% FEWER BARRELS: $198
- 15% HIGHER TRANSPORT COST: $80
- 16% DROP IN PROGRESSIVE TAX RATE: $361
- 14% HIGHER CREDITS: $105
Oil Patch Spending

NORTH SLOPE LEASE EXPENDITURES (MILL $)

- $7,000
- $6,000
- $5,000
- $4,000
- $3,000
- $2,000
- $1,000
- $-


- Operating
- Capital

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Understanding Alaska: Special Economic Studies
Oil Patch Employment

PETROLEUM EMPLOYMENT -- STATEWIDE

- EMPLOYMENT
- ANS MARKET PRICE

1997 1999 2001 2003 2005 2007 2009 2011 2013

$160 $140 $120 $100 $80 $60 $40 $20 $0

0 2,000 4,000 6,000 8,000 10,000 12,000 14,000

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Understanding Alaska: Special Economic Studies
North Slope Production Decline

NORTH SLOPE DECLINE RATE


-16% -14% -12% -10% -8% -6% -4% -2% 0% 2%

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Understanding Alaska: Special Economic Studies
Other Indicators of Activity in the Oil Patch

- Permits
- Wells Drilled
- New Entrants
New Pools before ACES

14 NEW POOLS 2000-2007: DETAIL

- Northstar-Northstar
- Prudhoe Bay-Borealis
- Colville River-Fiord
- Prudhoe Bay-Schrader Bluff--Orion
- Oooguruk-Nuiqsut
- Colville River-Nanuq
- Kuparuk River-Meltwater
- Milne Point-Sag River
- Prudhoe Bay-Raven
- Milne Point-Uggnu
- Prudhoe Bay-Put River
- Kuparuk River-Uggnu
- Colville River-Qannik
- Northstar-Kuparuk
New Pools during ACES

6 NEW POOLS SINCE 2007: DETAIL

- Nikaitchuq-Schrader Bluff
- Oooguruk-Kuparuk
- Endicott-Sag/Ivishak
- Badami-Undefinied
- Oooguruk-Torok
- Prudhoe Bay-Ugnu
Billions in Revenue

PRODUCTION TAX REVENUE (Million $)

- 1998: $0
- 2000: $1,000
- 2002: $1,000
- 2004: $1,000
- 2006: $2,000
- 2008: $7,000
- 2010: $4,000
- 2012: $4,000

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Production Tax: Price and Cost Sensitivity

MAPA VS ACES?
REVENUE COMPARISON

- MAPA > $1 BILLION
- MAPA < $1 BILLION
- ACES < $1 BILLION
- ACES > $1 BILLION
- ACES > $2 BILLION

Daily Production = 500 thousand Barrels
ANS MARKET PRICE
Oil Price: History and Projection

3%

ANS MARKET PRICE


EIA OIL PRICE PROJECTION: 2014 REFERENCE CASE

2011 2016 2021 2026 2031 2036
Lease Cost per Barrel: History and Projection

4%
Water to Oil Production Ratio

NORTH SLOPE PRODUCTION: WATER BARRELS PER OIL BARREL

North Slope Production

NORTH SLOPE PRODUCTION
(MILLION BBLS)

OIL

WATER


1,200 1,000 800 600 400 200 0
More Labor to Do the Squeezing

Direct Labor Cost per NS Barrel

$12
$10
$8
$6
$4
$2
$-
$-
Future Market Direction: My Assumptions

MAPA VS ACES?
REVENUE COMPARISON

- MAPA > $1 BILLION
- MAPA < $1 BILLION
- ACES < $1 BILLION
- ACES > $1 BILLION
- ACES > $2 BILLION

Daily Production = 500 thousand Barrels

ANO MARKET PRICE

LEASE COST PER TAXABLE BARREL

$80
$70
$60
$50
$40
$30
$20

$60 $70 $80 $90 $100 $110 $120 $130 $140 $150
Results: My Assumptions

- Cost $42 4%
- Price $105 3%
- ACES $31 bill
- MAPA $31 bill
- NPV $0 bill difference
A Case Favoring MAPA

- Cost 5%
- ACES $23 bill
- MAPA $27 bill
- NPV $1.4 bill favor MAPA
A Case Favoring ACES

- Cost 3%
- ACES $39 bill
- MAPA $34 bill
- NPV $1.7 bill favor ACES
Why Do Producers Favor MAPA?

TAX MINIMIZATION

Vs

PROFIT MAXIMIZATION
MAPA with Hypothetical New Project

INCREMENTS MAPA INVESTMENT

- Million $ per Year
- INCREMENTAL LEASE COST
- INCREMENTAL PRODUCTION

- Thousand Barrels per Day

Year: 2015, 2018, 2021, 2024, 2027, 2030, 2033
ACES vs MAPA with Hypothetical New Project

PRODUCTION TAX REVENUE (Million $)

- ACES - A
- MAPA - B


$0, $500, $1,000, $1,500, $2,000, $2,500
New Investment: Growth of the Pie

NPV of Incremental MAPA Investment
(Billion $)

- Market Value
- Lease Cost
- Production Tax Value
- Production Tax
- Royalties
- Total State Rev
- Producer Take

$0  $5  $10
Take the Money Today vs. Sustained New Investment

INCREMENTAL MAPA INVESTMENT

Million $ per Year

$3,000

$2,500

$2,000

$1,500

$1,000

$500

$0

2015 2018 2021 2024 2027 2030 2033

INCREMENTAL LEASE COST

INCREMENTAL PRODUCTION

Thousand Barrels per Day

120

100

80

60

40

20

0
Take the Money Today vs. Sustained New Investment

PRODUCTION TAX REVENUE (Million $)

STATE TAKE (TOTAL OIL REVENUE) (Million $)

ACES - A
MAPA - B
Sustained New Investment: Growth of the Pie

NPV OF INCREMENTAL MAPA INVESTMENT (BILLION $)

- MARKET VALUE
- LEASE COST
- PRODUCTION TAX VALUE
- PRODUCTION TAX
- ROYALTIES
- TOTAL STATE REV
- PRODUCER TAKE

$0 $20 $40 $60
Job Creation in the Oil Patch

NEW INVESTMENT: DIRECT OIL PATCH JOBS

- DEVELOPMENT
- OPERATIONS

Thousand

- 2015
- 2017
- 2019
- 2021
- 2023
- 2025
- 2027
- 2029
- 2031
- 2033
- 2035
Job Creation from State Revenues

NEW INVESTMENT:
PUBLIC JOB CREATION CAPACITY (MAPA - GVR)

Thousand

2015 2017 2019 2021 2023 2025 2027 2029 2031 2033 2035
New Investment: Jobs & Payroll

CUMULATIVE NEW JOBS

CUMULATIVE NEW PAYROLL

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Understanding Alaska: Special Economic Studies
Some Critiques of Analysis

- Analysis of the future based on assumptions
- Cost data not AUDITED = Garbage in - Garbage out
- Underestimate GVR share of production
- Bias in modeling price and cost as smooth trends
- Producer profits excessive
- Tax incentives do not influence production
- Political power of producers excessive
Want More Analysis?
Invitation to a Technical Workshop

• **Purpose:** Explain the model structure and examine revenue outcomes under many different conditions.

• **Why:** To allow anyone interested to do their own analysis.

• **Where:** UAA Consortium Library, Room 307.

• **When:** Friday, June 27, 2-4 PM.

• **Who:** All technical types invited.

**Special Offer!**
Get a FREE Copy of the Model
Download it from the ISER Website!
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Sensitive to an Uncertain Future

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