

NEW SUSTAINABLE
ALASKA
PLAN



Pulling Together to Build Our Future

Alaska's Oil and Gas Taxation – CSHB 111(RES)\N

Lifecycle Scenario Analysis

Presentation to House Finance Committee

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Alaska Department of Revenue

March 24, 2017



What Will Be Presented Today

- Summary of CSHB 111(RES)\N Impacts on Modeling
- Modeling Assumptions
- Scenario Analysis - economics of changes
 - Status Quo (HB247) Lifecycle analysis of two potential new North Slope fields (small and large).
 - Potential Impacts of HB111\N changes on new North Slope fields.

What are the Major Tax Changes in HB 111\N

	Status Quo	HB111\N
Net Operating Loss (NOL) Provisions		
NOL Credit %	35%	0%
GVR can make NOL larger	no	no
NOL Carry Forward Loss	no	50%
NOL Loss Uplifts (7 yrs @ 7% + Fed Rate)	no	yes
Per Taxable Barrel Credit Provisions (based on Wellhead Value)		
Gross Value Reduction (GVR) 024i (fixed)	\$5 / bbl	\$5 / bbl
GVR limited to 3 yrs & \$70/bbl oil	yes	yes
Non-GVR 024j (sliding scale)	\$0 - \$8 / bbl	\$0, \$3-\$8 / bbl
Credit Repurchases		
Max Production to qualify	50,000/bpd	15,000/bpd*
Maximum per year @ 100%	\$35M	eliminated
Maximum per year @ 75%	\$35M	eliminated
Minimum Tax Provisions		
Min Tax % Rate based on ANS Price	4% =>\$25	4% <\$50, 5% =>\$50
Non-GVR Min Tax based on of Gross Value	yes	yes
GVR Min Tax based on Gross Value less GVR	no	yes
Minimum Tax Floor (Hardening the Floor)		
NOL credits against Min Tax	yes	no
GVR per barrel credits against Min Tax	yes	no
Non-GVR Sliding scale credits against Min Tax	no	no

*This provision does not impact modeling since the only credit that a North Slope producer can earn post-1/1/18 is the NOL and the cash repurchase provision was eliminated for all producers.

Modeling Assumptions

- All Fields begin development 1/1/2018
- Does not include Exploration Costs
- Includes price and cost inflation (based on Callan 2.25% rate)
- For Status Quo modeling, after GVR ends the producer opts to use their sliding scale per-taxable barrel credits, which requires tax payments not go below the minimum tax.
- For Status Quo modeling, producer opts to only apply for \$35 million of repurchasable credits per year (and forgo the additional \$35 million with the 25% “haircut”).
- Modeling assumes North Slope tax treatment.

Field Lifecycle Modeling: Introduction

Lifecycle Modeling Assumptions

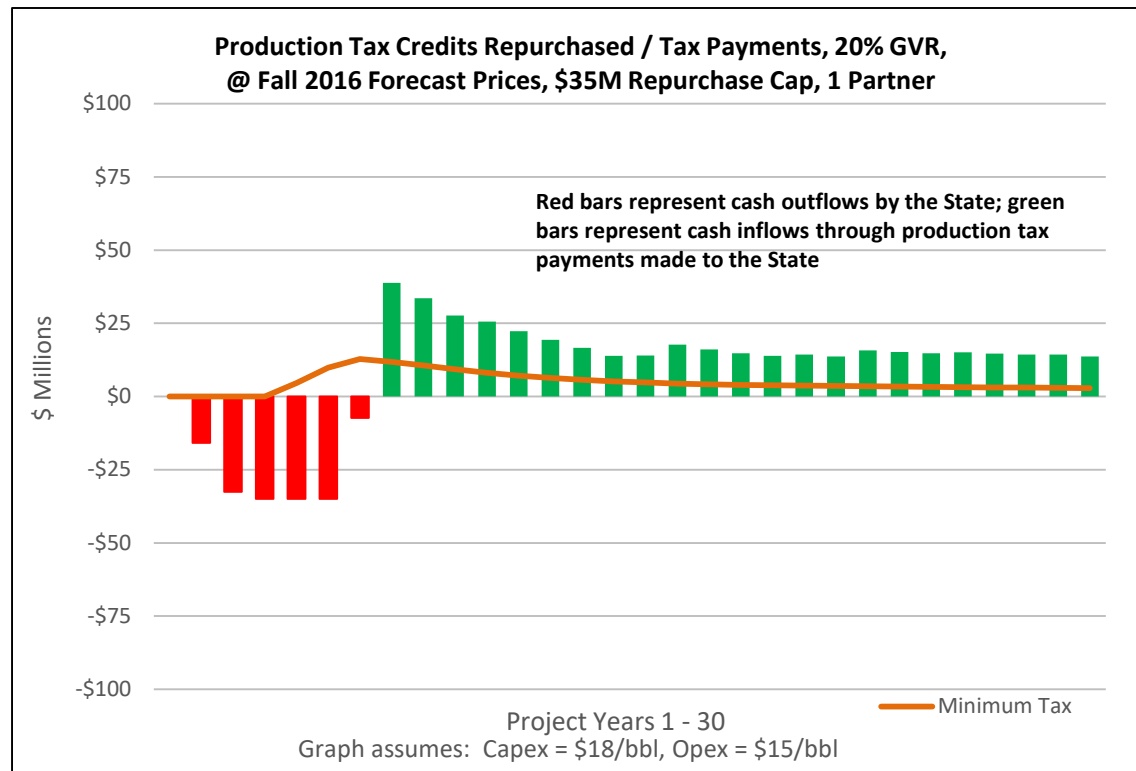
- Field Sizes Modeled:
 - 50 million barrels of oil (mmbo) field
 - 750 mmbo field
- Four Oil Prices Modeled:
 - \$40, \$60, and \$80 real (inflated)
 - Fall 2016 Forecast prices in real prices extending through life of field
- Tax Systems Modeled:
 - Status Quo
 - All Provisions
 - 1 and 4 Partner Scenarios (impacts total cash repurchase per year)
 - HB111\N

Lifecycle Modeling Outputs

- Each Scenario has a Dashboard with Four Quadrants
 1. Production Tax by year
 2. State Revenue by year
 3. Producer Revenue by year
 4. Summary Economics
 - a. Total Cash Flows
 - b. NPV Analysis
 - c. Split of Profits
 - d. Split of Gross

Dashboard – Net Production Tax

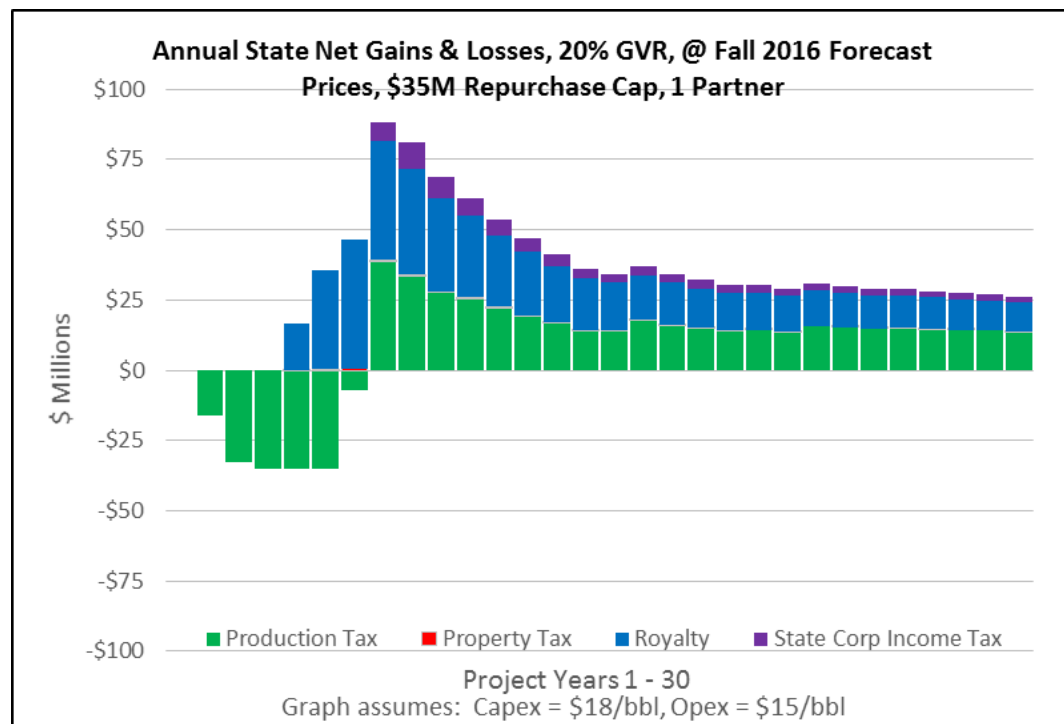
- Credits Repurchased by State
- Production Tax Paid
- Minimum Tax Calculation



Dashboard – State Gains & Losses

➤ State Revenue

- Production Tax (negative numbers are credits repurchased)
- Royalties
- State Share of Property Tax
- State Corp Income Tax



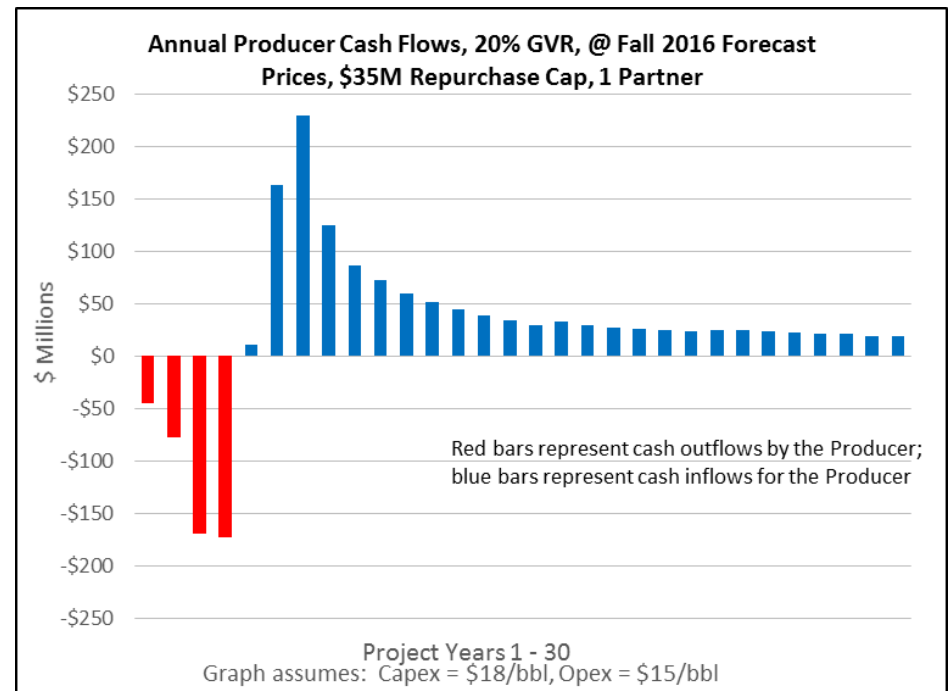
Dashboard – Producer(s) Cash Flows

➤ Producer(s) Cash Outflows

- Period when net cash is negative (typically when haven't started production and have huge cash outflows).

➤ Producer(s) Cash Inflows

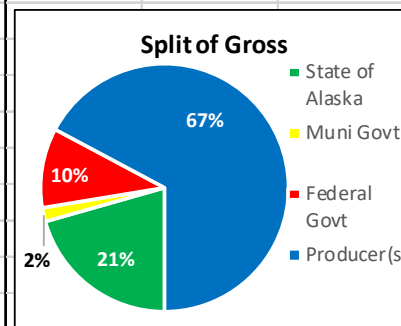
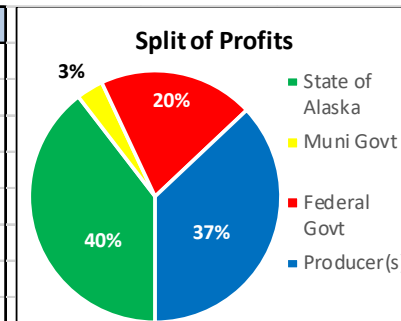
- Period when net cash is positive



Dashboard – Summary Economics

- Total Credits
- Total State and Producer Cash Flows
- Lifecycle Totals
 - Net Present Value (NPV) of discounted cash flows for State and Producer(s).
- Split of Profits
 - By entity
- Split of Gross (wellhead value)
 - By Entity

Lifecycle Totals	
Tax Credits Repurchased = \$M	161
Production Tax Paid = \$M	420
Net Production Tax = \$M	259
Production Tax NPV @ 6.95% = \$M	26
Total Annual State Losses = \$M	102
Total Annual State Gains = \$M	972
Net State Gain (Loss) = \$M	870
State NPV @ 6.95% = \$M	281
Total Producer Cash Out = \$M	465
Total Producer Cash In = \$M	1,280
Net Producer Cash Flow = \$M	815
Producer Cash NPV @ 10.0% = \$M	104
Internal Rate of Return (IRR)	15%

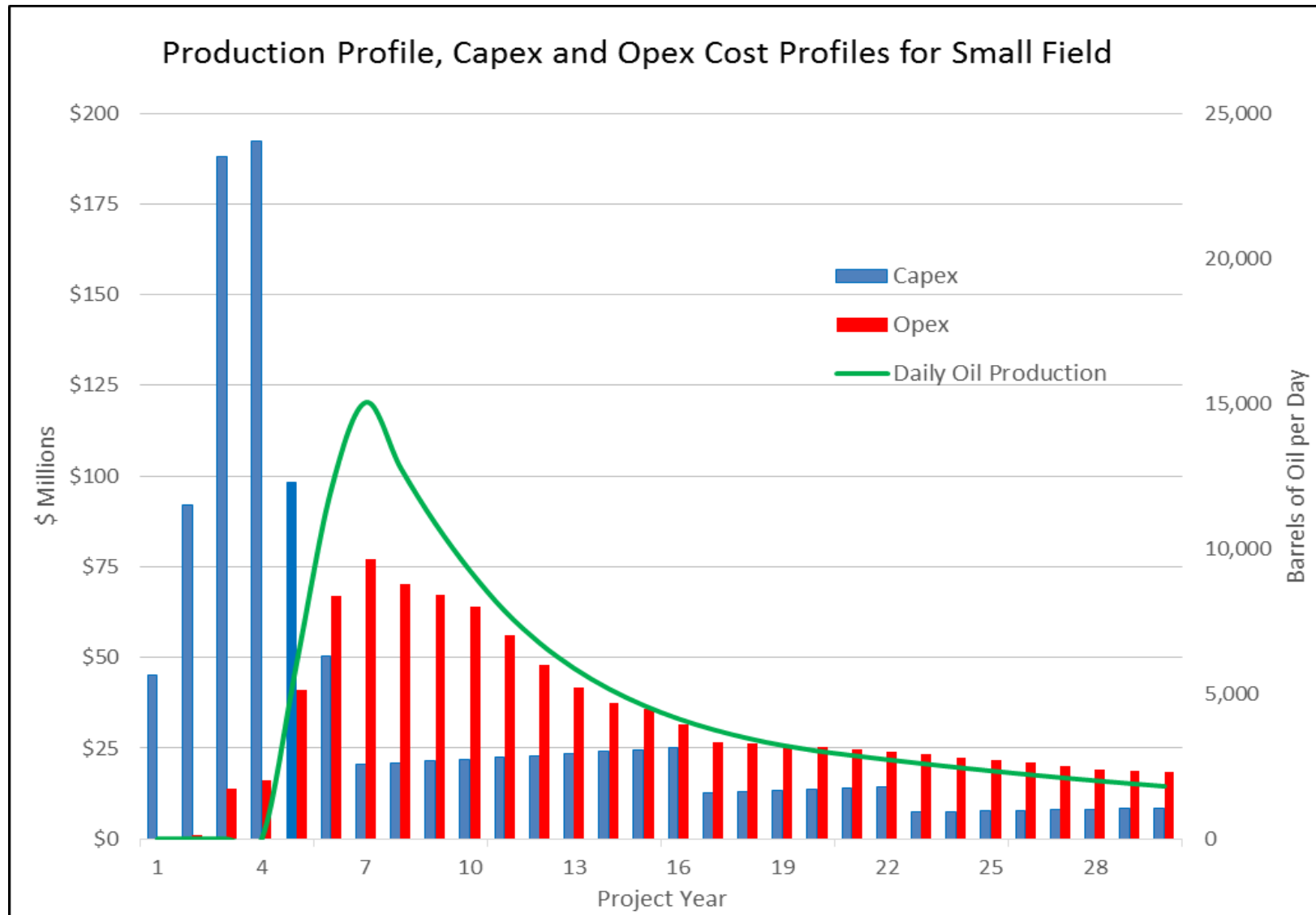


Field Lifecycle Modeling: North Slope Small Field

50 mmo Field Assumptions

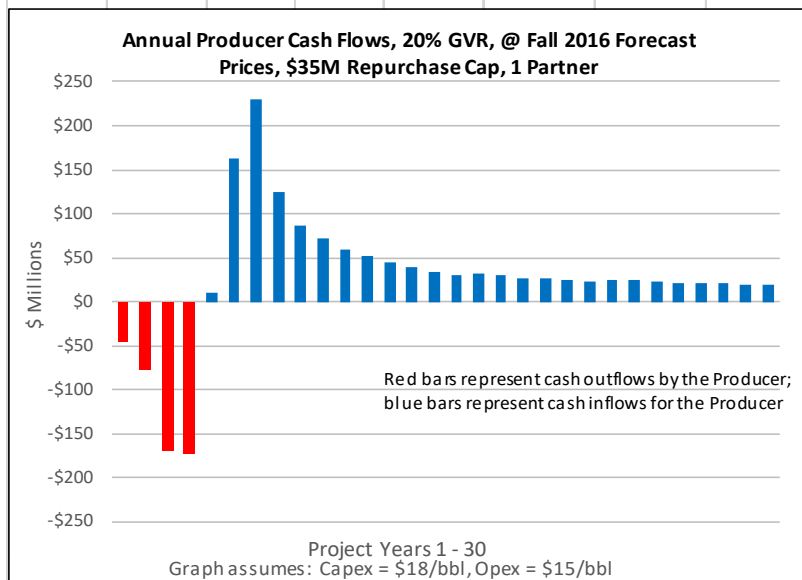
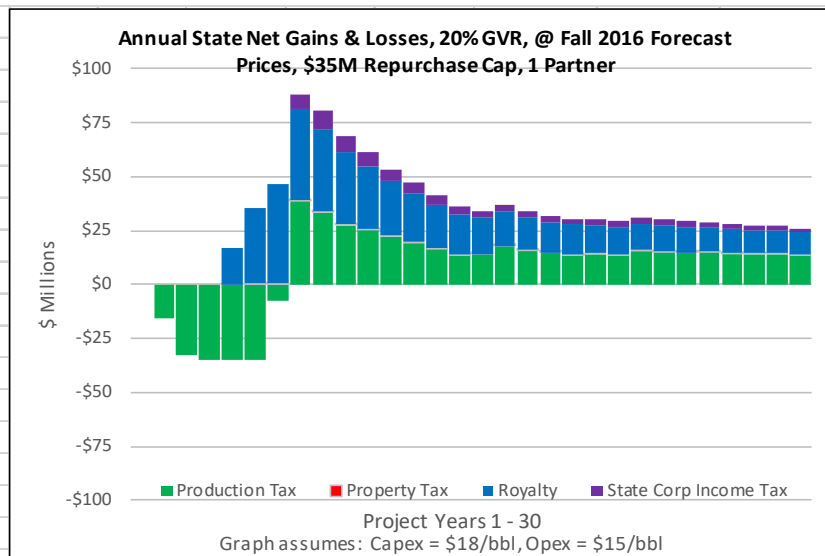
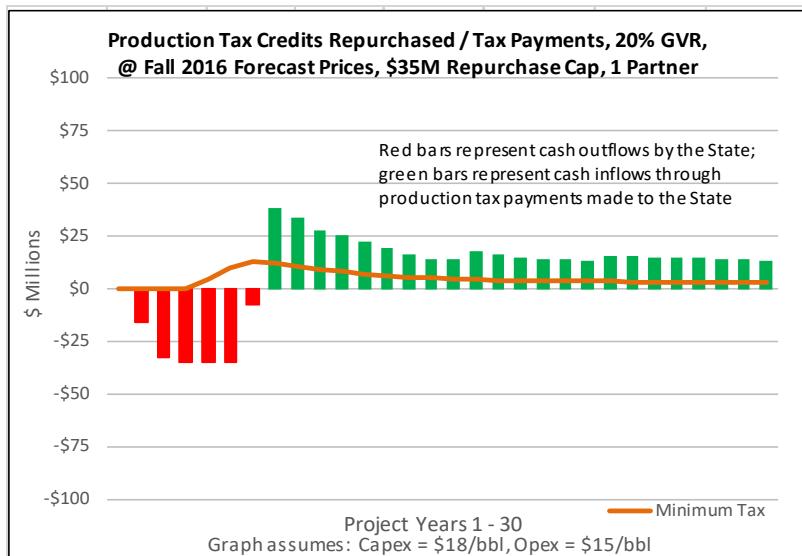
- Life of Field = 30 Years
- Peak Oil Production = ~15,000 bbls/day
- Transportation Cost = \$10 / bbl
- Royalty Rate = 12.5% (all State)
- Capital Expenditures (Capex) \$ = \$18 / bbl
- Operating Expenditures (Opex) \$ = \$15 / bbl
- Property Tax Rate = \$1.25 / bbl
- State Corp Income Tax Rate = 6.5% of remaining Production Tax Value (PTV) after Production Tax is paid
- Federal Corp Income Tax Rate = 35% of remaining PTV after State Corp Income Tax is paid

Profile Curves – Small Field

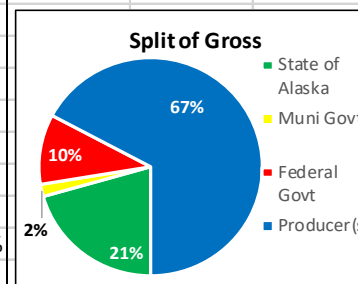
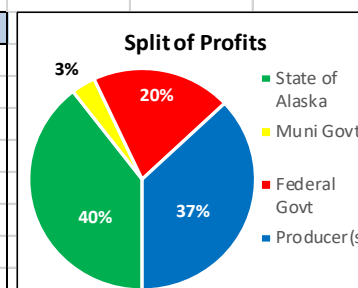


Lifecycle Modeling – Small Field (GVR @ 20%)

50 mmbo, Status Quo, Fall 2016 Forecast Prices, 1 Partner

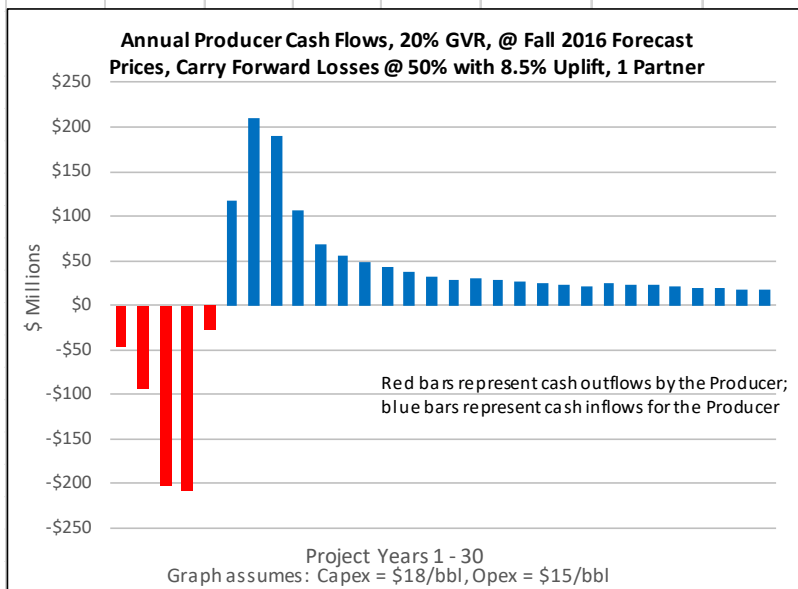
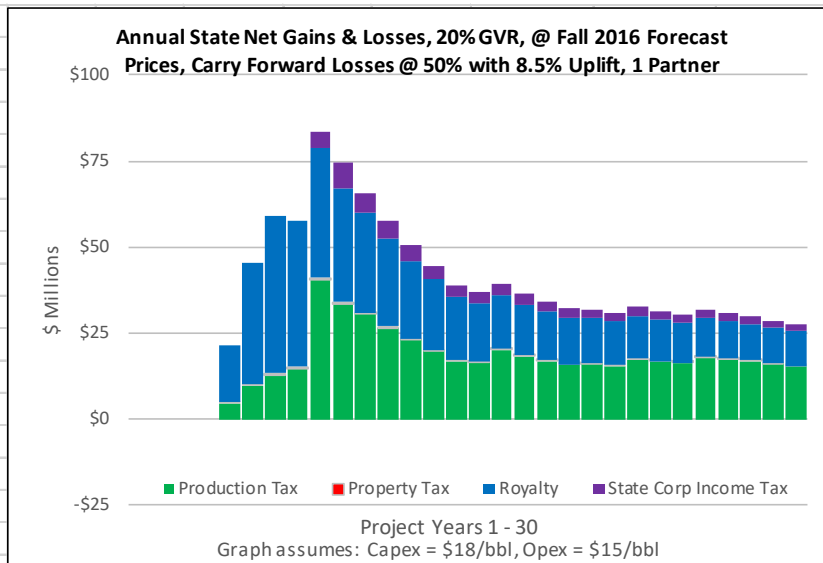
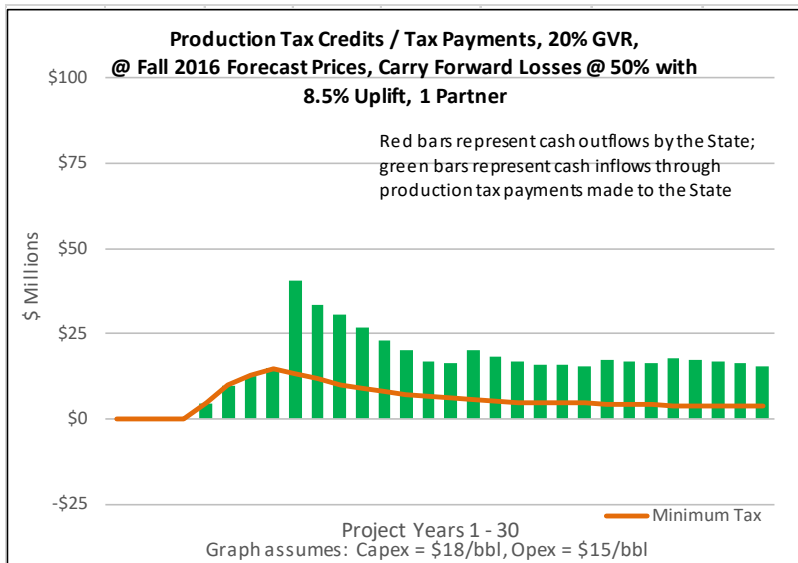


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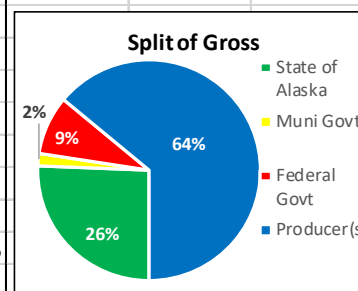
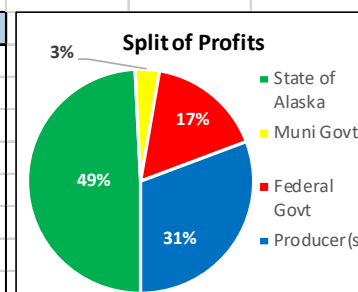


Lifecycle Modeling – Small Field (GVR @ 20%)

50 mmbo, HB111\N, Fall 2016 Forecast Prices, 1 Partner



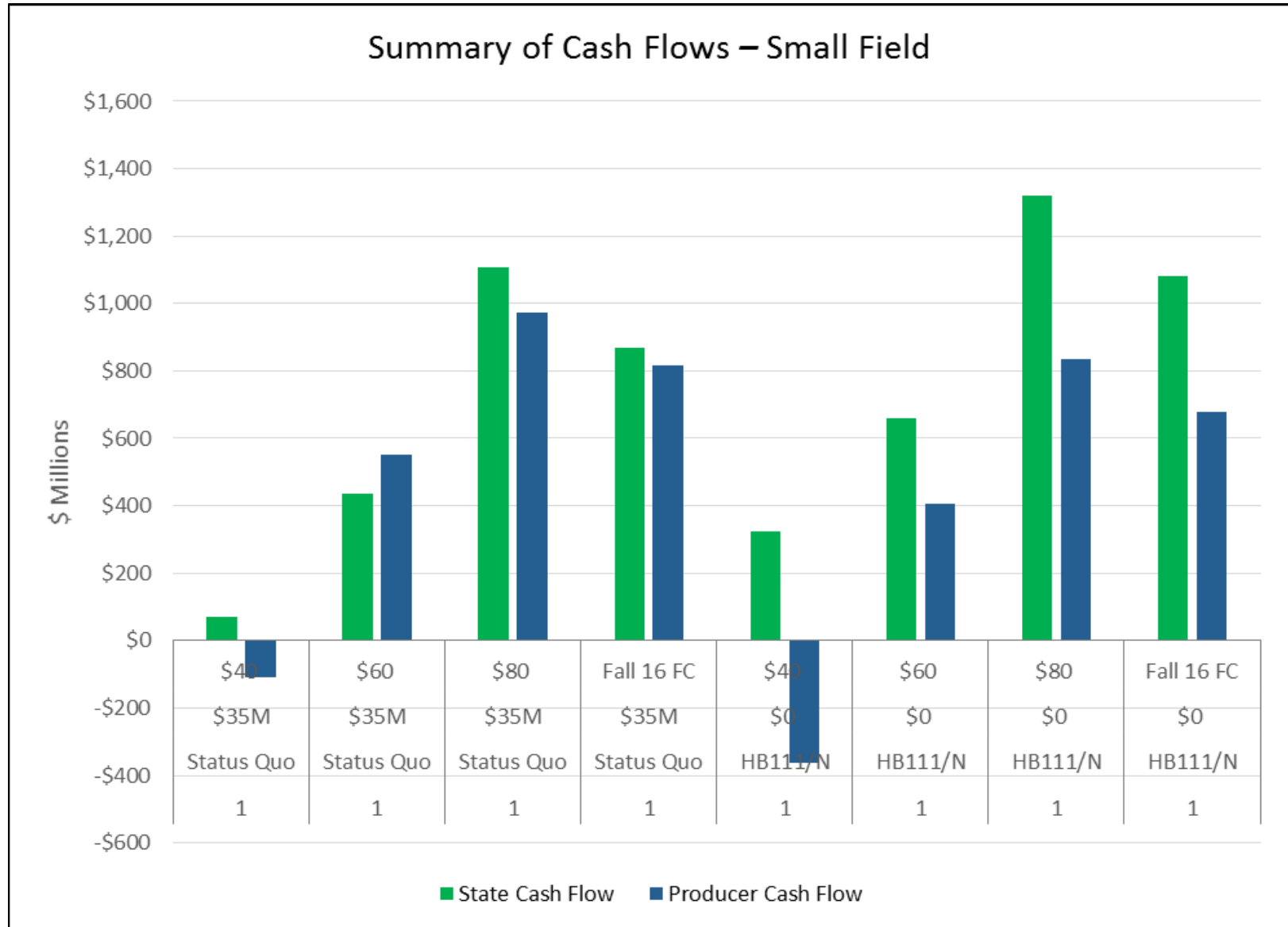
Lifecycle Totals	
Tax Credits Repurchased = \$M	0
Production Tax Paid = \$M	487
Net Production Tax = \$M	487
Production Tax NPV @ 6.95% = \$M	173
Total Annual State Losses = \$M	0
Total Annual State Gains = \$M	1,083
Net State Gain (Loss) = \$M	1,083
State NPV @ 6.95% = \$M	420
Total Producer Cash Out = \$M	577
Total Producer Cash In = \$M	1,254
Net Producer Cash Flow = \$M	677
Producer Cash NPV @ 10.0% = \$M	13
Internal Rate of Return (IRR)	11%



Summary Table – Small Field

Field Size (million bbl)	# Partners	Tax Regime	Credit Repurchase Limit	Oil Price	Credits Repurchase (\$millions)	Net Production Tax Paid (\$millions)	Production Tax NPV 6.95% (\$millions)	Net State Gain (Loss) (\$millions)	State NPV 6.95% (\$millions)	Producer Cash Flow (\$millions)	Producer NPV 10.0% (\$millions)	Producer IRR (%)
50	1	Status Quo	\$35M	\$40	219	(183)	(145)	71	(36)	(109)	(217)	-3%
50	1	Status Quo	\$35M	\$60	185	(41)	(89)	437	113	550	23	11%
50	1	Status Quo	\$35M	\$80	153	420	99	1,108	390	972	170	18%
50	1	Status Quo	\$35M	Fall 16 FC	161	259	26	870	281	815	104	15%
50	1	HB111/N	0	\$40	0	72	29	326	138	(363)	(367)	-7%
50	1	HB111/N	0	\$60	0	197	69	659	263	406	(78)	7%
50	1	HB111/N	0	\$80	0	645	241	1,318	525	836	84	13%
50	1	HB111/N	0	Fall 16 FC	0	487	173	1,083	420	677	13	11%

Summary Results – Small Field

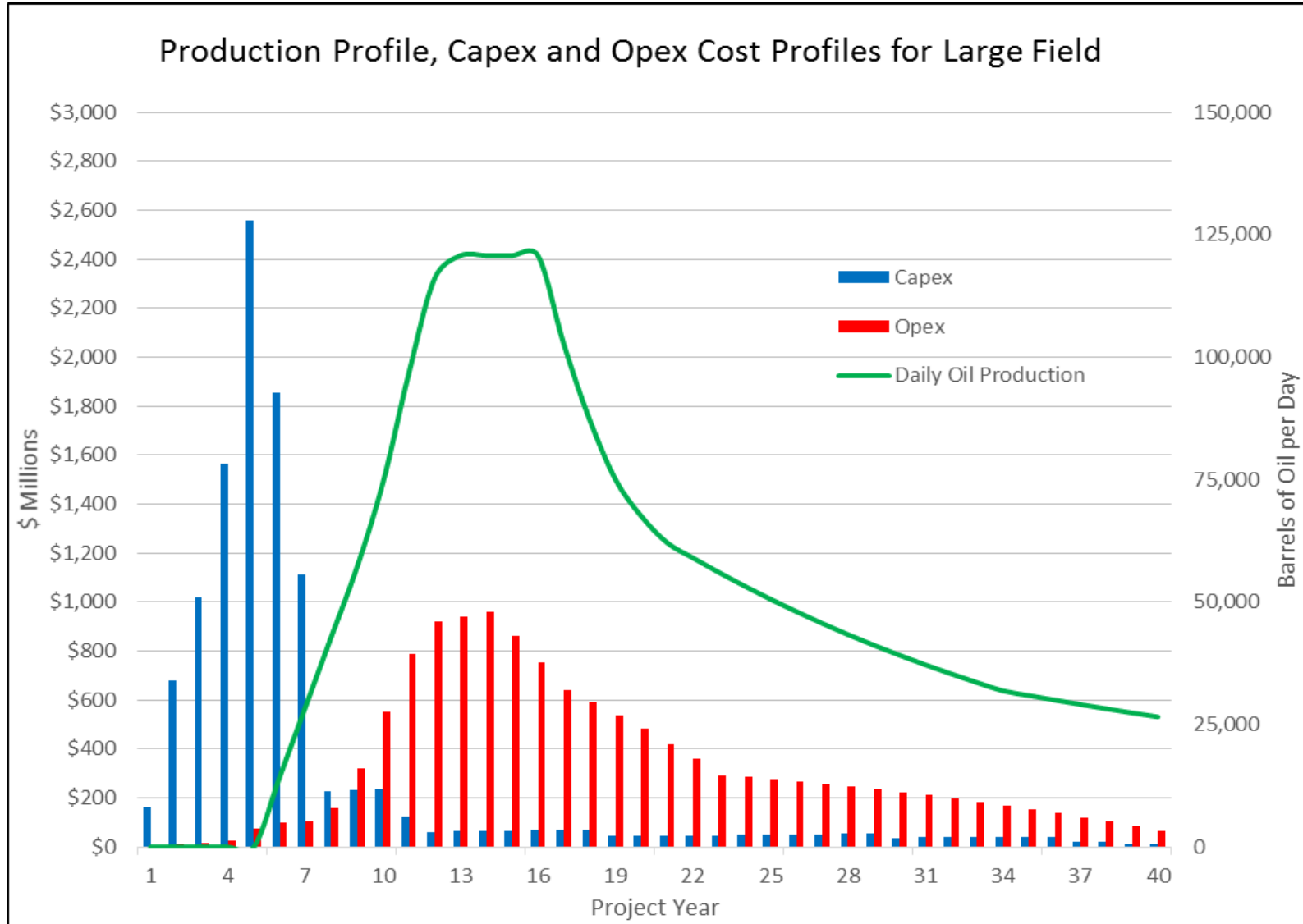


Field Lifecycle Modeling: North Slope Large Field

750 mmo Field Assumptions

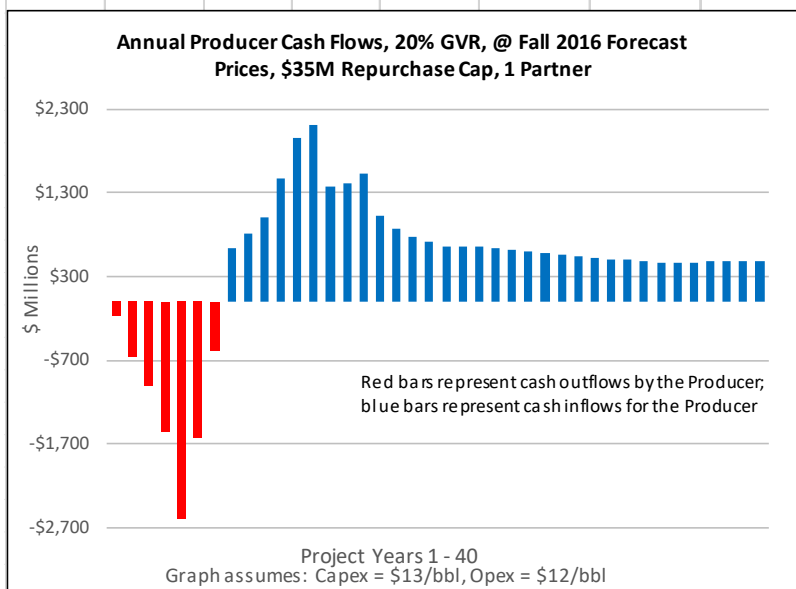
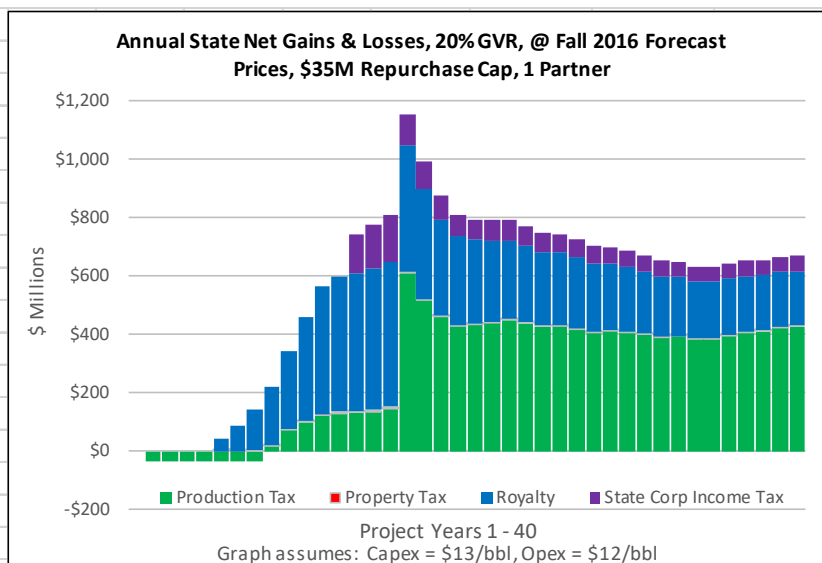
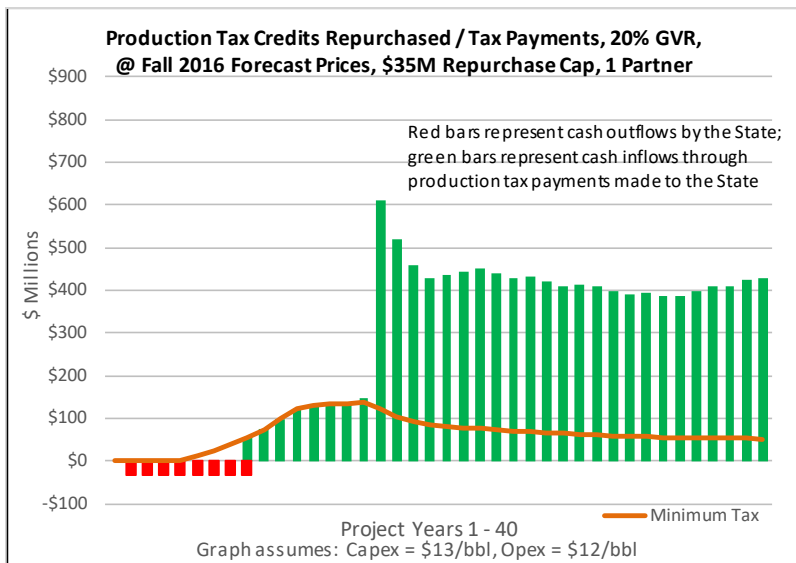
- Life of Field = 40 Years
- Peak Oil Production = ~120,000 bbls/day
- Transportation Cost = \$10 / bbl
- Royalty Rate = 12.5% (all State)
- Capex \$ = \$13 / bbl
- Opex \$ = \$12 / bbl
- Property Tax Rate = \$1.25 / bbl
- State Corp Income Tax Rate = 6.5% of remaining Production Tax Value (PTV) after Production Tax is paid
- Federal Corp Income Tax Rate = 35% of remaining PTV after State Corp Income Tax is paid

Profile Curves – Large Field

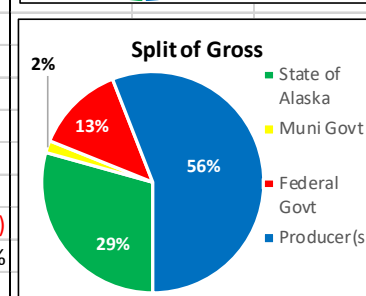
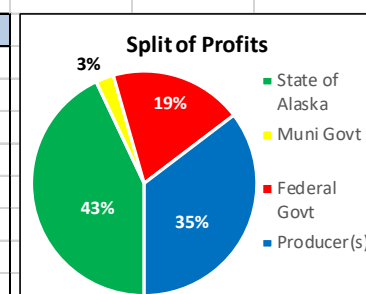


Lifecycle Modeling – Large Field (GVR @ 20%)

750 mmbo, Status Quo, Fall 2016 Forecast Prices, 1 Partner



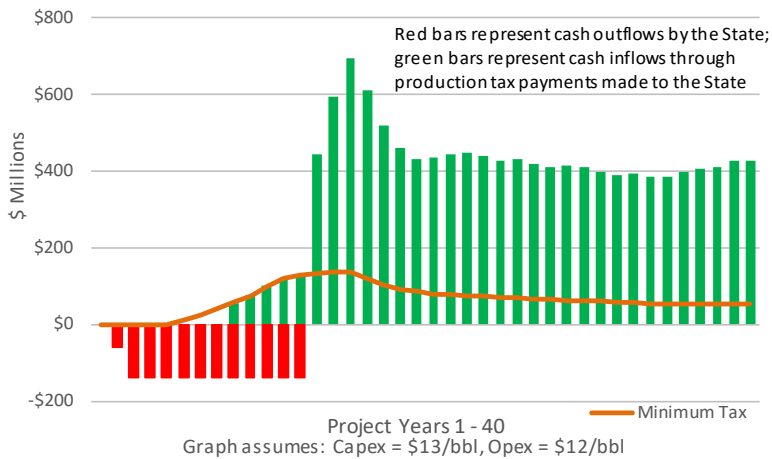
Lifecycle Totals	
Tax Credits Repurchased = \$M	280
Production Tax Paid = \$M	11,230
Net Production Tax = \$M	10,950
Production Tax NPV @ 6.95% = \$M	1,937
Total Annual State Losses = \$M	140
Total Annual State Gains = \$M	22,525
Net State Gain (Loss) = \$M	22,385
State NPV @ 6.95% = \$M	4,978
Total Producer Cash Out = \$M	8,170
Total Producer Cash In = \$M	26,586
Net Producer Cash Flow = \$M	18,417
Producer Cash NPV @ 10.0% = \$M	(181)
Internal Rate of Return (IRR)	10%



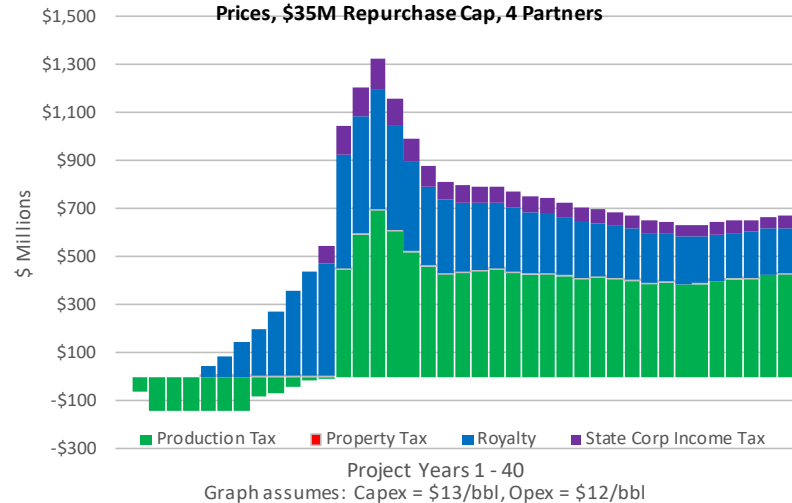
Lifecycle Modeling – Large Field (GVR @ 20%)

750 mmbo, Status Quo, Fall 2016 Forecast Prices, 4 Partners

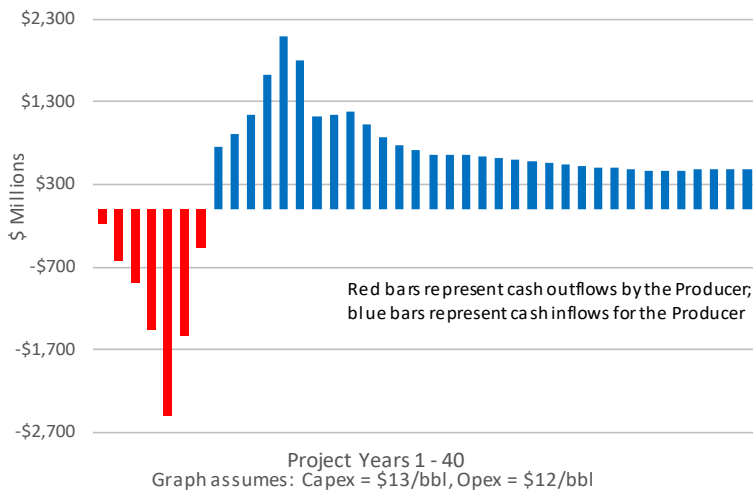
Production Tax Credits Repurchased / Tax Payments, 20% GVR, @ Fall 2016 Forecast Prices, \$35M Repurchase Cap, 4 Partners



Annual State Net Gains & Losses, 20% GVR, @ Fall 2016 Forecast Prices, \$35M Repurchase Cap, 4 Partners



Annual Producer Cash Flows, 20% GVR, @ Fall 2016 Forecast Prices, \$35M Repurchase Cap, 4 Partners



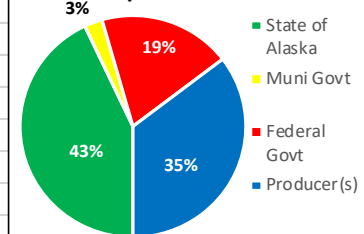
Lifecycle Totals

Tax Credits Repurchased = \$M	1,600
Production Tax Paid = \$M	12,549
Net Production Tax = \$M	10,950
Production Tax NPV @ 6.95% = \$M	1,638

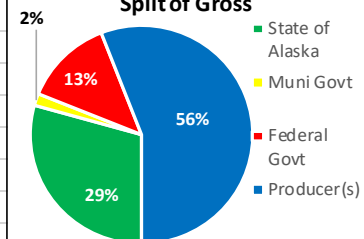
Total Annual State Losses = \$M	629
Total Annual State Gains = \$M	23,014
Net State Gain (Loss) = \$M	22,385
State NPV @ 6.95% = \$M	4,683

Total Producer Cash Out = \$M	7,620
Total Producer Cash In = \$M	26,037
Net Producer Cash Flow = \$M	18,417
Producer Cash NPV @ 10.0% = \$M	112
Internal Rate of Return (IRR)	10%

Split of Profits

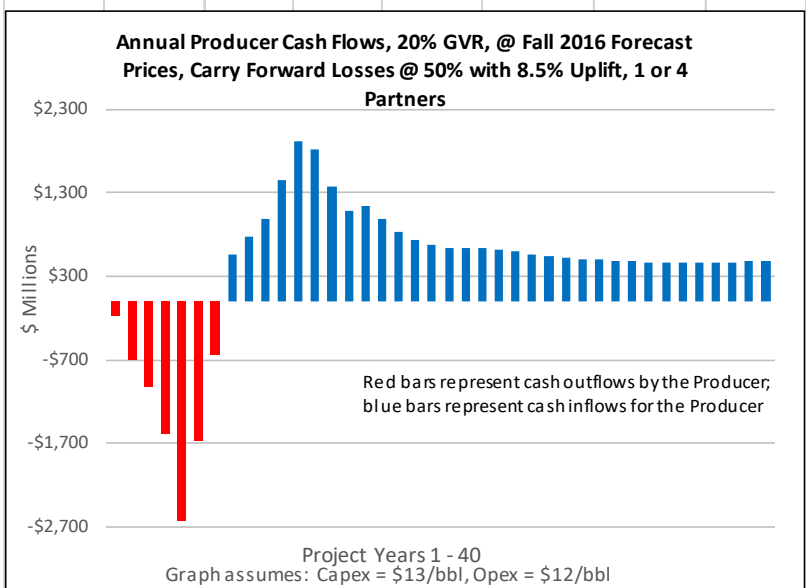
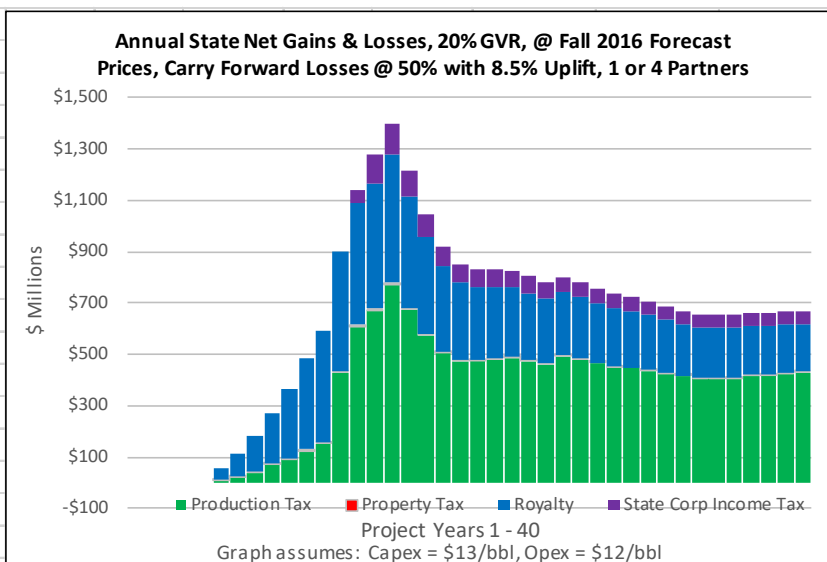
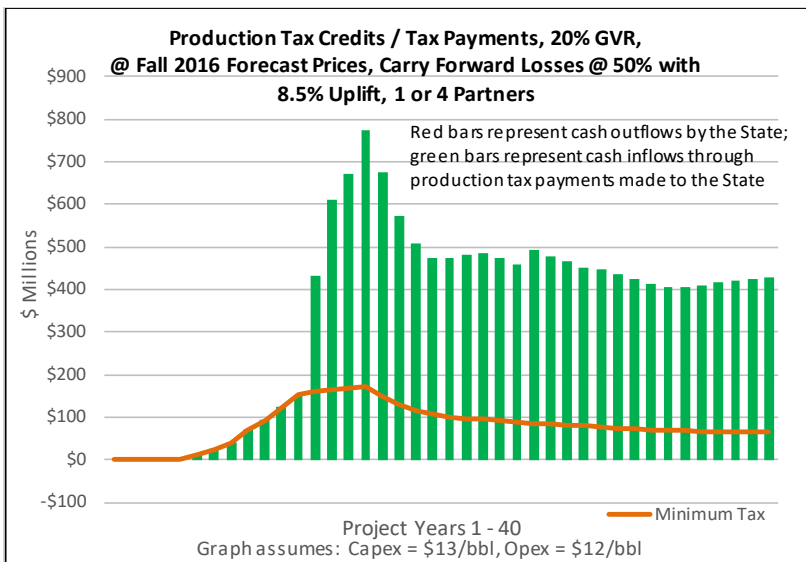


Split of Gross

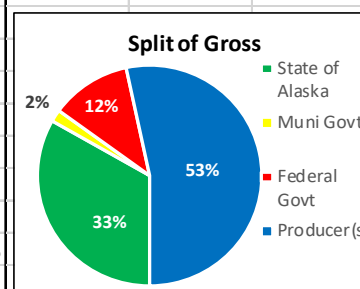
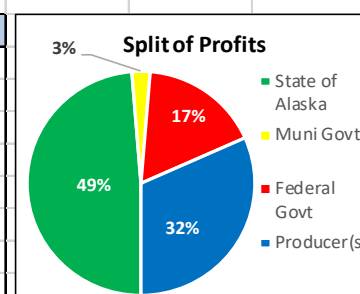


Lifecycle Modeling – Large Field (GVR @ 20%)

750 mmbo, HB111\N, Fall 2016 Forecast Prices, 1 or 4 Partners



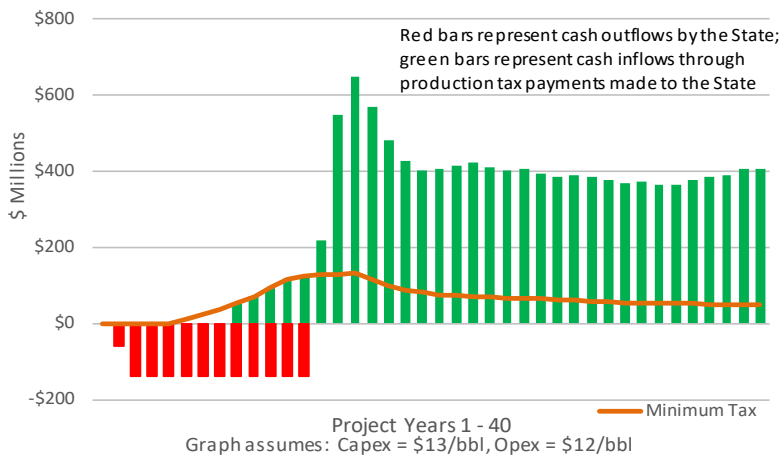
Lifecycle Totals	
Tax Credits Repurchased = \$M	0
Production Tax Paid = \$M	14,136
Net Production Tax = \$M	14,136
Production Tax NPV @ 6.95% = \$M	3,100
Total Annual State Losses = \$M	0
Total Annual State Gains = \$M	25,364
Net State Gain (Loss) = \$M	25,364
State NPV @ 6.95% = \$M	6,073
Total Producer Cash Out = \$M	8,416
Total Producer Cash In = \$M	24,896
Net Producer Cash Flow = \$M	16,480
Producer Cash NPV @ 10.0% = \$M	(717)
Internal Rate of Return (IRR)	9%



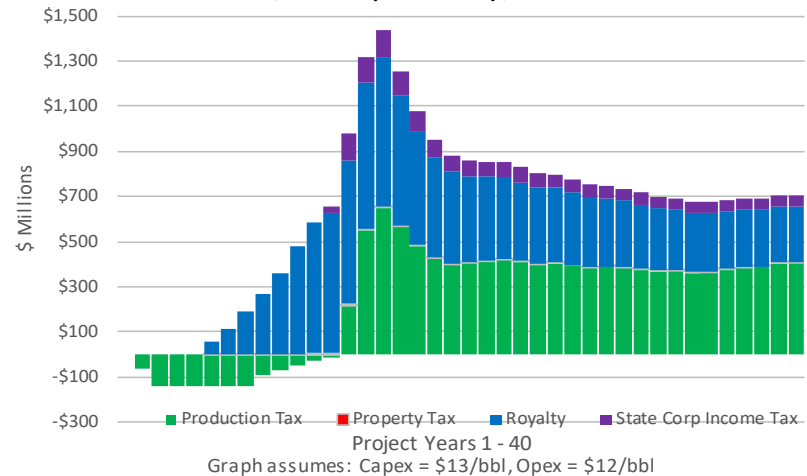
Lifecycle Modeling – Large Field (GVR @ 30%)

750 mmbo, Status Quo, Fall 2016 Forecast Prices, 4 Partners

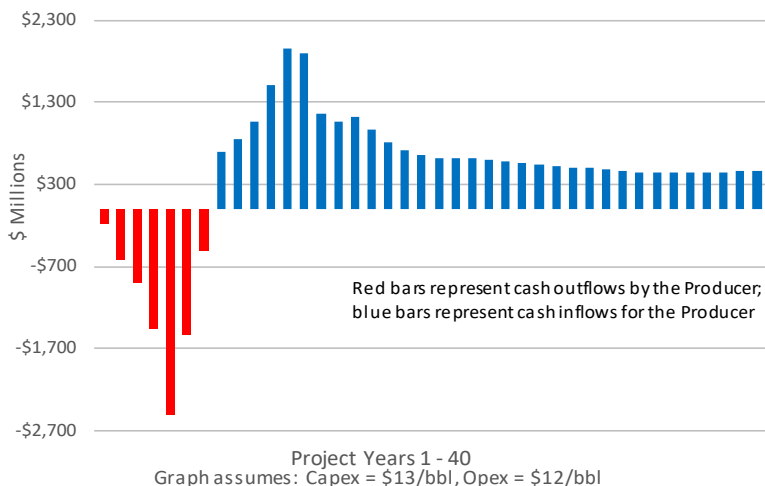
Production Tax Credits Repurchased / Tax Payments, 30% GVR, @ Fall 2016 Forecast Prices, \$35M Repurchase Cap, 4 Partners



Annual State Net Gains & Losses, 30% GVR, @ Fall 2016 Forecast Prices, \$35M Repurchase Cap, 4 Partners



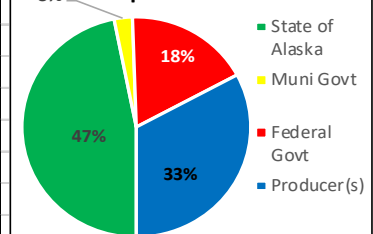
Annual Producer Cash Flows, 30% GVR, @ Fall 2016 Forecast Prices, \$35M Repurchase Cap, 4 Partners



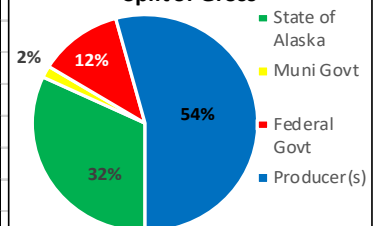
Lifecycle Totals

Tax Credits Repurchased = \$M	1,600
Production Tax Paid = \$M	11,590
Net Production Tax = \$M	9,990
Production Tax NPV @ 6.95% = \$M	1,397
Total Annual State Losses = \$M	586
Total Annual State Gains = \$M	24,992
Net State Gain (Loss) = \$M	24,406
State NPV @ 6.95% = \$M	5,264
Internal Rate of Return (IRR)	32%
Total Producer Cash Out = \$M	7,663
Total Producer Cash In = \$M	24,766
Net Producer Cash Flow = \$M	17,103
Producer Cash NPV @ 10.0% = \$M	(148)
Internal Rate of Return (IRR)	10%

Split of Profits

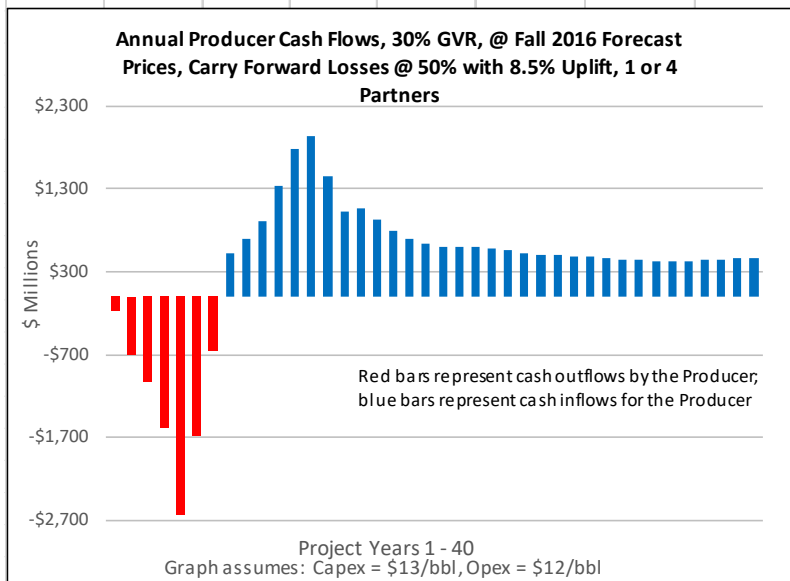
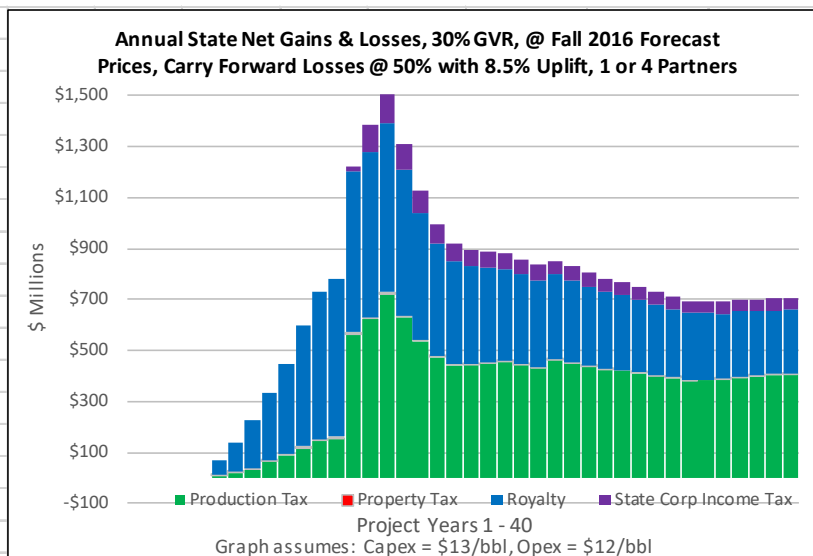
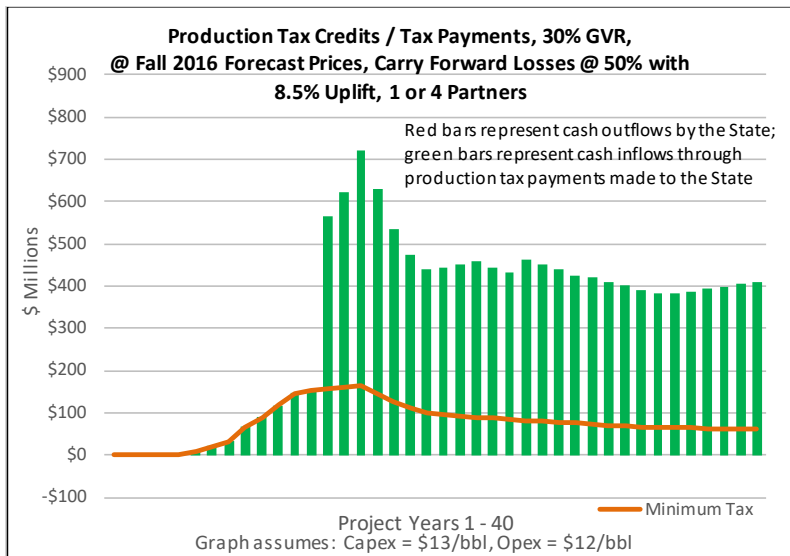


Split of Gross

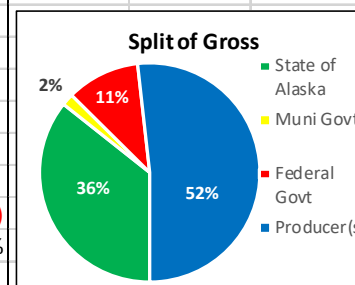
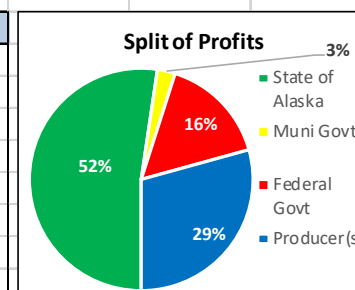


Lifecycle Modeling – Large Field (GVR @ 30%)

750 mmbo, HB111\N, Fall 2016 Forecast Prices, 1 or 4 Partners



Lifecycle Totals	
Tax Credits Repurchased = \$M	0
Production Tax Paid = \$M	13,025
Net Production Tax = \$M	13,025
Production Tax NPV @ 6.95% = \$M	2,798
Total Annual State Losses = \$M	0
Total Annual State Gains = \$M	27,244
Net State Gain (Loss) = \$M	27,244
State NPV @ 6.95% = \$M	6,597
Total Producer Cash Out = \$M	8,453
Total Producer Cash In = \$M	23,711
Net Producer Cash Flow = \$M	15,258
Producer Cash NPV @ 10.0% = \$M	(953)
Internal Rate of Return (IRR)	8%

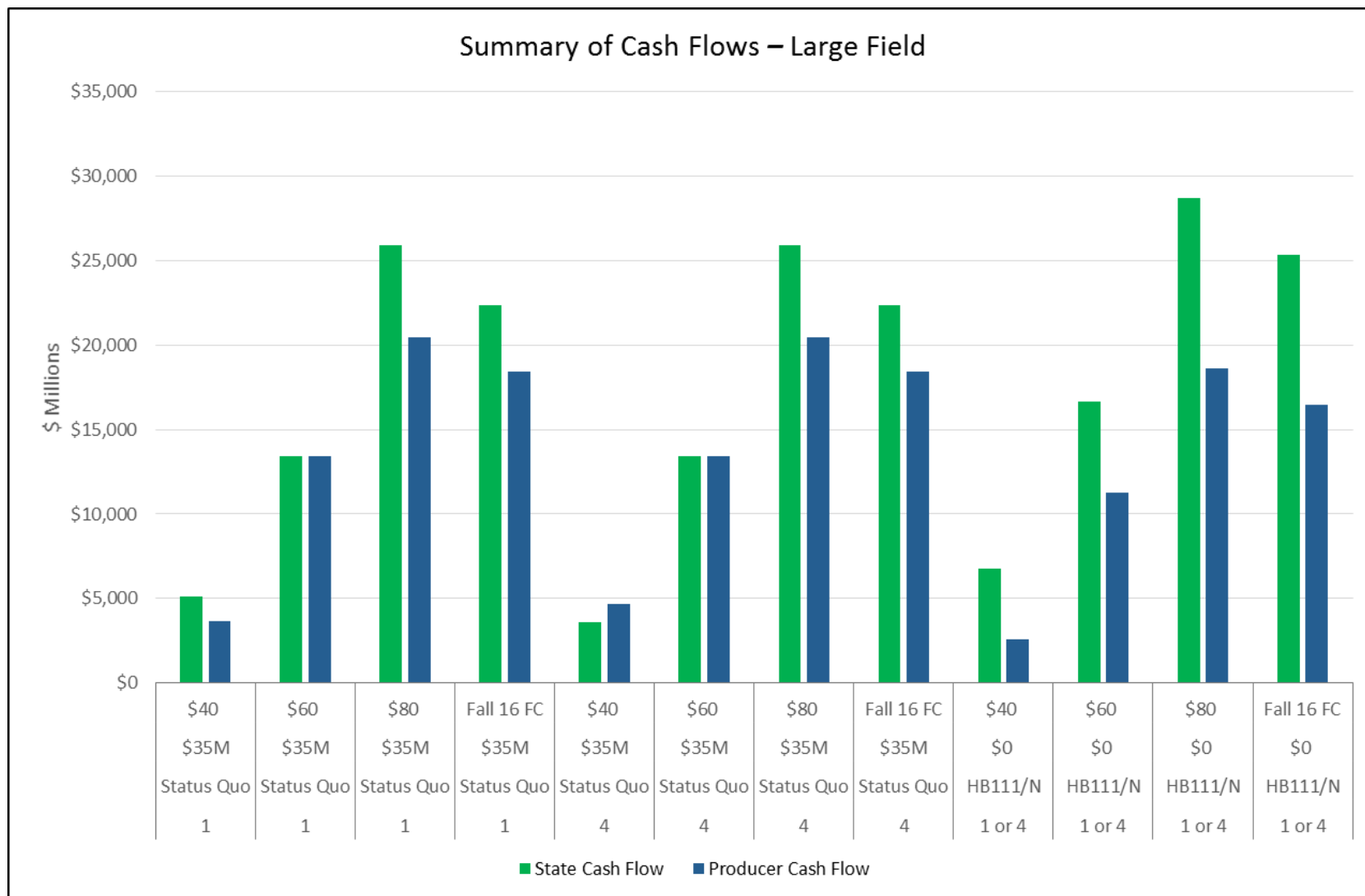


Summary Table – Large Field

Field Size (million bbl)	# Partners	Tax Regime	GVR %	Credit Repurchase Limit	Oil Price	Credits Repurchased (\$millions)	Net Production Tax Paid (\$millions)	Production Tax NPV 6.95% (\$millions)	Net State Gain (Loss) (\$millions)	State NPV 6.95% (\$millions)	Producer Cash Flow (\$millions)	Producer NPV 10.0% (\$millions)	Producer IRR (%)
750	1	Status Quo	20%	\$35M	\$40	770	250	(15)	5,116	1,260	3,679	(3,787)	2%
750	1	Status Quo	20%	\$35M	\$60	280	4,596	596	13,412	2,917	13,414	(1,360)	7%
750	1	Status Quo	20%	\$35M	\$80	280	13,415	2,546	25,891	5,883	20,430	296	11%
750	1	Status Quo	20%	\$35M	Fall 16 FC	280	10,950	1,937	22,385	4,978	18,417	(181)	10%
750	4	Status Quo	20%	\$35M	\$40	3,065	(1,351)	(1,094)	3,620	208	4,652	(3,034)	3%
750	4	Status Quo	20%	\$35M	\$60	2,020	4,596	73	13,412	2,409	13,414	(926)	8%
750	4	Status Quo	20%	\$35M	\$80	1,460	13,415	2,287	25,891	5,626	20,430	564	11%
750	4	Status Quo	20%	\$35M	Fall 16 FC	1,600	10,950	1,638	22,385	4,683	18,417	112	10%
750	4	Status Quo	30%	\$35M	Fall 16 FC	1,600	9,990	1,397	24,406	5,264	17,103	(148)	10%
750	1 or 4	HB111/N	20%	0	\$40	0	2,046	432	6,796	1,694	2,587	(4,064)	1%
750	1 or 4	HB111/N	20%	0	\$60	0	8,081	1,615	16,671	3,879	11,295	(1,819)	6%
750	1 or 4	HB111/N	20%	0	\$80	0	16,388	3,681	28,670	6,950	18,623	(230)	10%
750	1 or 4	HB111/N	20%	0	Fall 16 FC	0	14,136	3,100	25,364	6,073	16,480	(717)	9%
750	1 or 4	HB111/N	30%	0	Fall 16 FC	0	13,025	2,798	27,244	6,597	15,258	(953)	8%

Note: Gray shaded lines are those GVR fields with royalty > 12.5% so qualify for 30% GVR instead of 20% when royalty = 12/5%

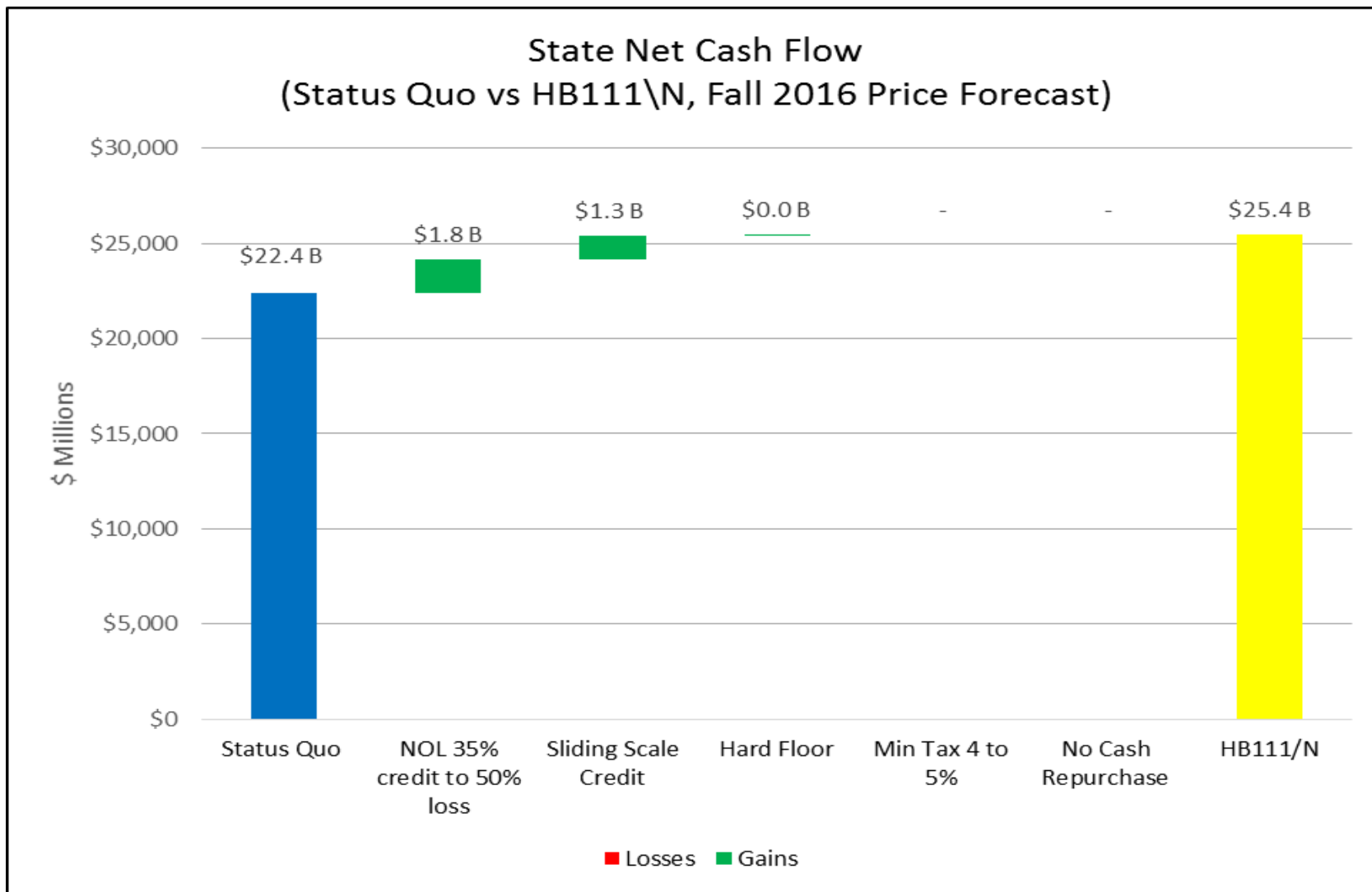
Summary Results – Large Field



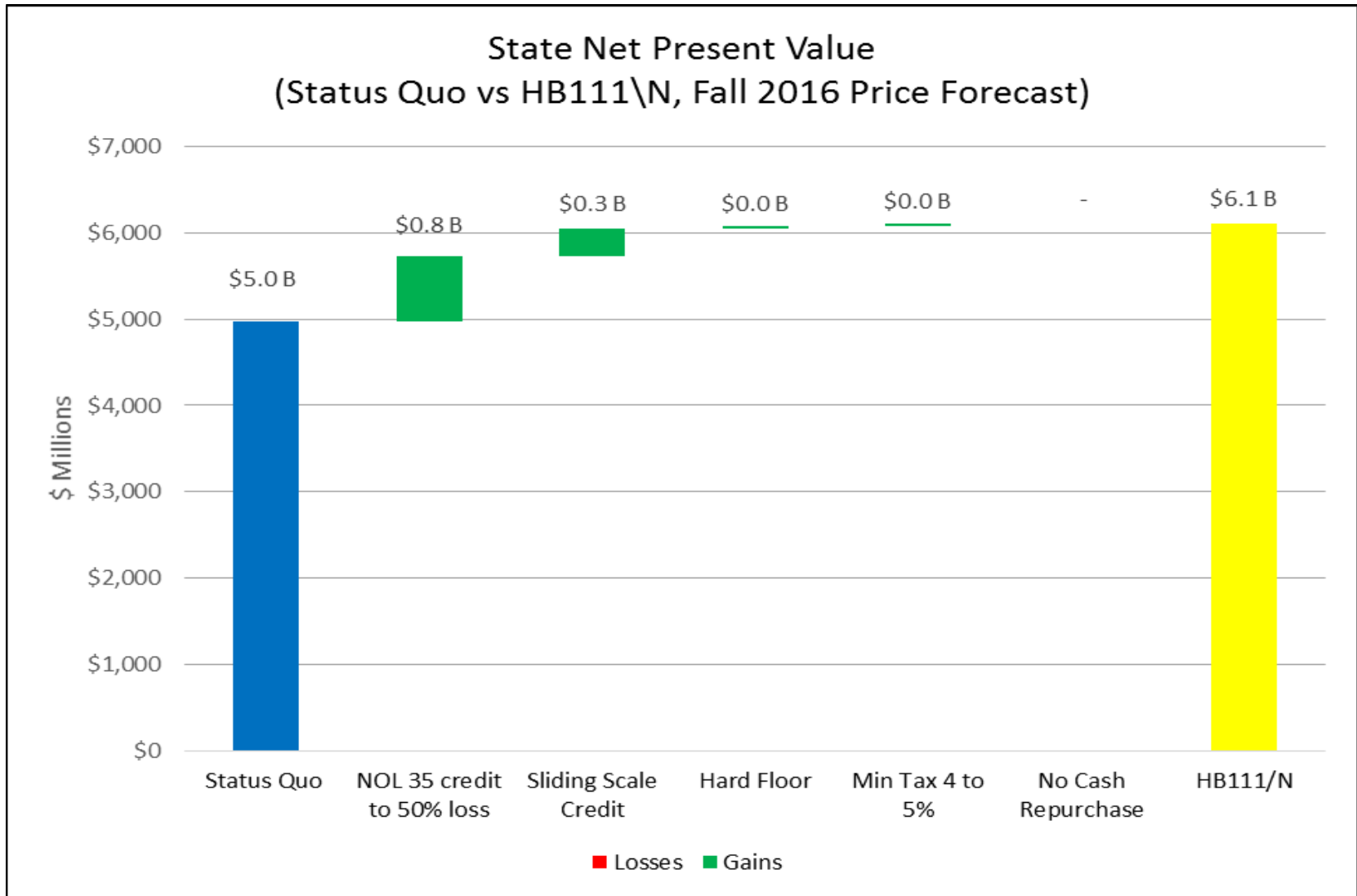
Further Analysis – Large Field

- What's Driving the Changes from Status Quo by Tax Component Change
 - Compared Two Scenarios
 - 2016 Fall Forecast Prices
 - 1 Partner Scenario vs HB111\N
 - Five Components to Tax Change
 - Net Operating Losses (NOLs) changed from 35% credit to 50% carry forward loss
 - Sliding Scale Credits shifted from maximum of \$8/bbl @ <\$80 Wellhead value to \$6/bbl @ <\$60 Wellhead value
 - Hardened the Floor
 - Minimum Tax increased from 4% to 5% @ \$50 ANS \$
 - Cash Repurchases Eliminated for North Slope

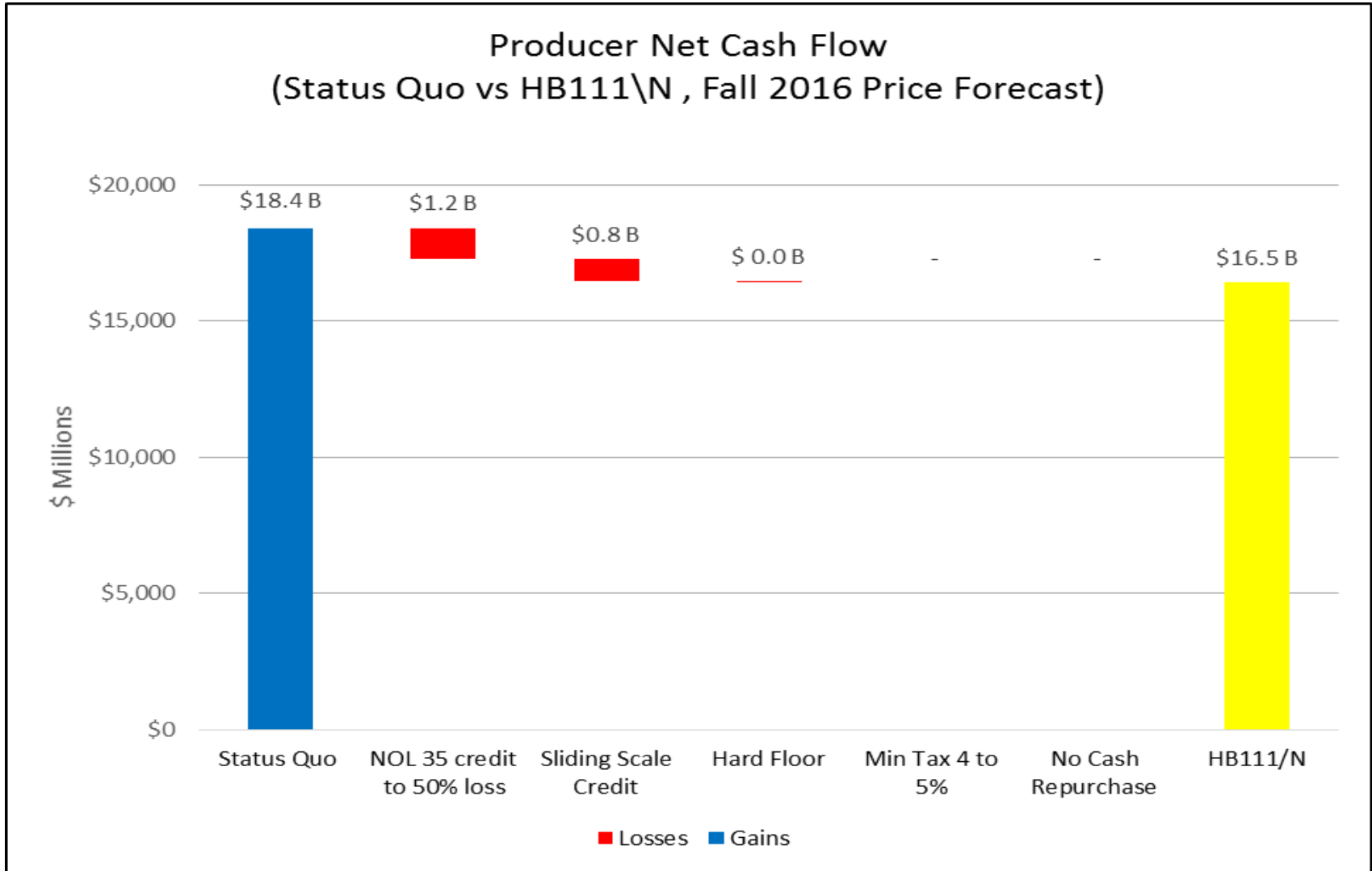
Status Quo vs HB111 – State Net Cash Flows



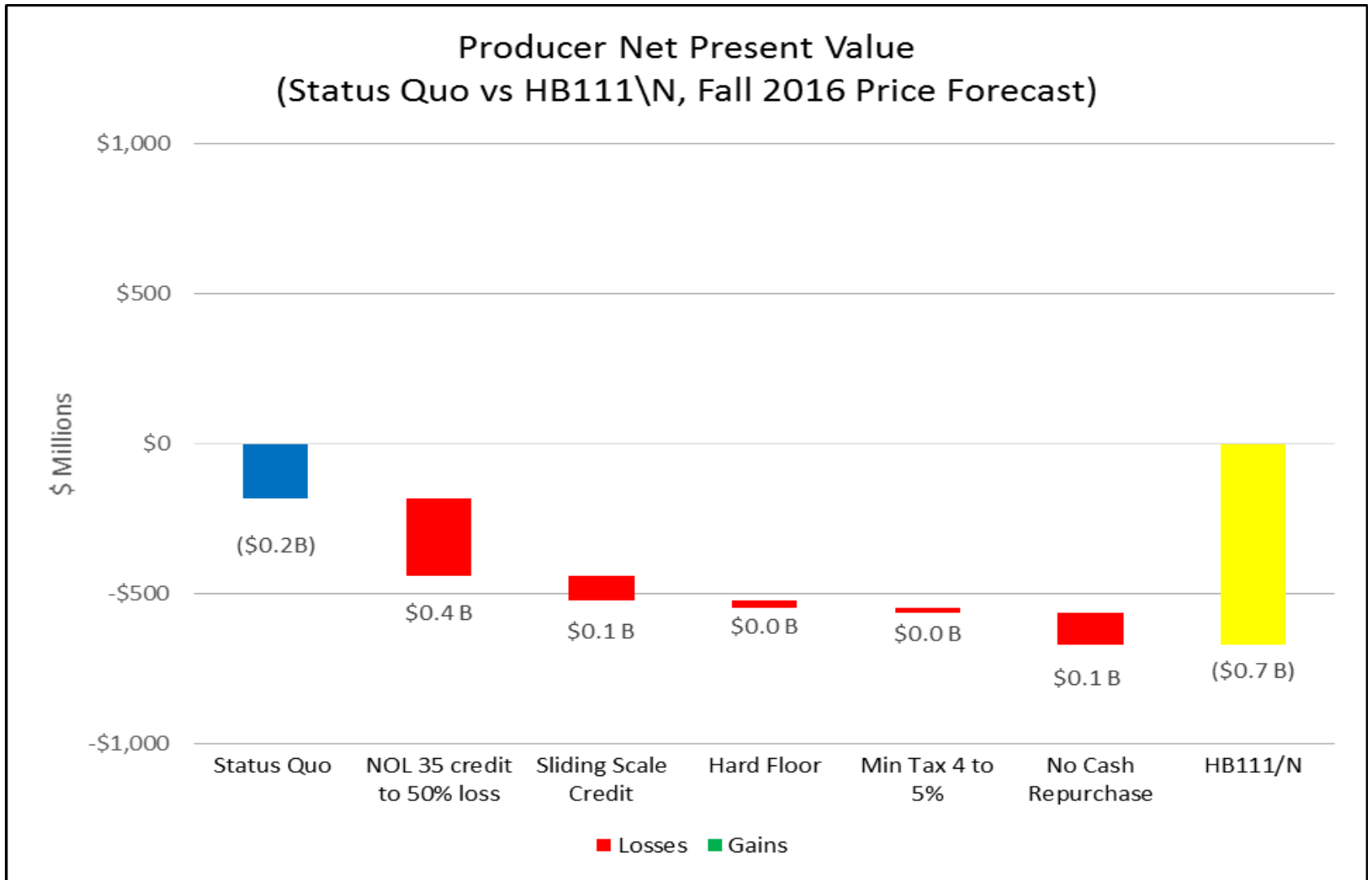
Status Quo vs HB111 – State Net Present Value



Status Quo vs HB111 – Producer Net Cash Flows



Status Quo vs HB111 – Producer Net Present Value



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Thank You!

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