



Senate Finance Committee

Alaska Fiscal System Discussion Slides

March 4 2013

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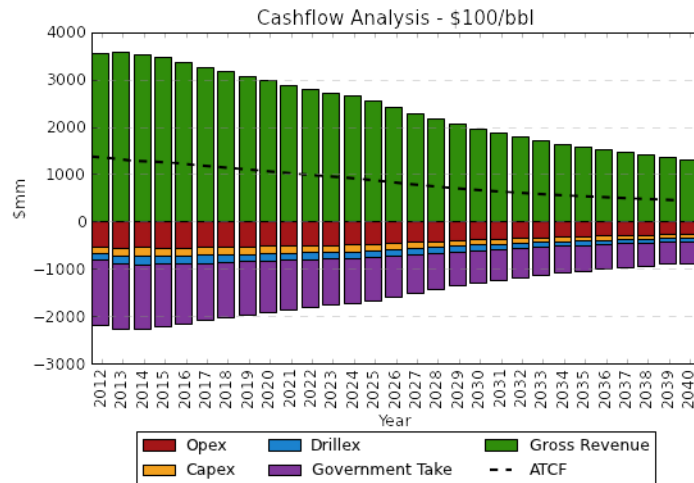
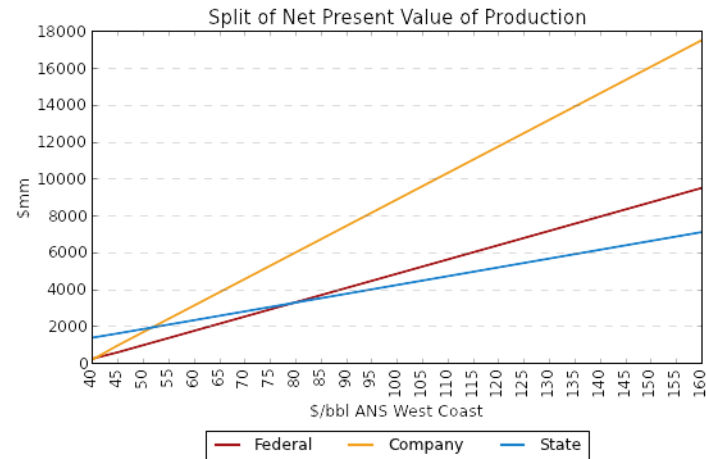
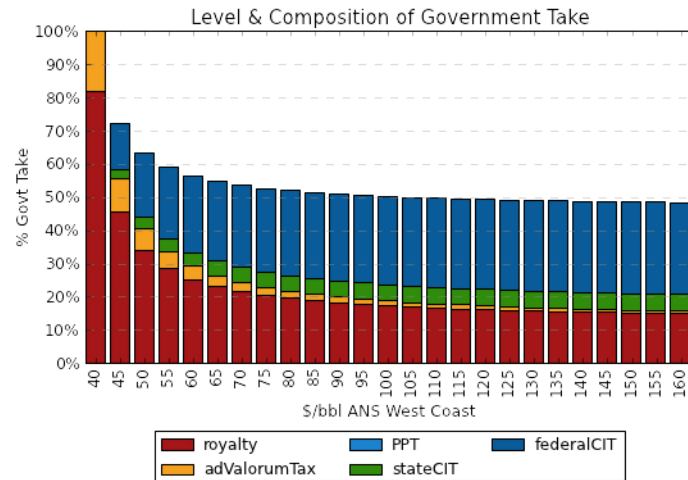
Regressive and Progressive Regimes

Regressive and Progressive Regimes

- 2 potential reasons to desire a progressive element in Alaska's fiscal regime:
 - To counteract regressive elements in the regime to achieve something close to **neutrality**
 - To go beyond neutrality, to ensure a **higher level of take** for the state in **high price environments**
- Regressive and Progressive regimes imply a very different outlooks on risk and reward, for government and the private sector:
 - **Regressive regimes limit risk to the state**, placing large downside risk on the private sector, protecting the state in low price or high cost environments
 - In return, regressive regimes offer outsized returns in high price environments
 - **Progressive regimes** involve the **state bearing more price and cost risk**, in return for a higher share of returns in good times
- Perhaps the single biggest problem with Alaska's current fiscal regime is that it involves elements that are **both strongly regressive and strongly progressive**.
 - It seeks to place downside risk on the private sector, while taking most of the returns in high price environments.
 - It is this combination that makes it particularly unattractive from an investment perspective

Royalty Only Base Production

Royalty Only, 12.5%, Base Production



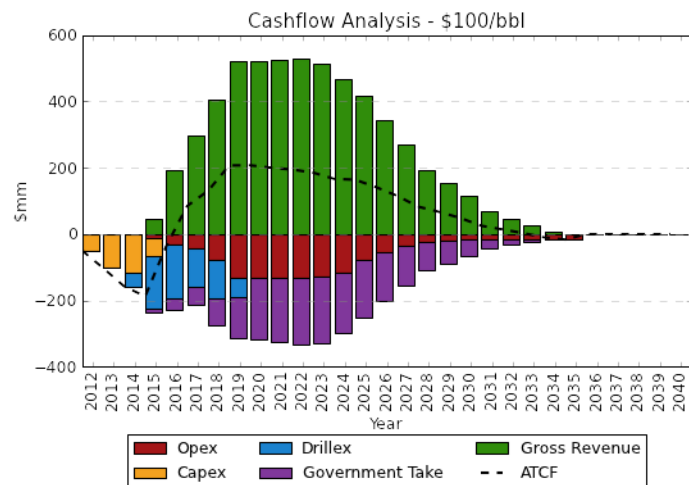
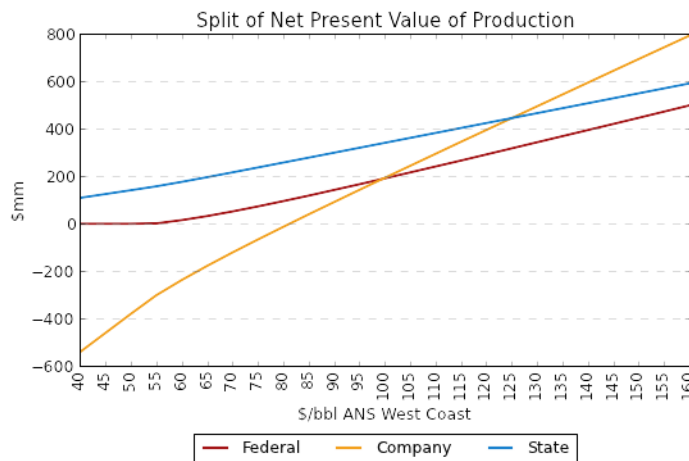
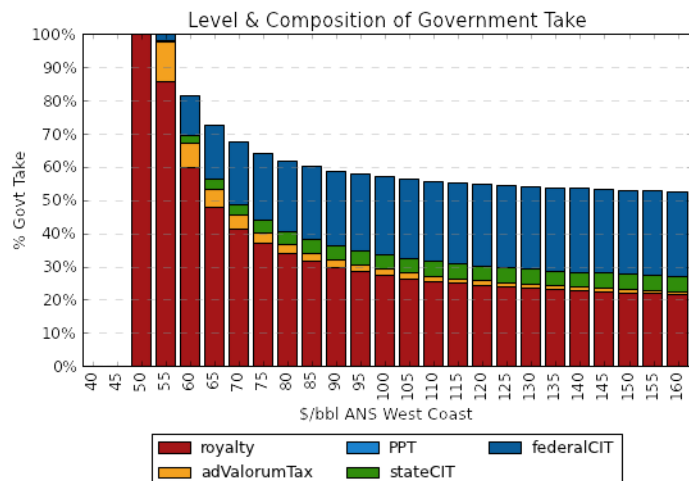
Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	52.09%	5.81		26.27
\$100/bbl	50.37%	8.61		39.1
\$120/bbl	49.46%	11.4		51.93
\$140/bbl	48.90%	14.2		64.76

Even with just a 12.5% royalty on base production, a fixed royalty is regressive at low prices; at \$40/bbl the royalty and property tax consume all divisible income

Royalty Only \$18/bbl New Development, Standalone

16.7% Royalty, \$18/bbl New Development



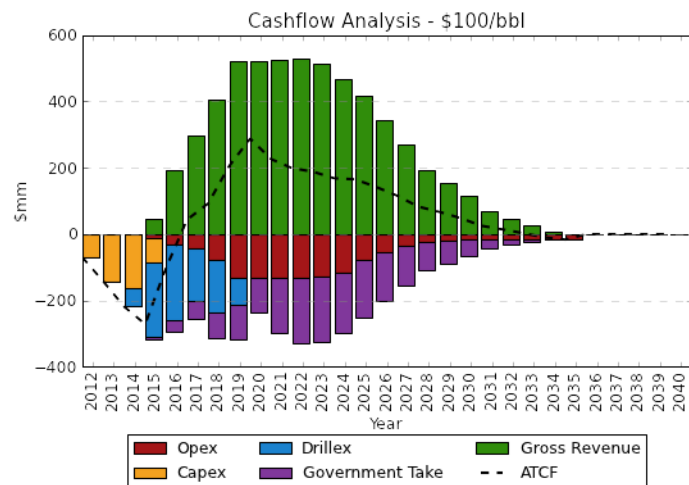
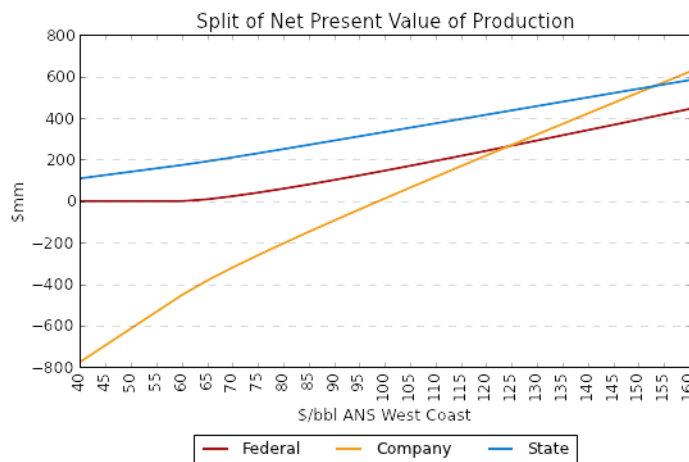
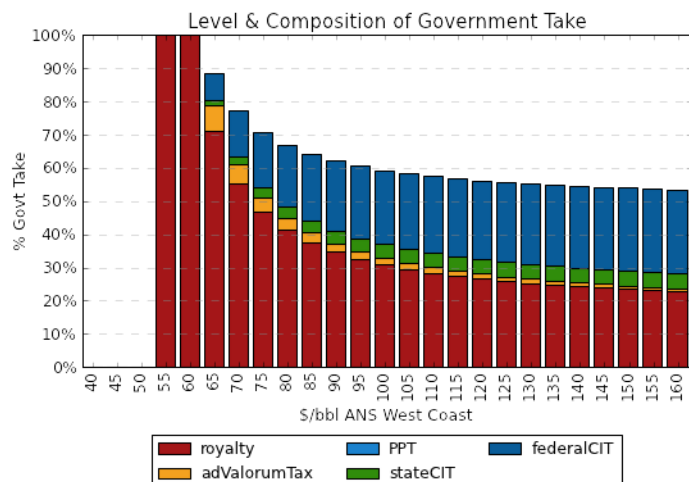
Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	61.95%	-0.26	11.52%	27.34
\$100/bbl	57.10%	3.88	18.56%	39.0
\$120/bbl	54.90%	7.91	24.44%	50.65
\$140/bbl	53.64%	11.91	29.55%	62.39

With the 16.7% royalty that generally applies to newer leases, an \$18/bbl new development faces more than 70% government take at \$65/bbl

Royalty Only \$25/bbl New Development, Standalone

16.7% Royalty, \$25/bbl New Development



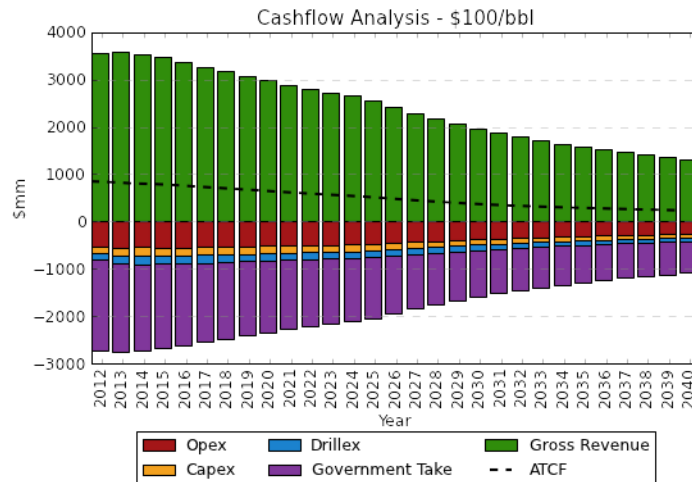
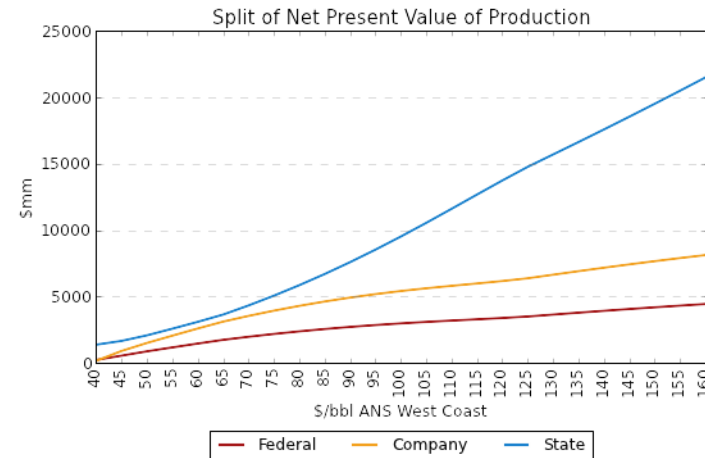
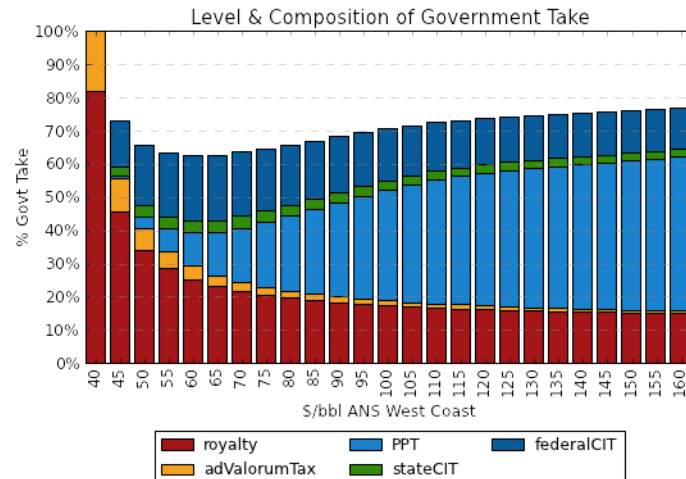
Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	66.93%	-4.08	6.32%	27.03
\$100/bbl	59.37%	0.25	12.33%	40.1
\$120/bbl	56.30%	4.4	17.41%	51.76
\$140/bbl	54.64%	8.45	21.83%	63.42

A high-cost, \$25/bbl development may face more than 70% government take at \$85/bbl

ACES – Base Production

ACES, 12.5% Royalty, Base Production



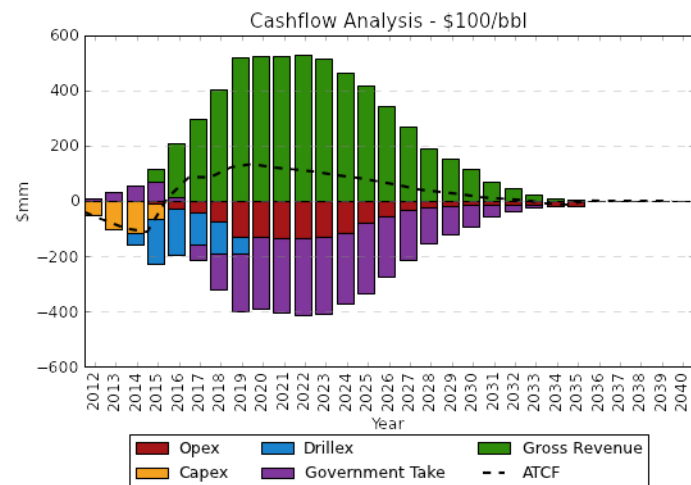
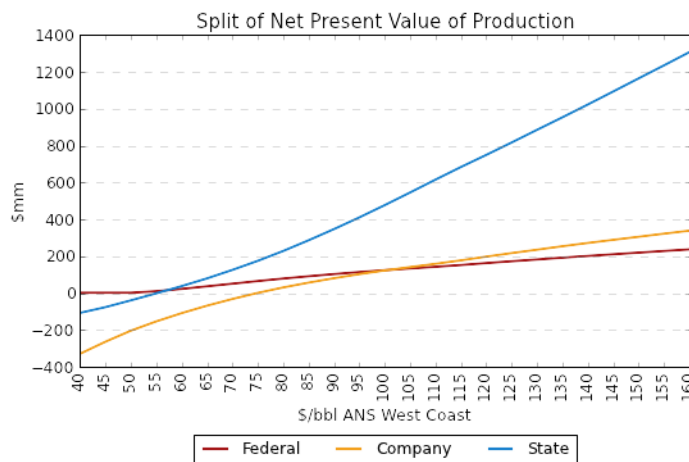
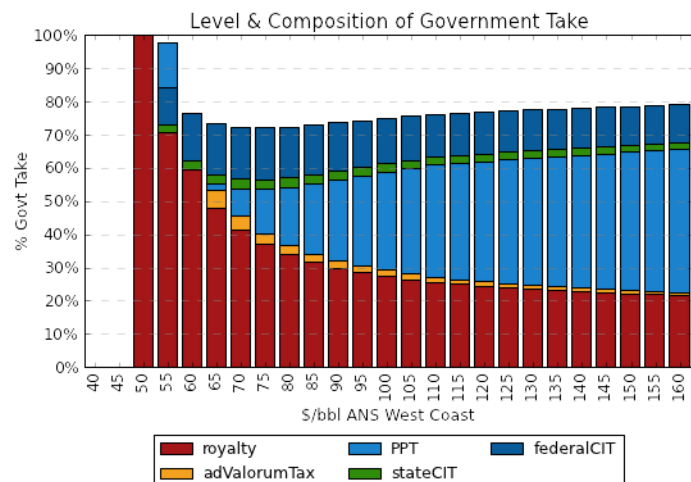
Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	65.89%	4.18		19.04
\$100/bbl	70.65%	5.26		23.92
\$120/bbl	73.92%	6.0		27.09
\$140/bbl	75.46%	6.97		31.89

ACES layers onto the regressive fixed royalty a highly progressive profit-based production tax. The gross-based minimum tax also increases the regressive nature at the low end. The result is very high levels of government take at both very low and high prices

ACES - \$18/bbl New Development, Standalone

ACES, 16.7% Royalty, \$18/bbl New Development



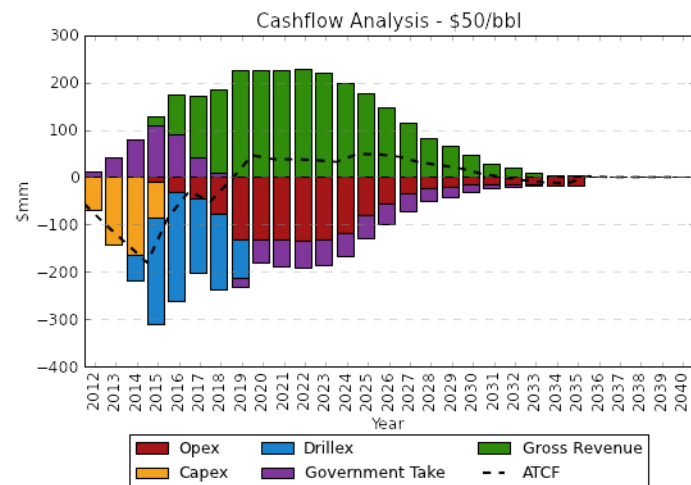
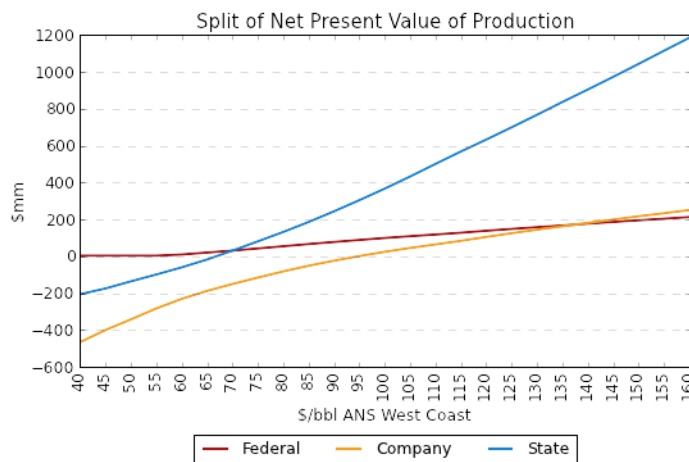
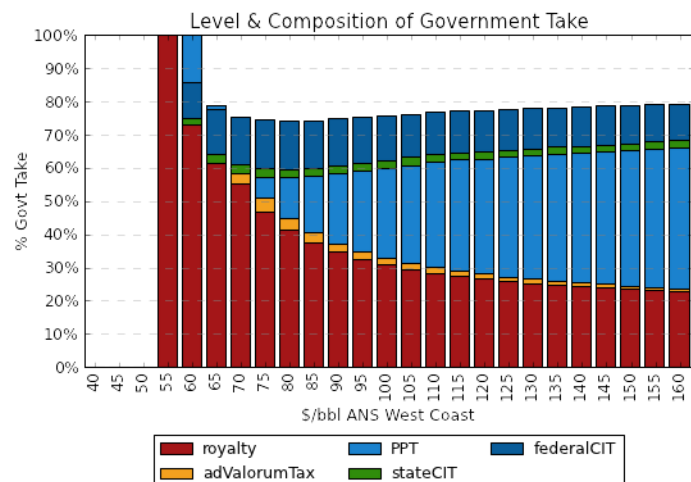
Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	72.49%	0.63	13.88%	19.94
\$100/bbl	75.08%	2.48	19.07%	25.18
\$120/bbl	77.01%	3.98	22.94%	28.63
\$140/bbl	78.10%	5.46	26.44%	32.33

Standalone new developments face particularly high government take – although this is partly offset by the significant downside risk the state takes through reimbursable credits

ACES - \$25/bbl New Development, Standalone

ACES, 16.7% Royalty, \$25/bbl New Development



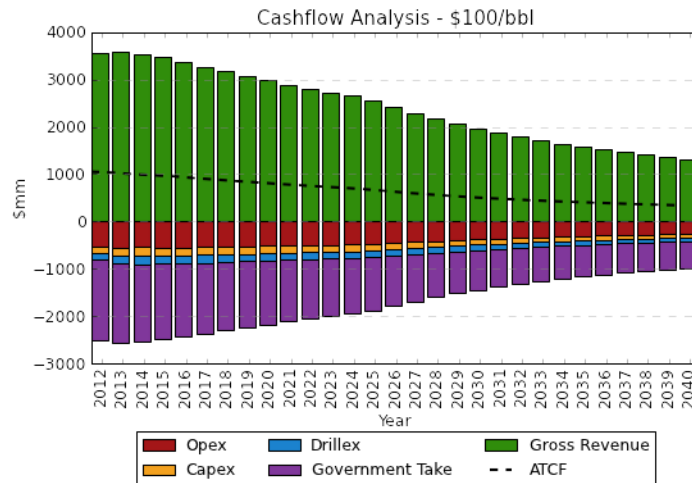
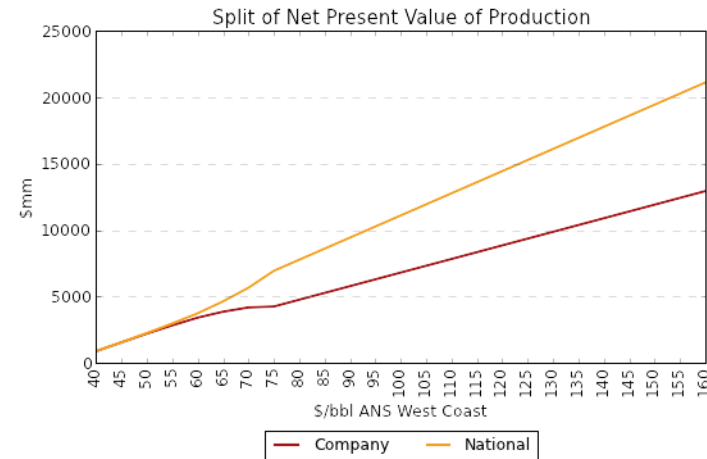
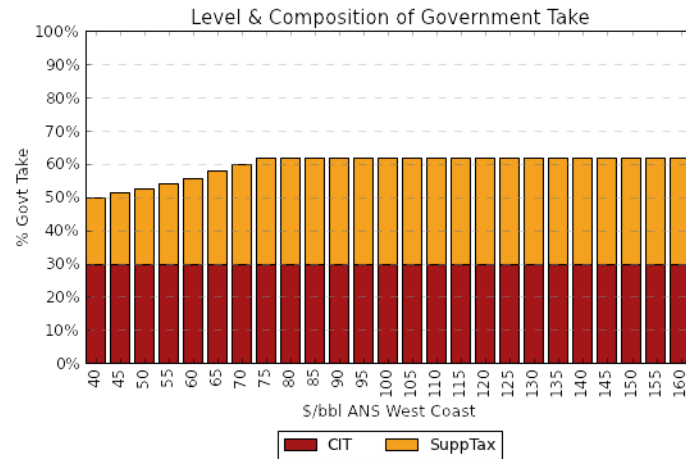
Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	74.31%	-1.62	8.31%	20.76
\$100/bbl	75.84%	0.5	13.11%	26.72
\$120/bbl	77.49%	2.11	16.56%	30.66
\$140/bbl	78.49%	3.64	19.58%	34.49

The downside exposure to the state from reimbursable credits to small producers is potentially significant for high-cost projects in low price environments

Alaska Base Production under UK North Sea regime

UK North Sea, Base Production



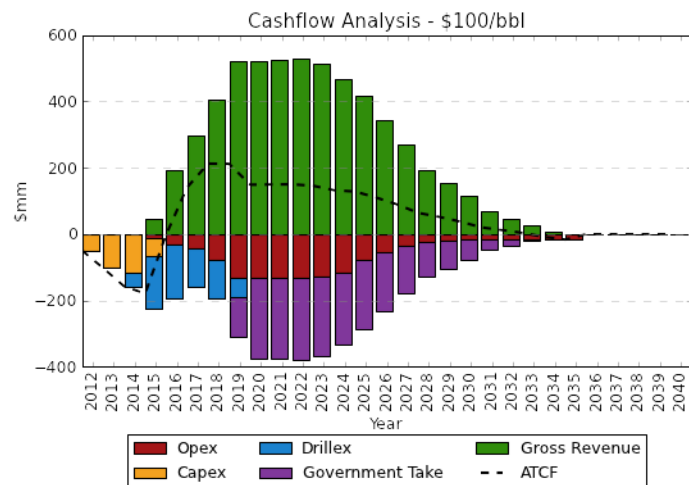
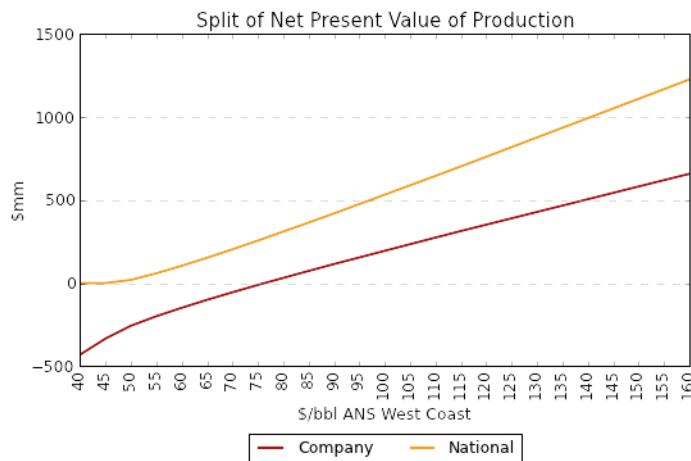
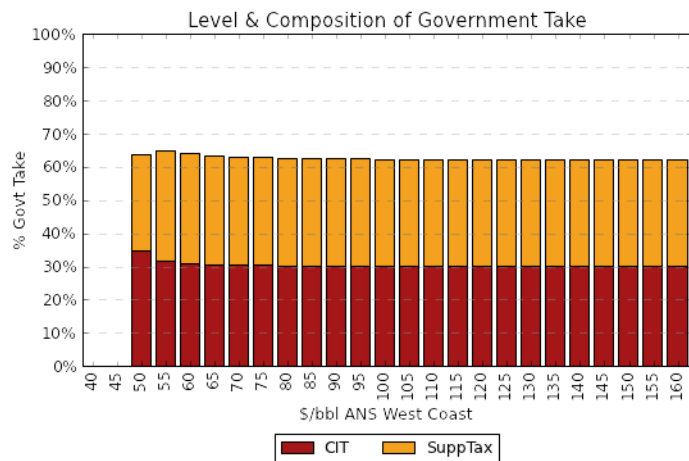
Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	62.00%	4.63		20.79
\$100/bbl	62.00%	6.62		29.9
\$120/bbl	62.00%	8.6		39.02
\$140/bbl	62.00%	10.59		48.14

By comparison, pure profit-tax based regimes like the UK North Sea can be completely neutral over an indefinite range of prices, with or without some progressivity at low prices

Alaska \$18/bbl Development under UK North Sea regime

UK North Sea, \$18/bbl New Development



Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	62.79%	0.62	13.29%	30.66
\$100/bbl	62.46%	3.89	19.64%	38.58
\$120/bbl	62.31%	7.04	25.09%	46.5
\$140/bbl	62.23%	10.11	29.82%	54.42

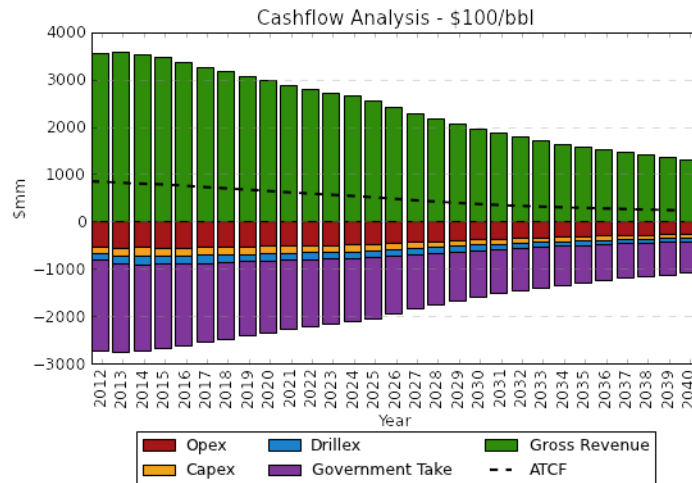
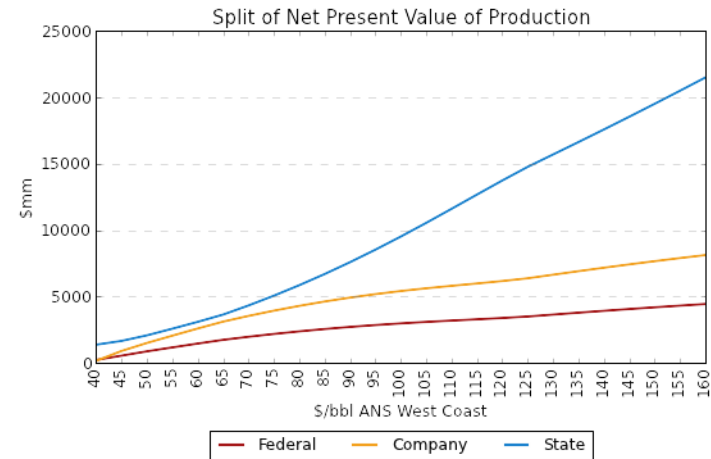
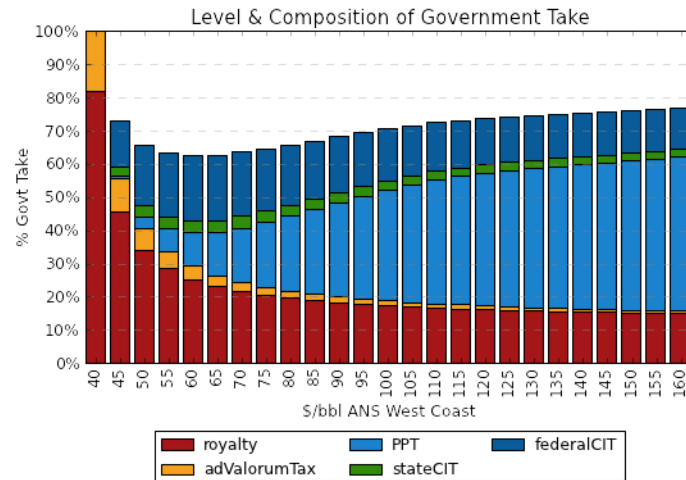
By comparison, pure profit-tax based regimes like the UK North Sea can be completely neutral over an indefinite range of prices, with or without some progressivity at low prices

Regime Comparisons:

**Seeking regime neutrality around the mid-60%
government take level**

ACES – Base Production

ACES, 12.5% Royalty, Base Production



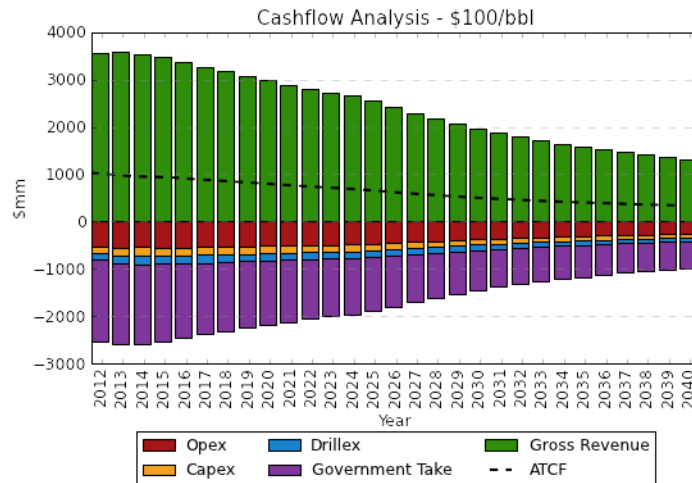
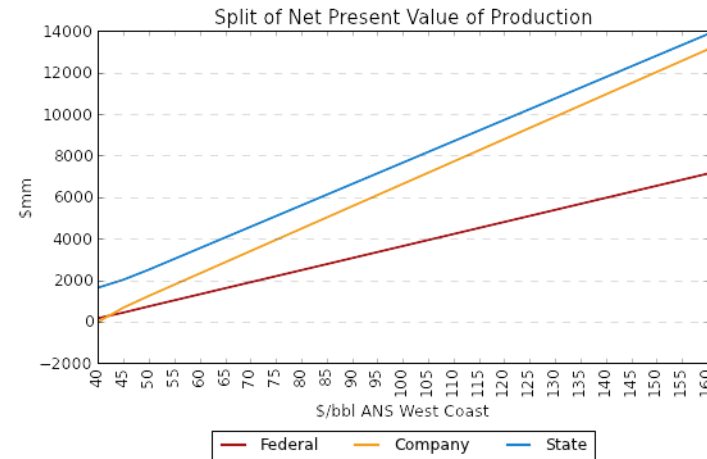
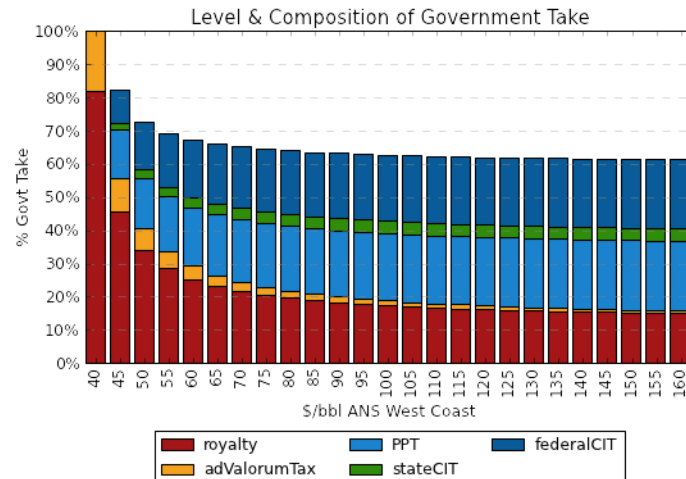
Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	65.89%	4.18		19.04
\$100/bbl	70.65%	5.26		23.92
\$120/bbl	73.92%	6.0		27.09
\$140/bbl	75.46%	6.97		31.89

SB21

Base Production

SB 21, 12.5% Royalty, Base Production

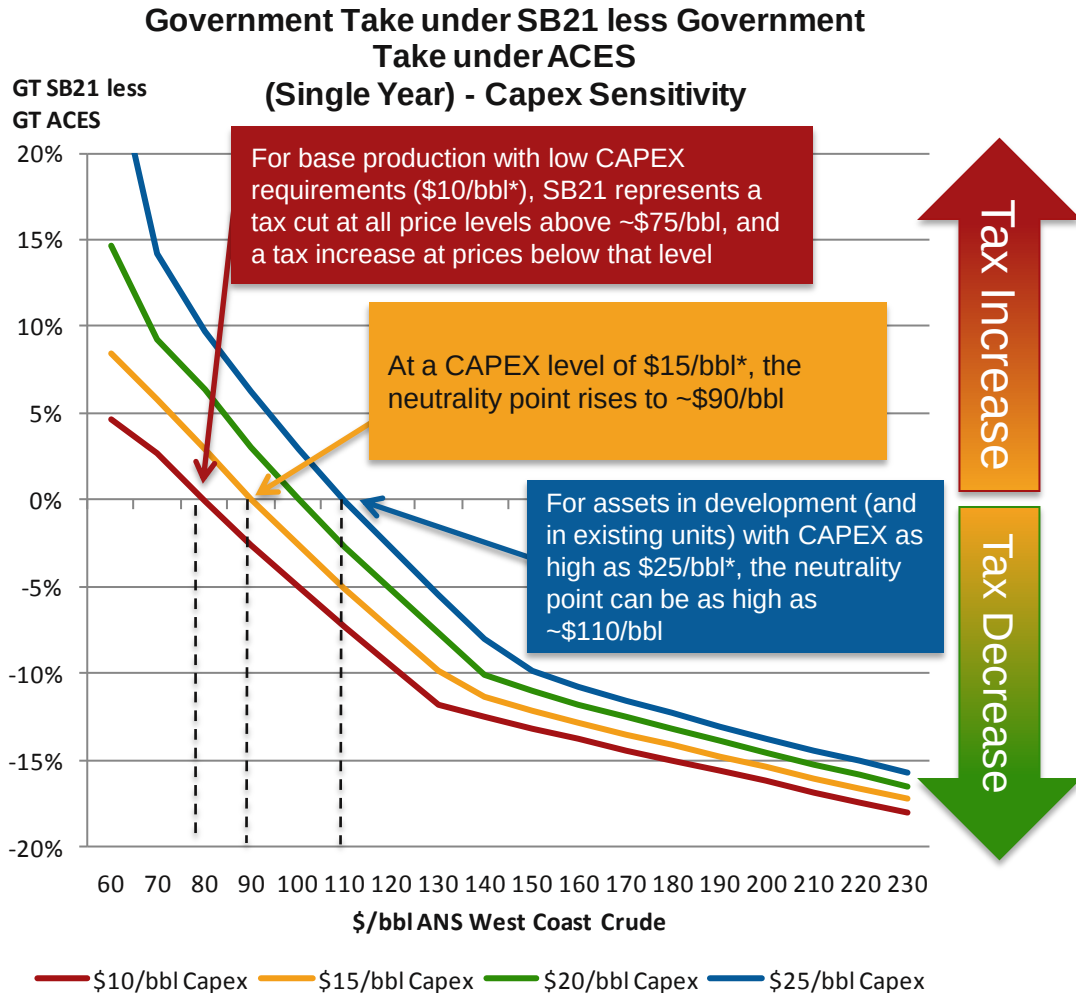


Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	64.04%	4.35		19.72
\$100/bbl	62.76%	6.44		29.34
\$120/bbl	62.08%	8.54		38.96
\$140/bbl	61.67%	10.63		48.58

Government Take under SB21 and ACES

Capex Sensitivity



* All CAPEX figures are in gross bbl terms (\$15 per gross bbl is roughly equivalent to DOR 2014 average North Slope forecast of \$19.6 per bbl net of royalty, when adjusted for gross/net and for capital expenditures by non-taxable entities)

- As noted in PFC Energy testimony on 1/31/13, at low oil prices, Relative Government Take under SB 21 is higher than under ACES, due to the impact of low or no progressivity, combined with the elimination of the 20% capital credit under SB 21

- The **oil price level** at which this occurs is highly **sensitive to annual levels of capital spending**, since CAPEX both reduces the oil price level at which progressivity kicks in under ACES, and determines the size of the available capital credit under ACES

- Looking at a **single year of production** also slightly raises this neutrality point, since over many years, inflation reduces the real price level at which progressivity starts under ACES

- For mature, producing assets with a low ongoing CAPEX requirement (\$10/bbl), SB21 represents a **reduction in government take at prices above ~\$75**, however for capital intensive new developments in existing units, that neutrality **point can be as high as \$110/bbl**

- It is thus important to understand that one impact of the removal of the 20% capital credit under SB 21 is that for companies with high development costs relative to overall production, it **can represent a tax increase at current prices**

Regimes for comparison:

CS SB 21

- CS SB 21:
 - 35% Profit-based Production Tax, \$5/bbl allowance, 30% GRE for certain new production
 - Production-based allowance curves the tax-rate down at lower prices, creating a progressive element that achieves relative overall neutrality
 - Overall relative neutrality removes potential for ‘gold-plating incentives’
 - Progressive element being determined on gross basis removes issue of oil vs gas ‘decoupling’
 - Gross Revenue Exclusion reduces the overall level of government take for incentivized projects
 - Elimination of capital credit and carryforward of NOL credit reduces downside risk to state, but carries a cost in terms of project economics

\$5 production allowance is like reverse progressivity

Taxable Production	50,000,000	50,000,000	50,000,000	50,000,000
ANS West Coast	60	80	120	140
Transportation	10	10	10	10
Gross Value at Point of Production	2,500,000,000	3,500,000,000	5,500,000,000	6,500,000,000
Lease Expenditures	1,500,000,000	1,500,000,000	1,500,000,000	1,500,000,000
GVPP/bbl	50	70	110	130
Lease Expenditures/bbl	30	30	30	30
PTV	1,000,000,000	2,000,000,000	4,000,000,000	5,000,000,000
PTV/bbl	20	40	80	100
Production Tax without Allowance	1,500,000,000	2,000,000,000	3,400,000,000	4,750,000,000
Production Allowance	250,000,000	250,000,000	250,000,000	250,000,000
Production Tax	1,000,000,000	1,750,000,000	3,150,000,000	4,500,000,000
Nominal Tax Rate	35%	35%	35%	35%
Rate after Allowance	10.0%	22.5%	28.8%	30.0%
Progressive Tax Rate Deduction	25.0%	12.5%	6.3%	5.0%

GRE increases the price level at which production tax, and 'progressivity', apply

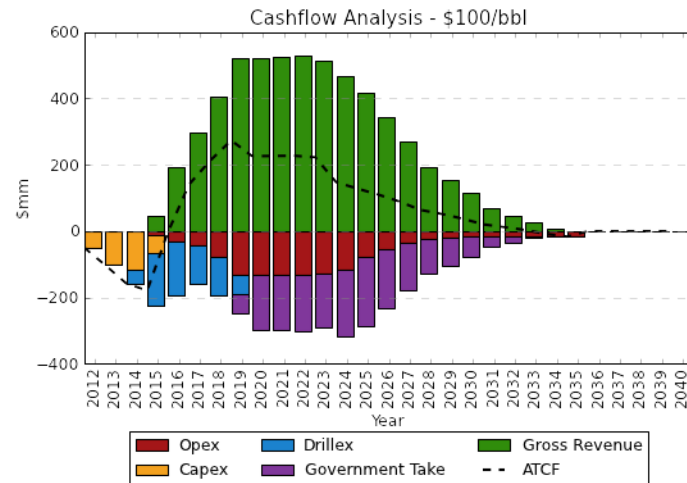
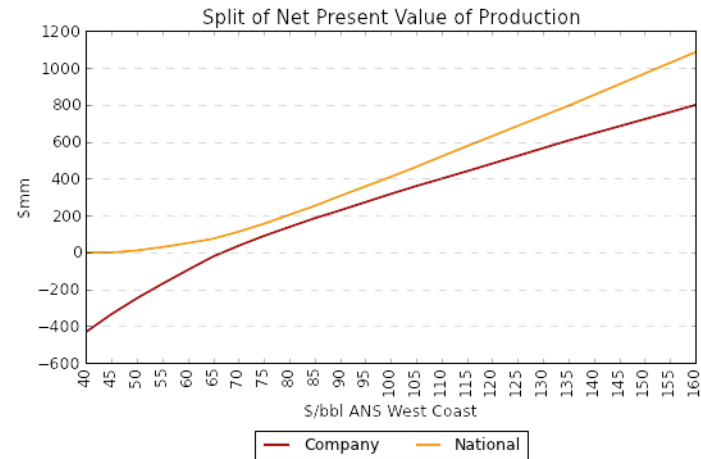
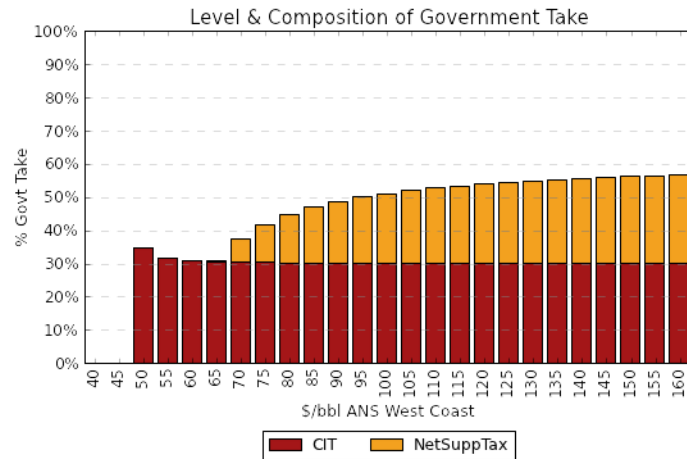
Taxable Production	50,000,000	50,000,000	50,000,000	50,000,000
ANS West Coast Transportation	60	80	120	140
	10	10	10	10
Gross Value at Point of Production	2,500,000,000	2,500,000,000	2,500,000,000	2,500,000,000
Lease Expenditures	1,500,000,000	1,500,000,000	1,500,000,000	1,500,000,000
GVPP/bbl	50	70	110	130
Lease Expenditures/bbl	30	30	30	30
GRE 30%	250,000,000	1,050,000,000	1,650,000,000	1,950,000,000
PTV	250,000,000	1950,000,000	2,350,000,000	3,050,000,000
PTV/bbl	20	40	80	100
Production Tax without Allowance	87,500,000	332,500,000	322,500,000	1,067,500,000
Production Allowance	250,000,000	250,000,000	250,000,000	250,000,000
Production Tax	-	82,500,000	72,500,000	817,500,000
Nominal Tax Rate	35%	35%	35%	35%
Rate after Allowance	0.0%	8.7%	24.4%	26.8%
Progressive Tax Rate Deduction	35.0%	26.3%	10.6%	8.2%

Both share similarities with UK Brownfield Allowance

- The UK's fiscal regime is a relatively simple one, with two core components – a Corporate Income Tax (CIT) of 30%, and a Supplemental Resource Tax (SRT) of 32%, levied on the CIT tax base
- The UK Brownfield Allowance is an income exclusion, used in calculating the SRT. Up to a total £250mm of income can be excluded, with up to 20% of the exclusion amount allowed in a given year. For projects subject to the additional Petroleum Tax (pre-1993 projects), the exclusion is up to £500mm of income
- Because it is a fixed exclusion, it has a greater impact at lower oil prices
- Projects are individually assessed for qualification, and for the total amount of relief available. Qualifying projects are incremental projects increasing production from mature fields.
- A 100mmb incremental development, with costs of \$25/bbl, could see its government take reduced by to anywhere from 3 to 11 percentage points, depending on the oil price level

Alaska \$18/bbl Development under UK North Sea regime

UK North Sea, \$18/bbl New Development, with Brownfield Allowance



Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	44.85%	2.75	17.04%	38.16
\$100/bbl	51.26%	6.34	23.38%	49.73
\$120/bbl	54.16%	9.64	28.68%	59.14
\$140/bbl	55.83%	12.92	33.60%	69.08

Regimes for comparison: Bracketed Progressivity (Net)

- Bracketed Progressivity (Net):
 - 25% Profit-based Production Tax
 - Bracketed progressivity with the following thresholds and rates:
 - \$30 PTV – 5%
 - \$42.5 PTV – 10%
 - \$55 PTV – 15%
 - 20% capital credit maintained, but carried forward to production for producers with no liability
 - Overall relative neutrality removes potential for ‘gold-plating incentives’
 - Progressive element being determined on net basis does not entirely remove issue of oil vs gas ‘decoupling’, but low degree of progressivity minimizes impact
 - Gross Revenue Exclusion not included in modeling, but could be applied to incentivize new projects
 - Carryforward (without escalation) of credits reduces some downside risk to state, while retaining a cost-progressive element. Escalation could also be included to compensate for time value of money foregone

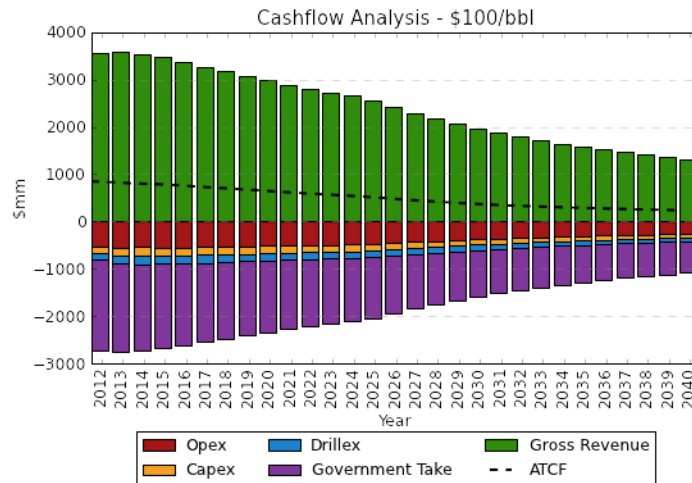
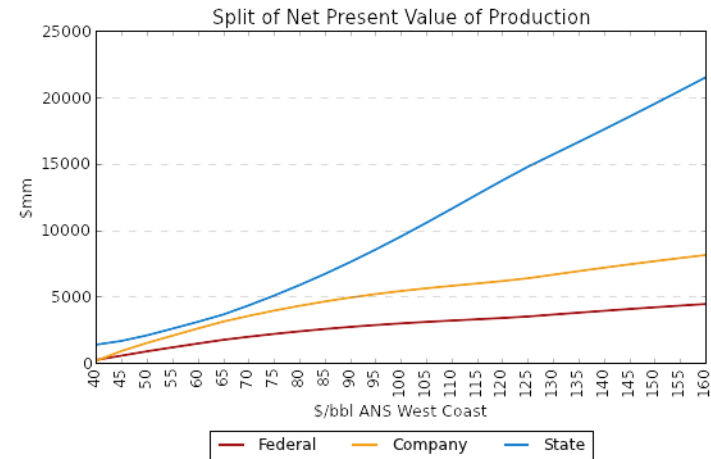
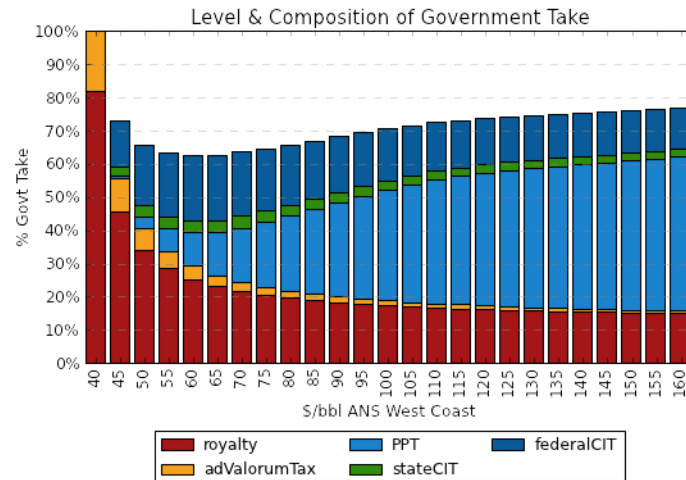
Regimes for comparison: Bracketed Progressivity (Gross)

- Bracketed Progressivity (Net):
 - 20% Profit-based Production Tax – lower rate needed to when progressivity on gross to prevent a tax increase at lower price levels for higher cost producers
 - Bracketed progressivity with the following thresholds and rates:
 - \$70 ANS West Coast Crude – 5%
 - \$90 ANS West Coast Crude– 10%
 - \$110 ANS West Coast Crude– 15%
 - \$130 ANS West Coast Crude– 20%
 - 20% capital credit maintained, but carried forward to production for producers with no liability
 - Overall relative neutrality removes potential for ‘gold-plating incentives’
 - Progressive element being determined on net basis does not entirely remove issue of oil vs gas ‘decoupling’, but low degree of progressivity minimizes impact
 - Gross Revenue Exclusion not included in modeling, but could be applied to incentivize new projects
 - Carryforward (without escalation) of credits reduces some downside risk to state, while retaining a cost-progressive element. Escalation could also be included to compensate for time value of money foregone

- **Base Production**

ACES – Base Production

ACES, 12.5% Royalty, Base Production



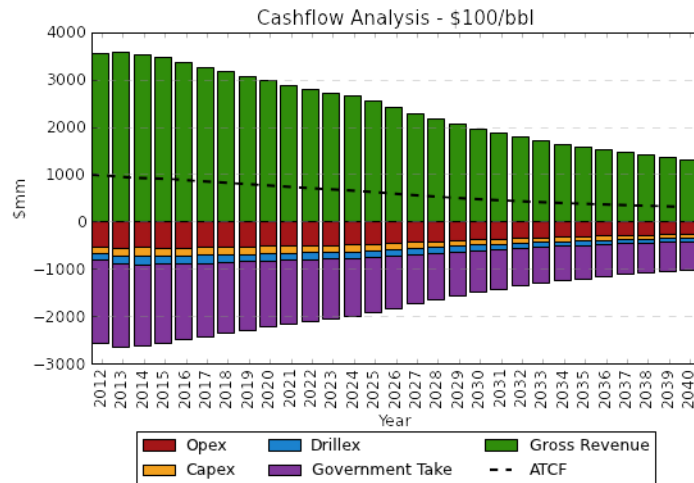
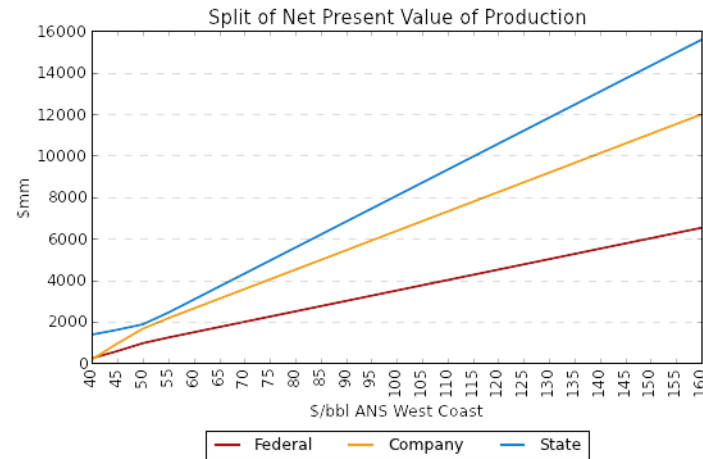
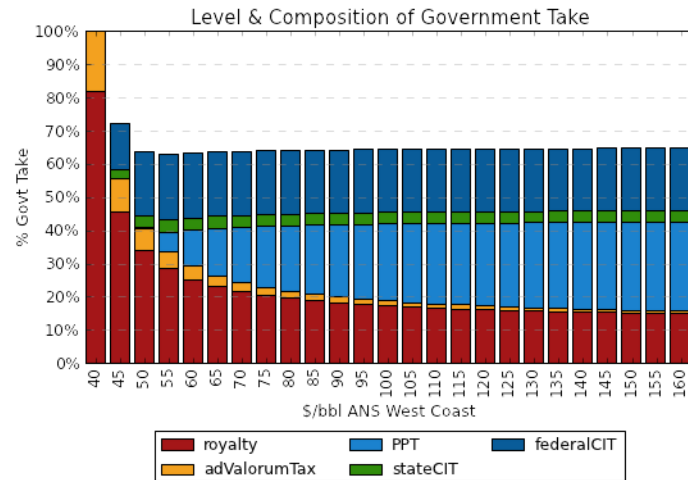
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\$140/bbl	75.46%	6.97		31.89

CS SB21

Base Production

CS SB 21, 12.5% Royalty, Base Production

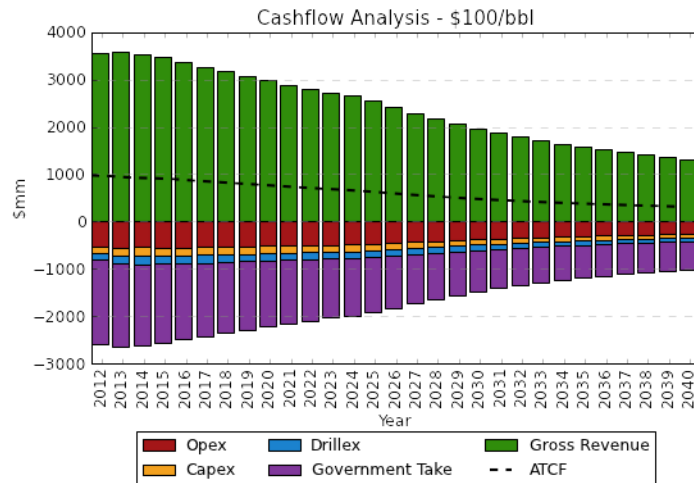
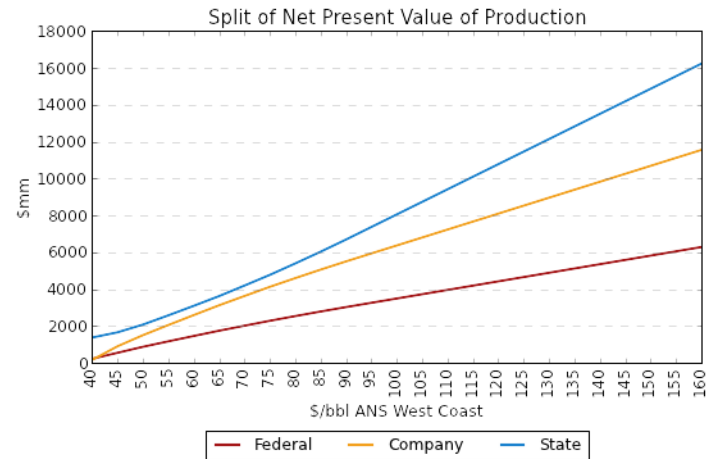
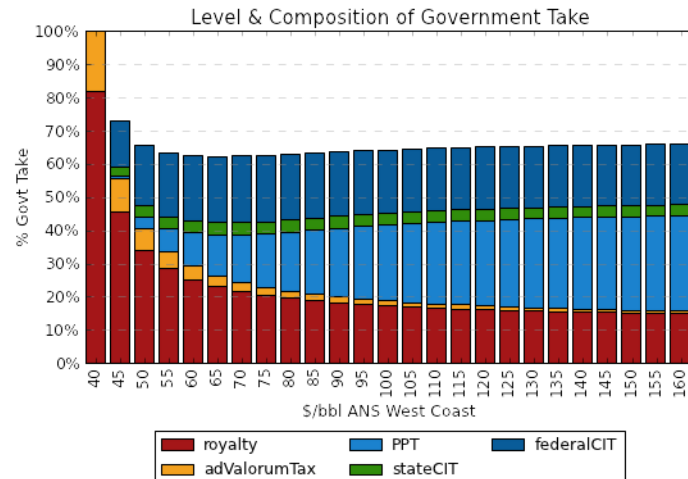


Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	64.22%	4.37		19.77
\$100/bbl	64.54%	6.18		28.11
\$120/bbl	64.71%	8.0		36.45
\$140/bbl	64.81%	9.82		44.78

Bracketed Progressivity (Net) Base Production

Bracketed Progressivity (Net), 12.5% Royalty, Base Production

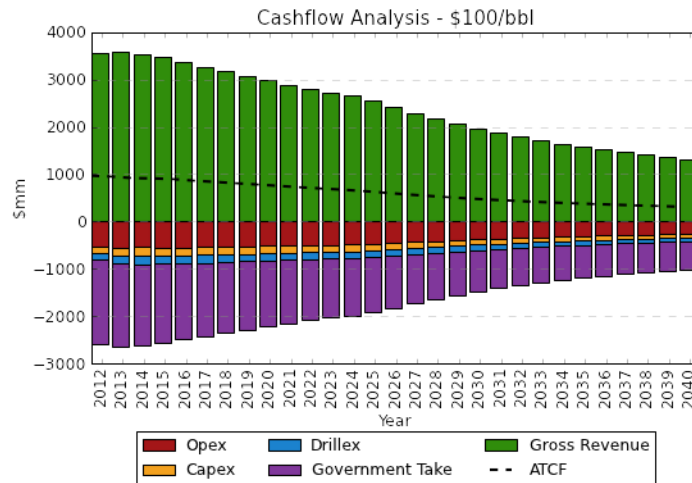
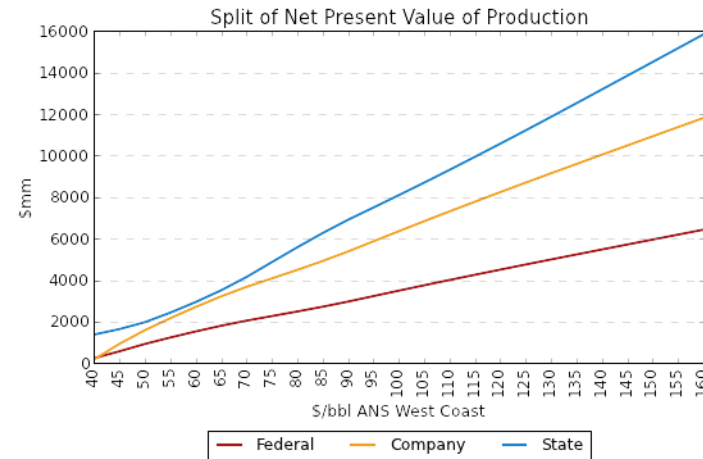
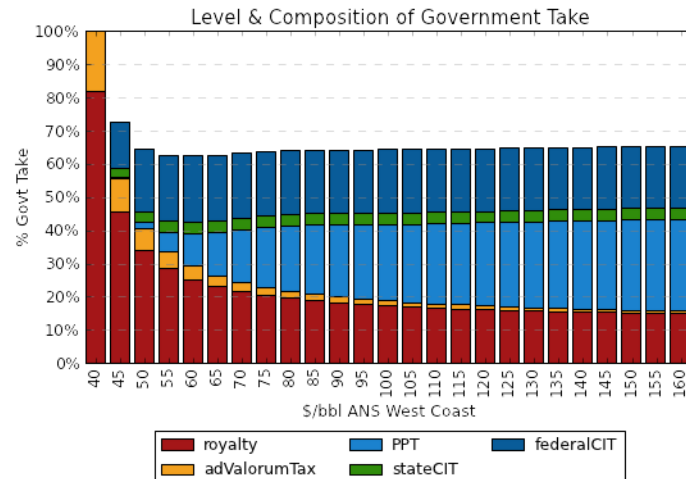


Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	63.02%	4.47		20.38
\$100/bbl	64.39%	6.19		28.23
\$120/bbl	65.22%	7.87		35.93
\$140/bbl	65.74%	9.54		43.63

Bracketed Progressivity (Gross) Base Production

Bracketed Progressivity (Gross), 12.5% Royalty, Base Production



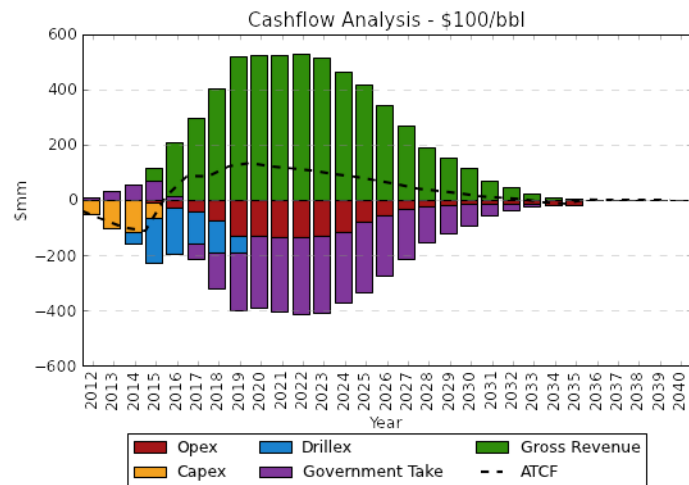
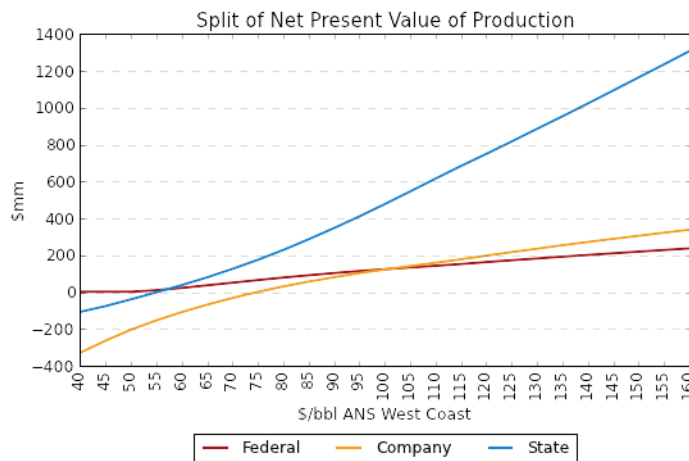
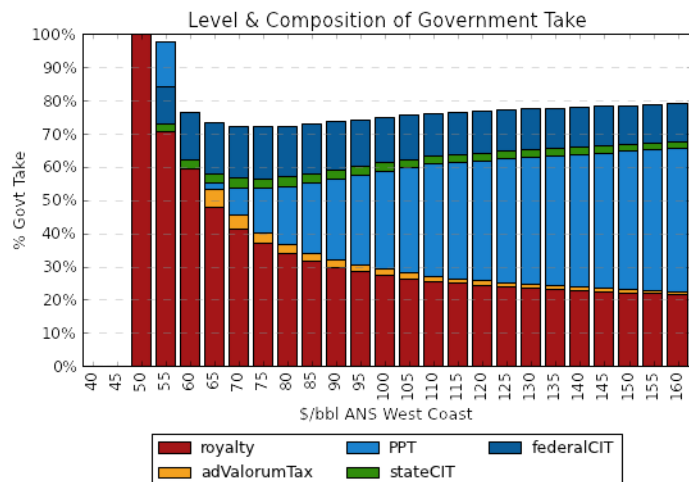
Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	64.13%	4.36		19.49
\$100/bbl	64.44%	6.17		28.25
\$120/bbl	64.75%	8.0		36.5
\$140/bbl	65.14%	9.75		44.47

- **\$18/bbl New Development**

ACES - \$18/bbl New Development, Standalone

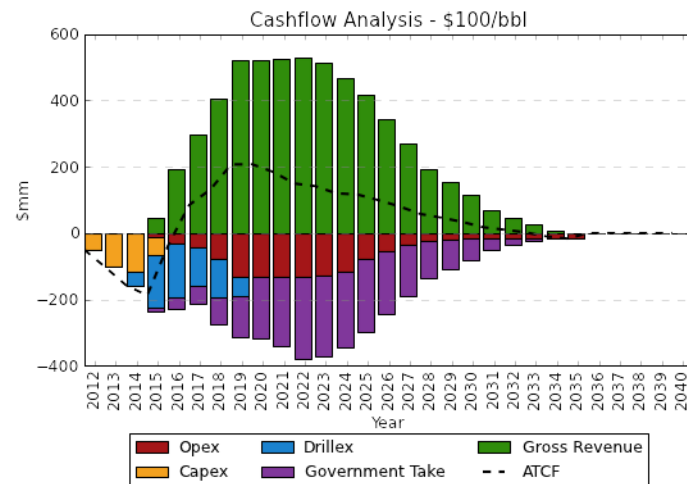
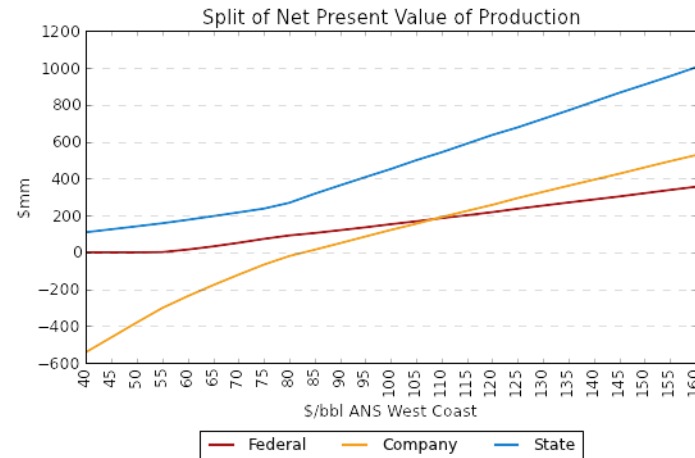
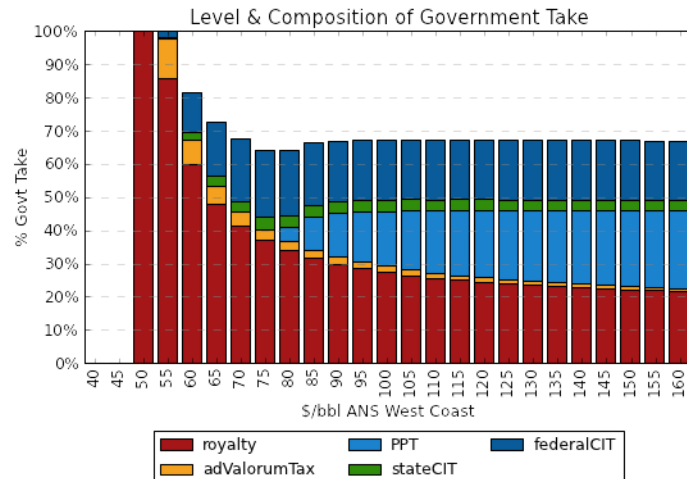
ACES, 16.7% Royalty, \$18/bbl New Development



Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	72.49%	0.63	13.88%	19.94
\$100/bbl	75.08%	2.48	19.07%	25.18
\$120/bbl	77.01%	3.98	22.94%	28.63
\$140/bbl	78.10%	5.46	26.44%	32.33

CS SB 21, 16.7% Royalty, \$18/bbl New Development

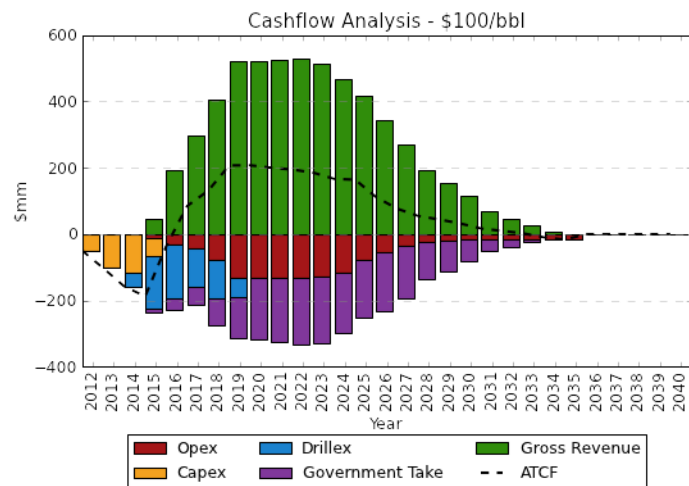
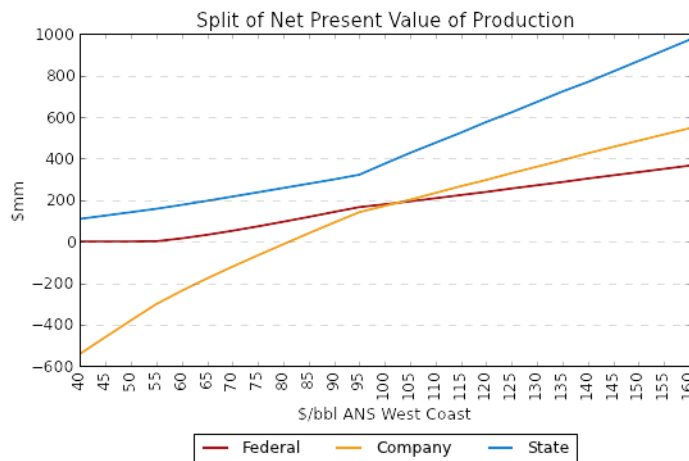
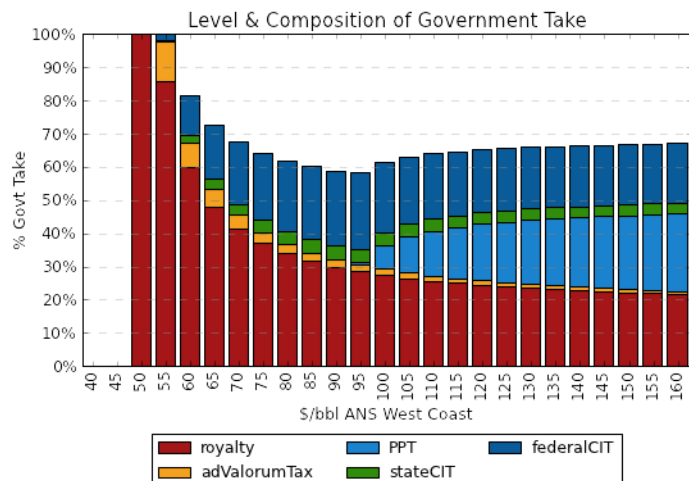


Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	64.41%	-0.4	11.25%	27.34
\$100/bbl	67.20%	2.44	16.61%	36.68
\$120/bbl	67.36%	5.16	21.37%	43.19
\$140/bbl	67.18%	7.88	25.67%	50.4

Bracketed Progressivity (Net) \$18/bbl New Development, Standalone

Bracketed Progressivity (Net), 16.7% Royalty, \$18/bbl New Development

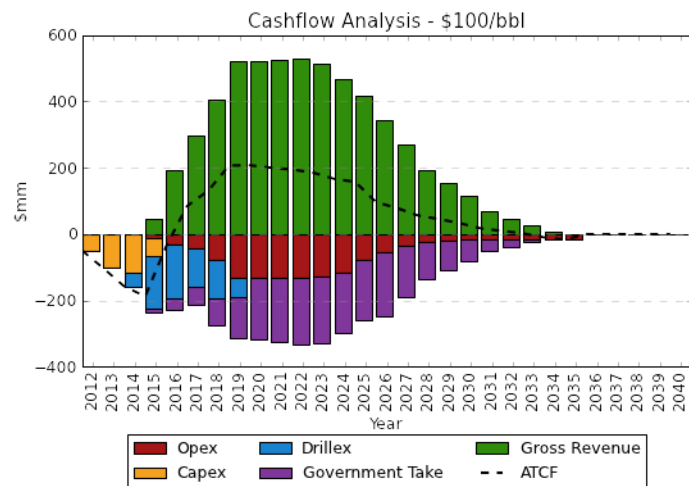
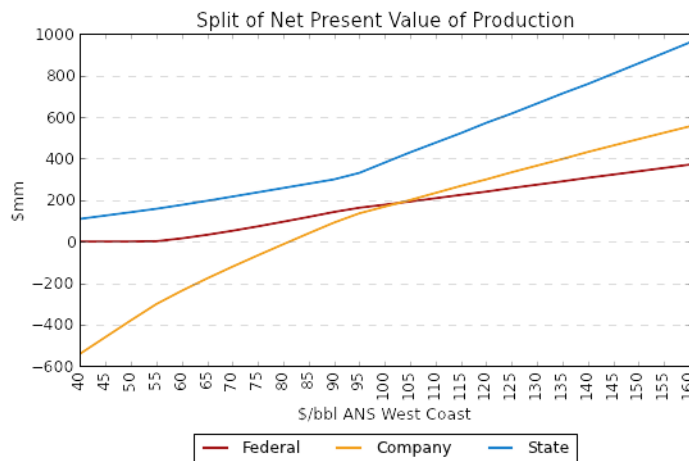
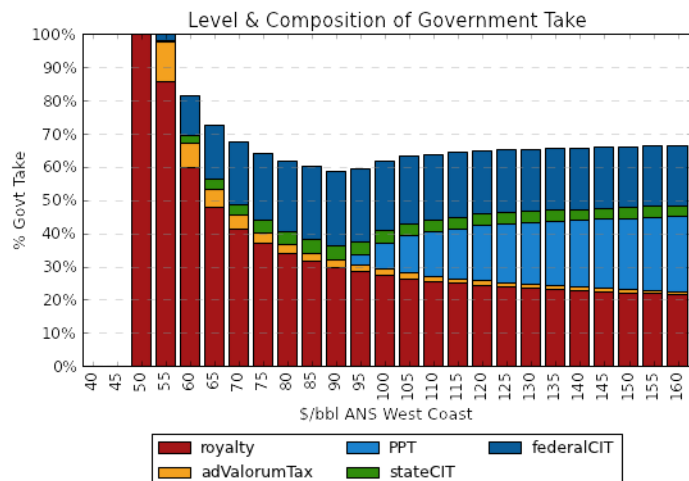


Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	61.95%	-0.26	11.52%	27.34
\$100/bbl	61.47%	3.43	18.09%	39.0
\$120/bbl	65.34%	5.94	22.63%	48.76
\$140/bbl	66.41%	8.52	26.84%	54.68

Bracketed Progressivity (Gross) \$18/bbl New Development, Standalone

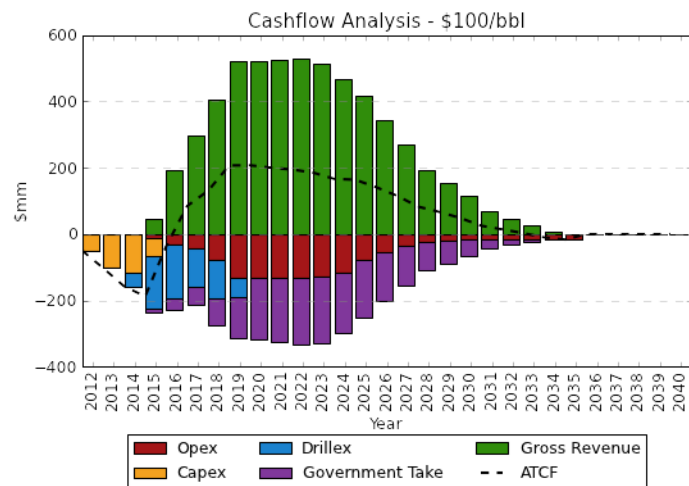
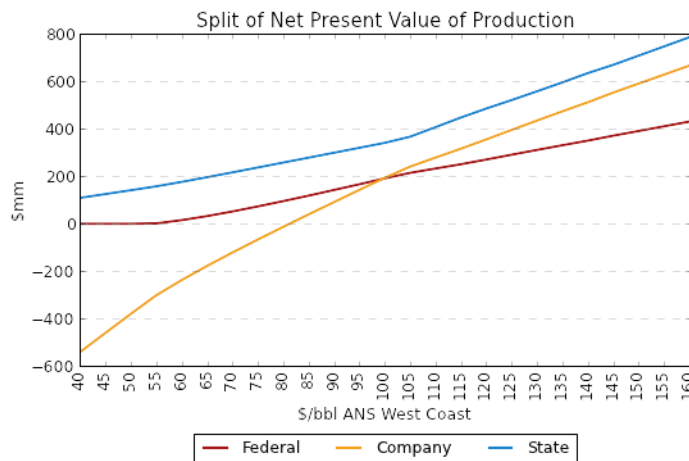
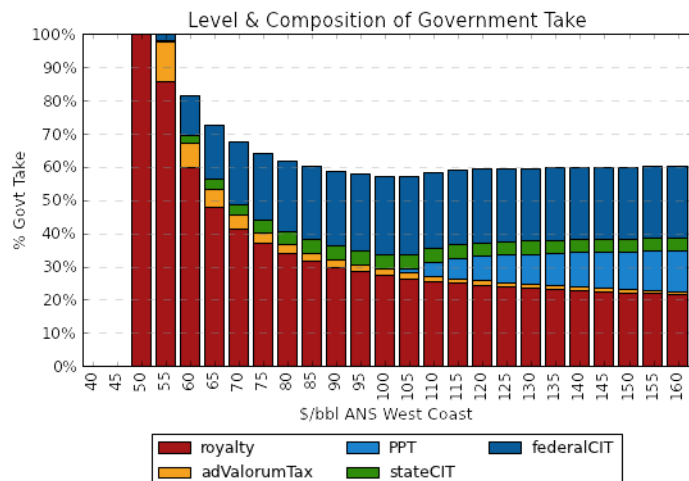
Bracketed Progressivity (Gross), 16.7% Royalty, \$18/bbl New Development



Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	61.95%	-0.26	11.52%	27.34
\$100/bbl	61.97%	3.37	18.01%	39.0
\$120/bbl	65.03%	6.0	22.68%	48.72
\$140/bbl	65.94%	8.64	26.95%	54.97

CS SB 21, 16.7% Royalty, \$18/bbl New Development with GRE



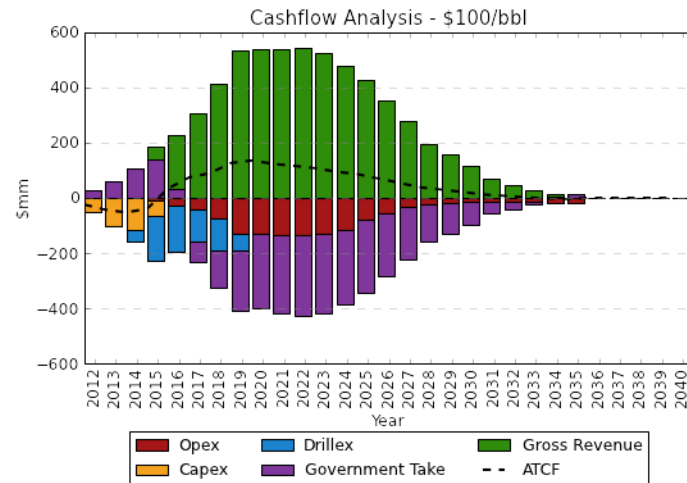
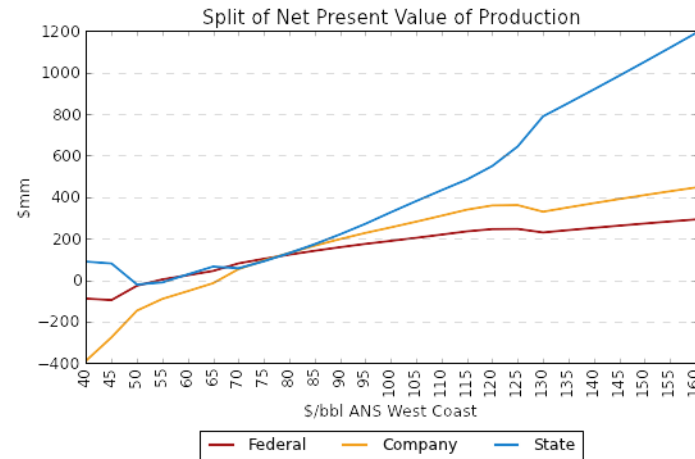
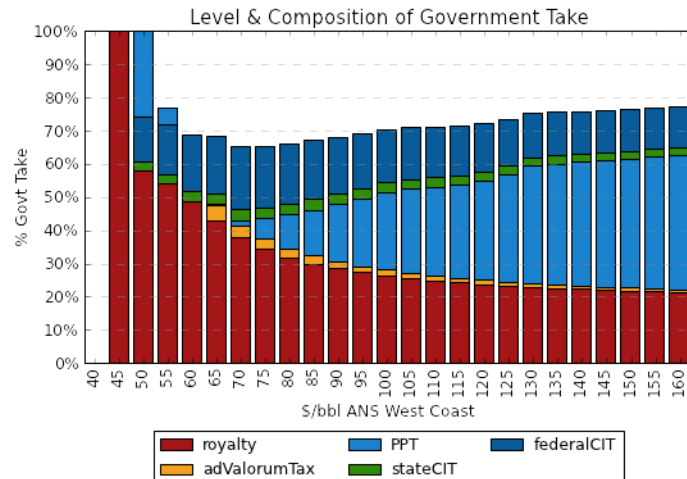
Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	61.95%	-0.26	11.52%	27.34
\$100/bbl	57.10%	3.88	18.56%	39.0
\$120/bbl	59.45%	7.12	23.80%	50.65
\$140/bbl	60.03%	10.25	28.35%	59.02

ACES

\$18/bbl New Development, Incremental

ACES, 16.7% Royalty, \$18/bbl New Development, Incremental to Incumbent



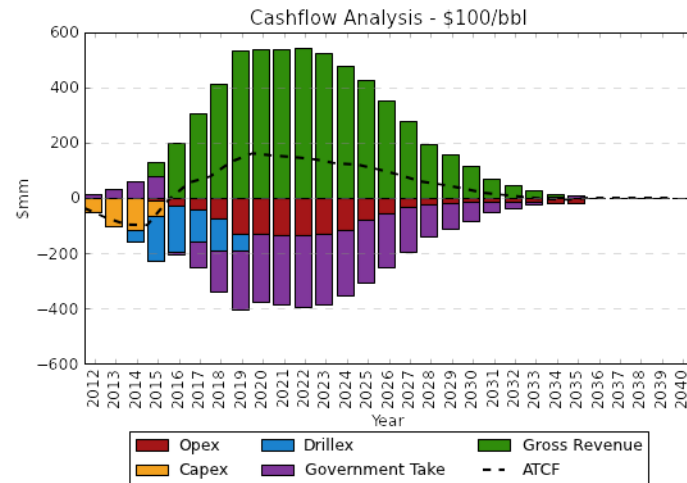
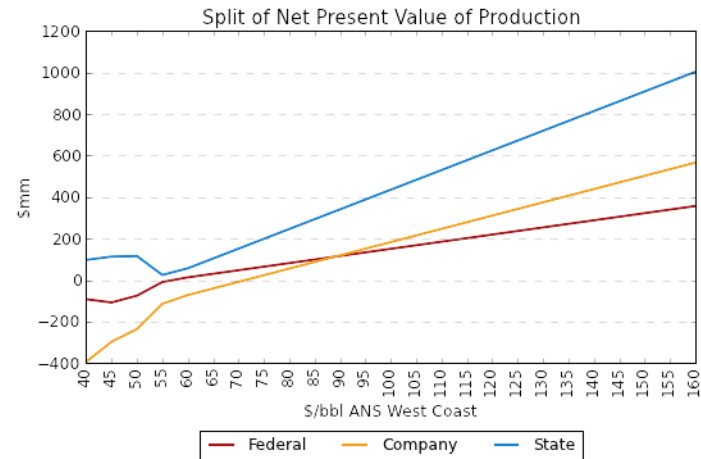
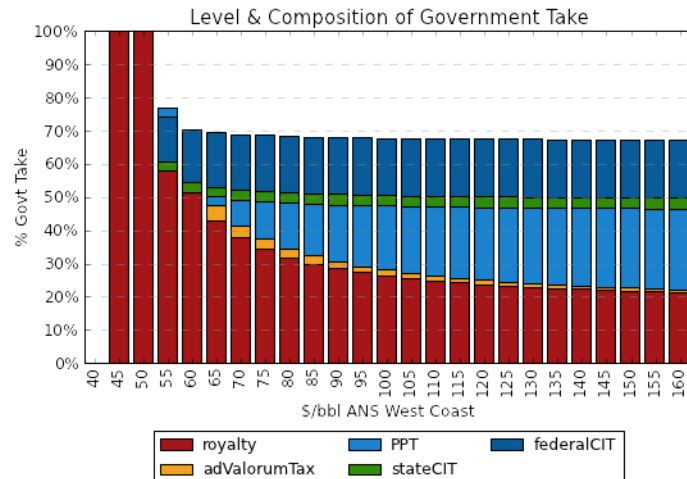
Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	66.28%	2.62	21.78%	19.9
\$100/bbl	70.46%	5.08	33.40%	25.29
\$120/bbl	72.43%	7.19	46.62%	28.55
\$140/bbl	75.95%	7.42	38.65%	32.8

CS SB21

\$18/bbl New Development, Incremental

CS SB 21, 16.7% Royalty, \$18/bbl New Development, Incremental to Incumbent

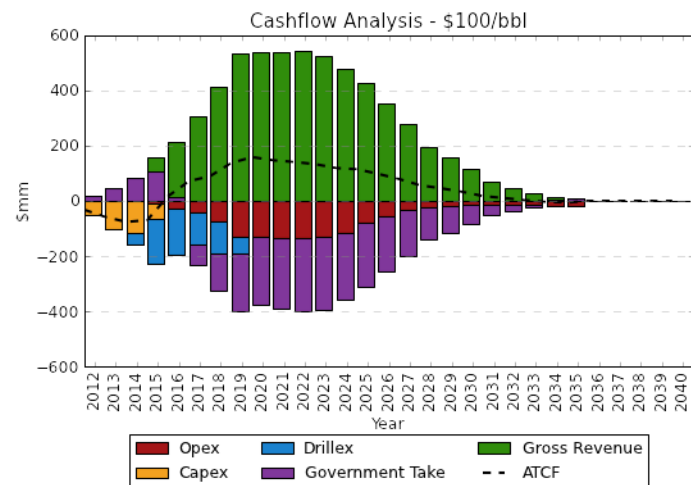
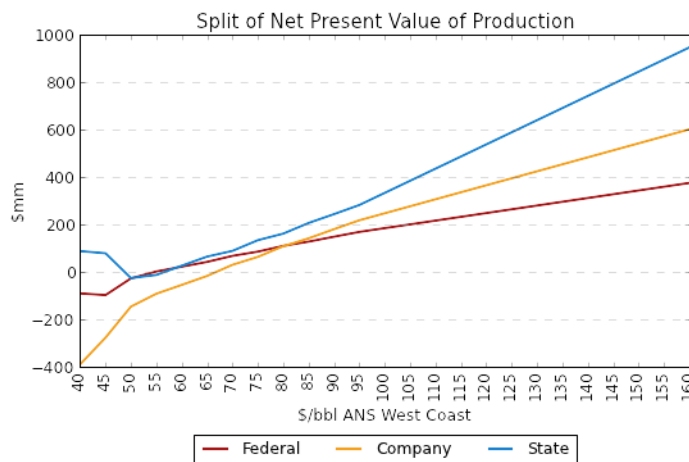
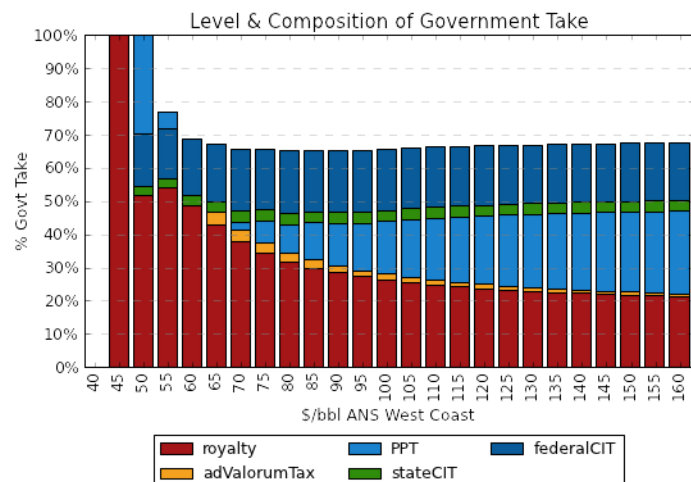


Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	68.44%	1.11	15.08%	19.6
\$100/bbl	67.89%	3.66	21.20%	27.61
\$120/bbl	67.63%	6.22	26.41%	35.63
\$140/bbl	67.48%	8.77	31.01%	43.64

Bracketed Progressivity (Net) \$18/bbl New Development, Incremental

Bracketed Progressivity (Net), 16.7% Royalty, \$18/bbl New Development, Incremental to Incumbent

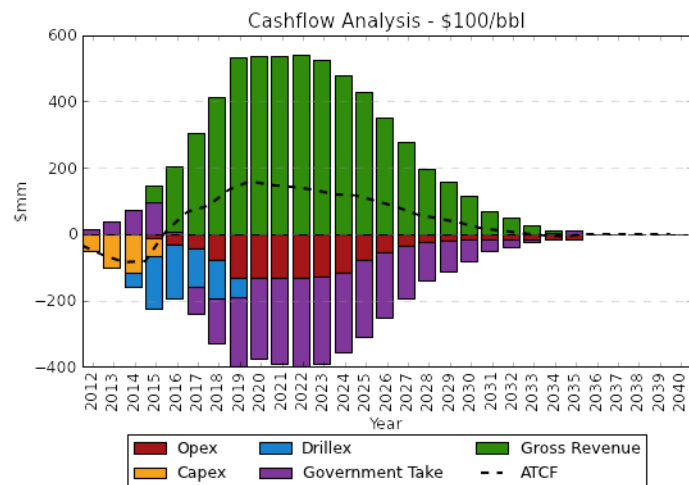
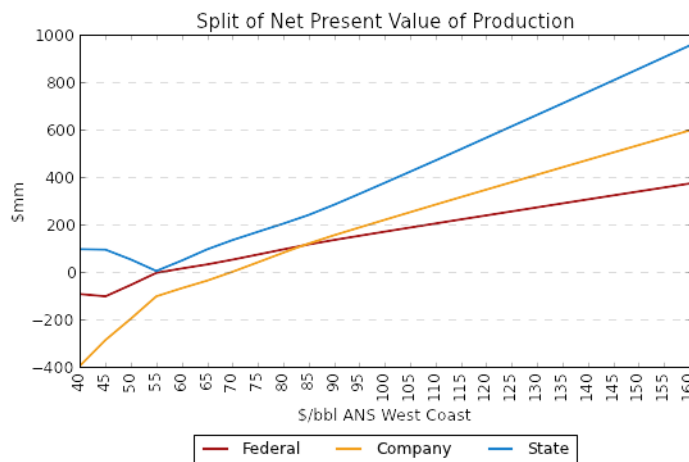
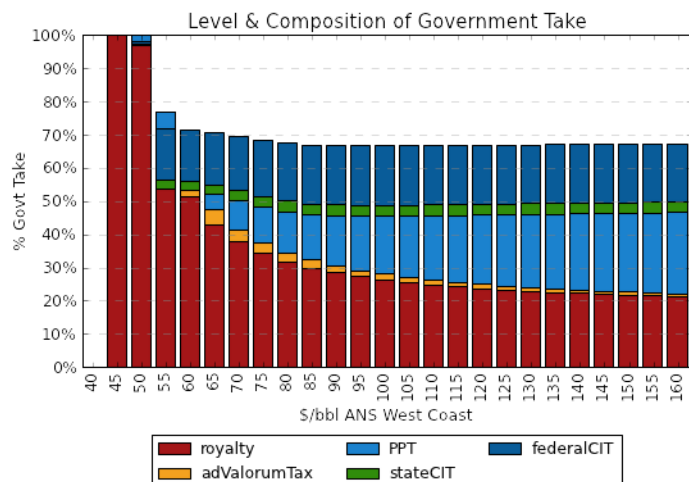


Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	65.23%	2.19	18.94%	20.59
\$100/bbl	65.82%	4.97	26.93%	28.33
\$120/bbl	66.78%	7.33	32.24%	35.73
\$140/bbl	67.34%	9.69	36.93%	43.13

Bracketed Progressivity (Gross) \$18/bbl New Development, Incremental

Bracketed Progressivity (Gross), 16.7% Royalty, \$18/bbl New Development, Incremental to Incumbent



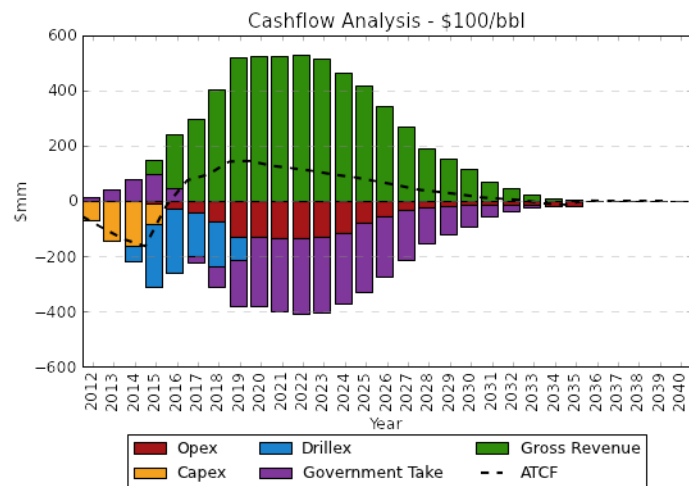
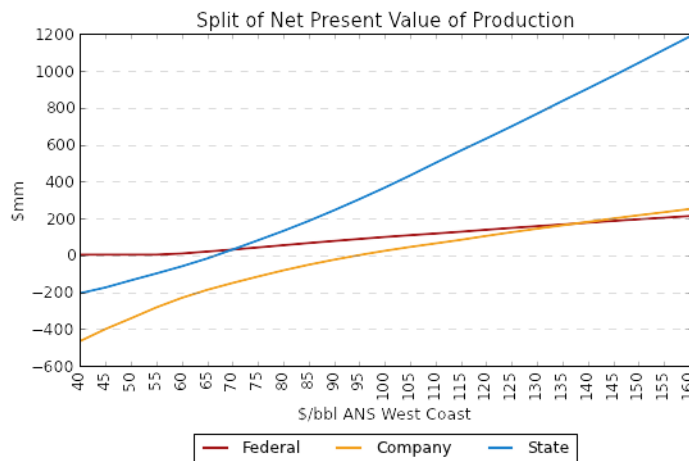
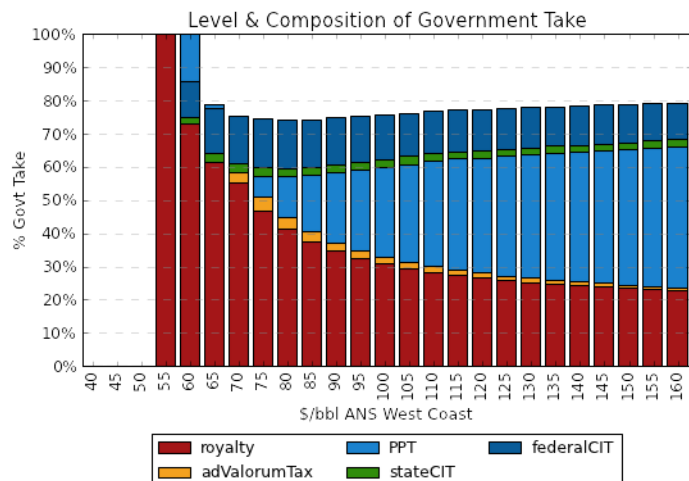
Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	67.63%	1.64	17.00%	19.59
\$100/bbl	66.80%	4.42	24.30%	28.0
\$120/bbl	66.99%	6.97	29.90%	35.94
\$140/bbl	67.21%	9.48	34.88%	43.64

- **\$25/bbl New Development**

ACES - \$25/bbl New Development, Standalone

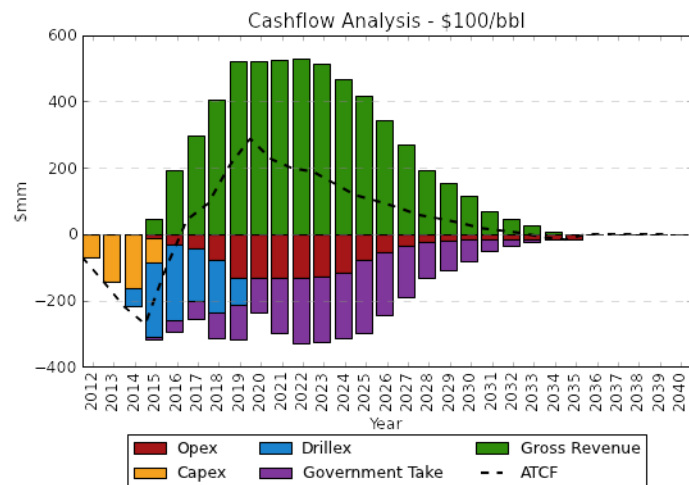
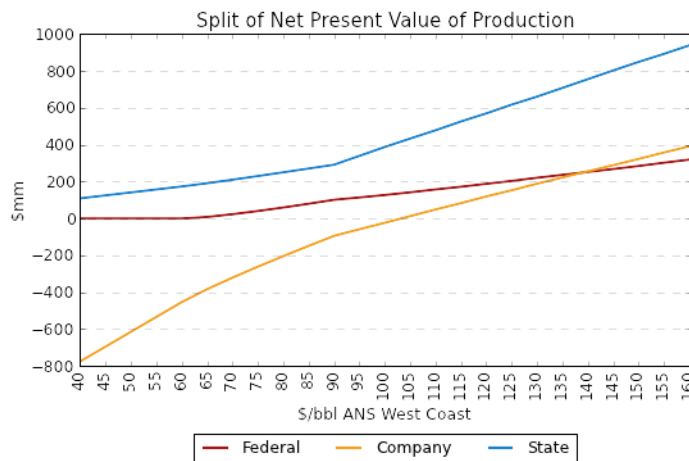
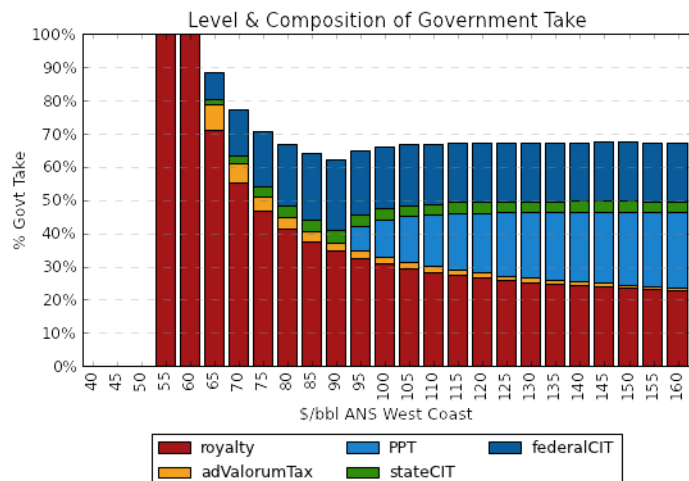
ACES, 16.7% Royalty, \$25/bbl New Development



Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	74.31%	-1.62	8.31%	20.76
\$100/bbl	75.84%	0.5	13.11%	26.72
\$120/bbl	77.49%	2.11	16.56%	30.66
\$140/bbl	78.49%	3.64	19.58%	34.49

CS SB 21, 16.7% Royalty, \$25/bbl New Development, No GRE

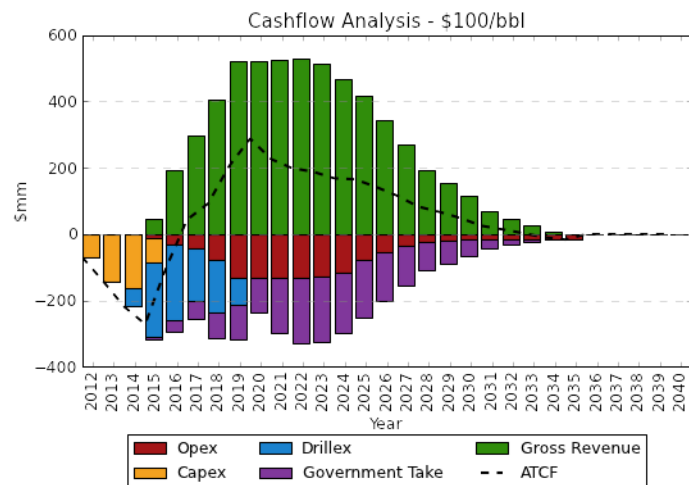
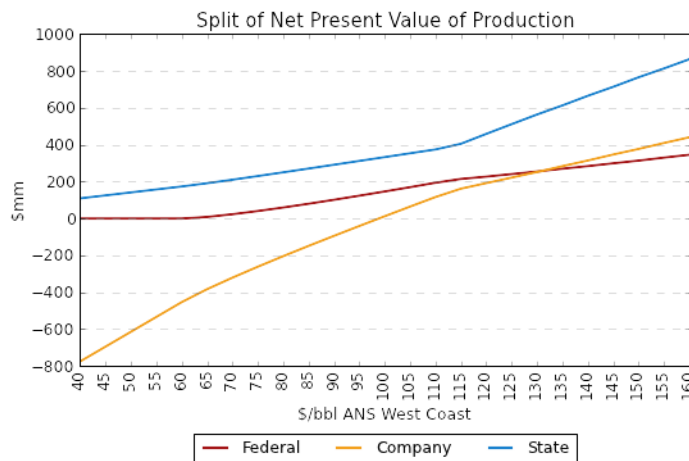
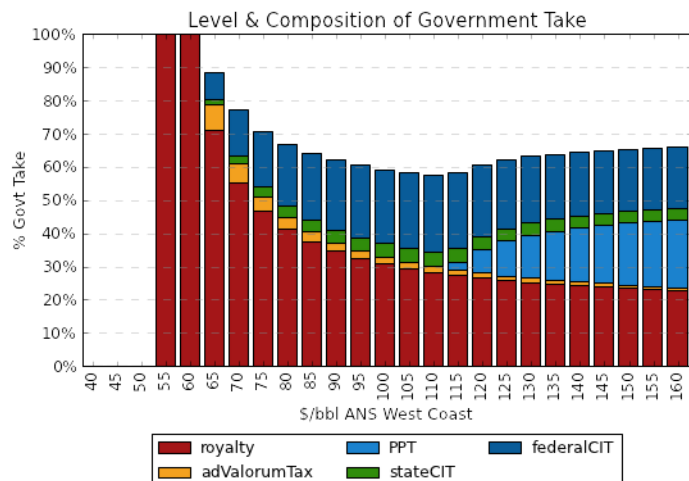


Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	66.93%	-4.08	6.32%	27.03
\$100/bbl	66.29%	-0.46	11.35%	40.1
\$120/bbl	67.34%	2.4	15.31%	48.48
\$140/bbl	67.50%	5.12	18.87%	54.85

Bracketed Progressivity (Net) \$25/bbl New Development, Standalone

Bracketed Progressivity (Net), 16.7% Royalty, \$25/bbl New Development

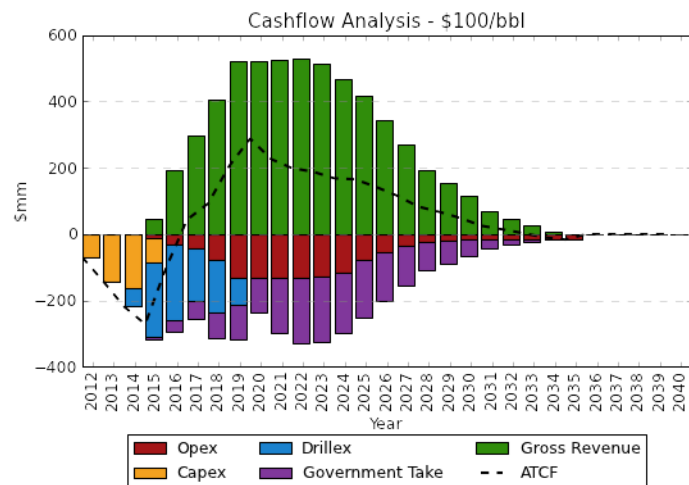
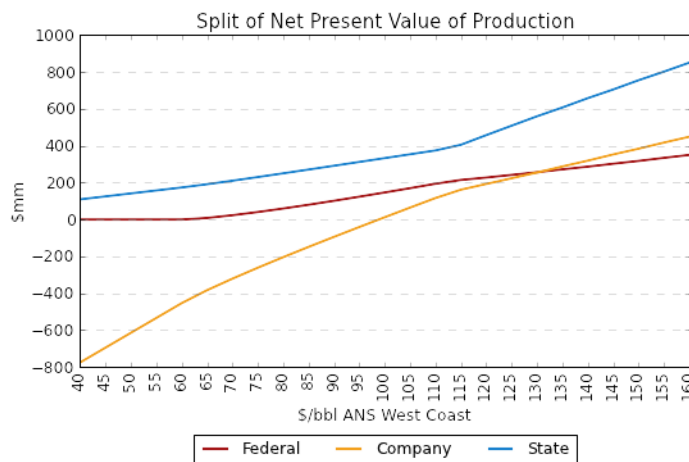
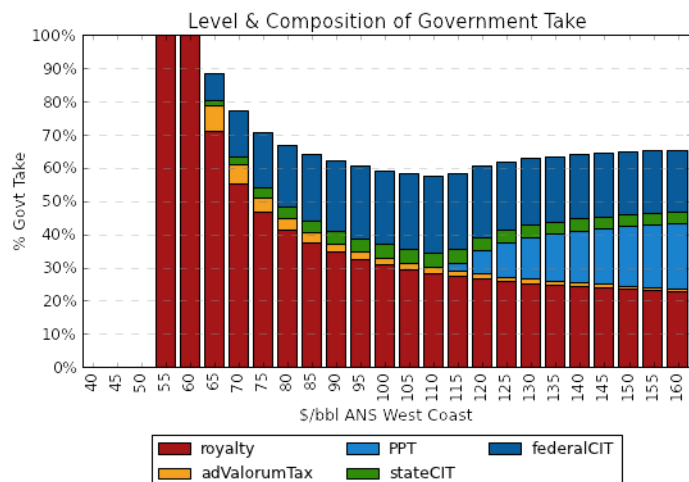


Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	66.93%	-4.08	6.32%	27.03
\$100/bbl	59.37%	0.25	12.33%	40.1
\$120/bbl	60.71%	3.84	16.94%	51.76
\$140/bbl	64.68%	6.3	20.24%	63.42

Bracketed Progressivity (Gross) \$25/bbl New Development, Standalone

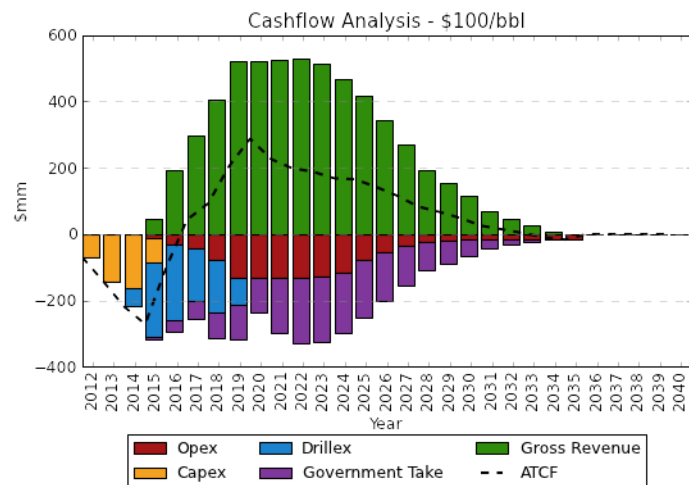
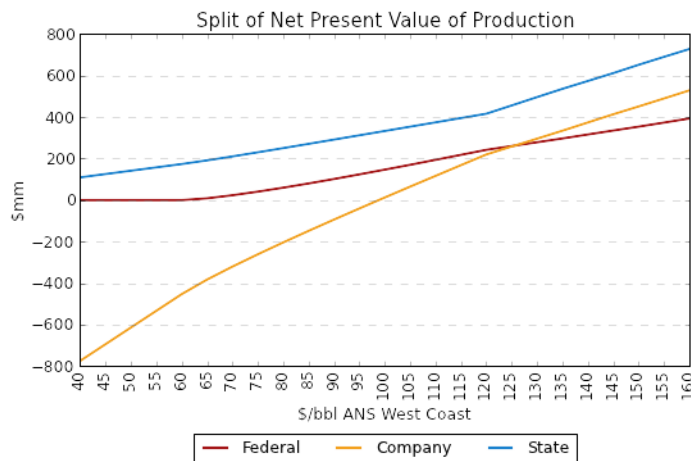
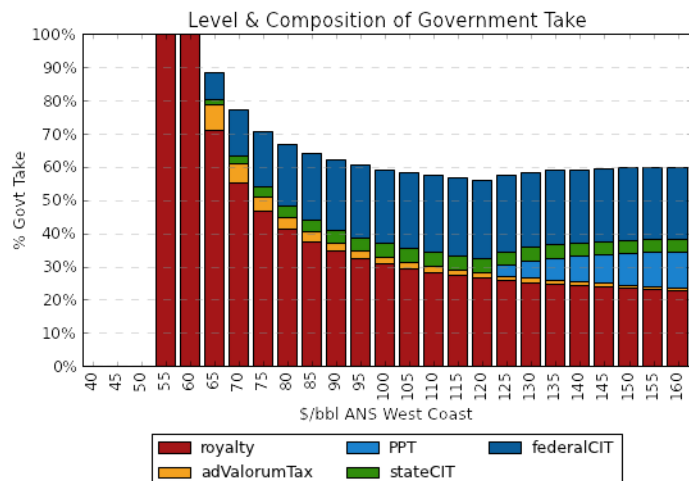
Bracketed Progressivity (Gross), 16.7% Royalty, \$25/bbl New Development



Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	66.93%	-4.08	6.32%	27.03
\$100/bbl	59.37%	0.25	12.33%	40.1
\$120/bbl	60.58%	3.86	16.96%	51.76
\$140/bbl	64.26%	6.39	20.32%	63.42

CS SB 21, 16.7% Royalty, \$25/bbl New Development, with GRE

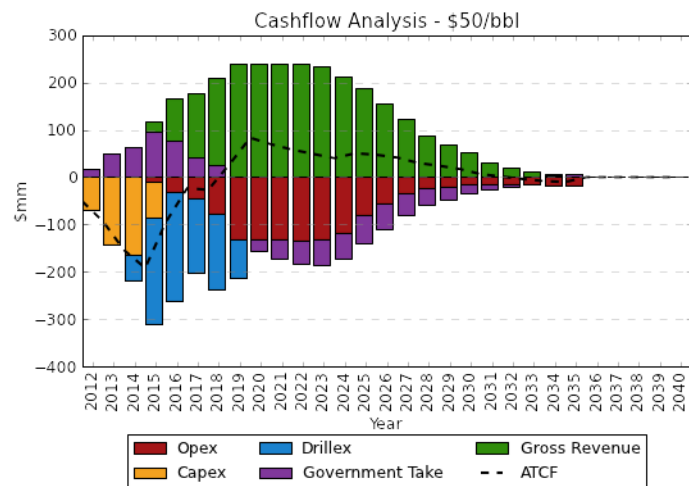
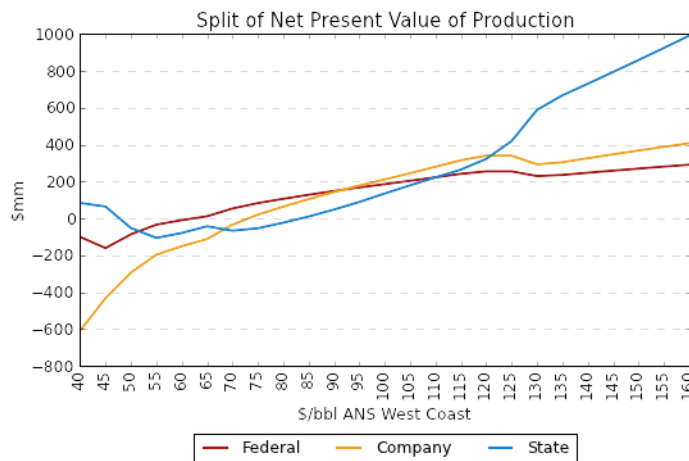
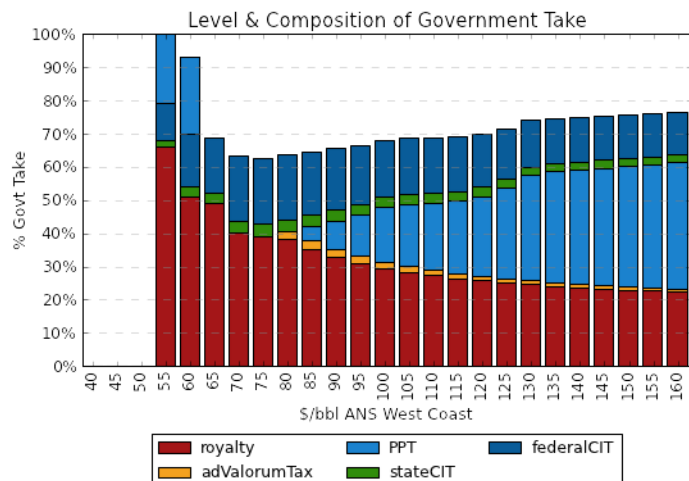


Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	66.93%	-4.08	6.32%	27.03
\$100/bbl	59.37%	0.25	12.33%	40.1
\$120/bbl	56.30%	4.4	17.41%	51.76
\$140/bbl	59.37%	7.48	21.18%	63.42

ACES - \$25/bbl New Development, Incremental

ACES, 16.7% Royalty, \$25/bbl New Development, Incremental to Incumbent



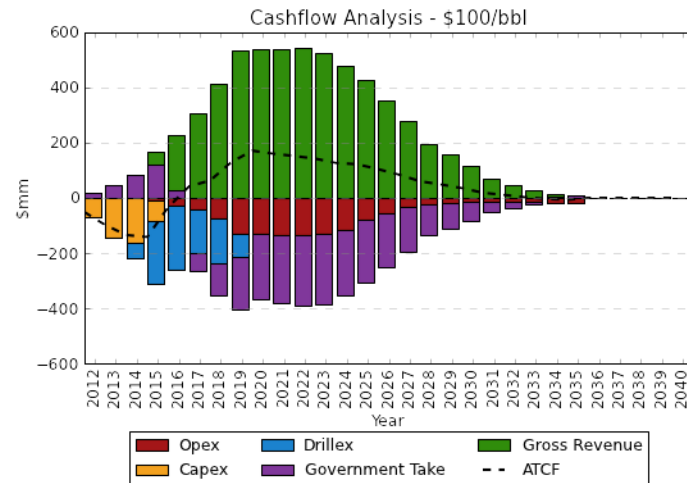
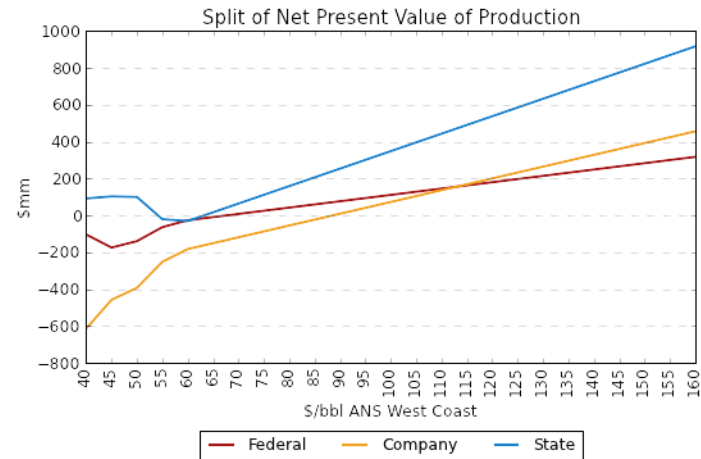
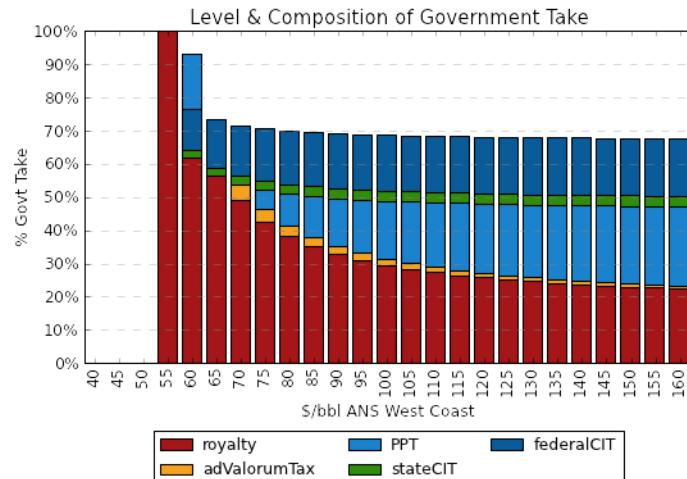
Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	63.66%	1.29	15.81%	20.56
\$100/bbl	68.12%	4.24	26.30%	26.43
\$120/bbl	70.12%	6.82	38.62%	30.02
\$140/bbl	75.08%	6.54	31.02%	33.84

CS SB21

\$25/bbl New Development, Incremental

CS SB 21, 16.7% Royalty, \$25/bbl New Development, Incremental to Incumbent

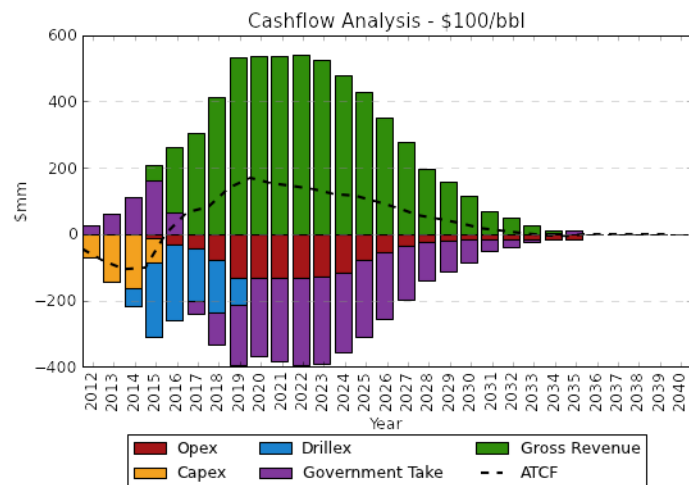
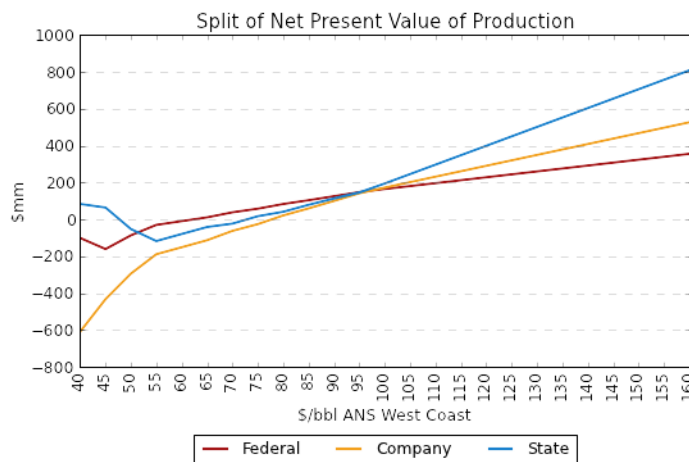
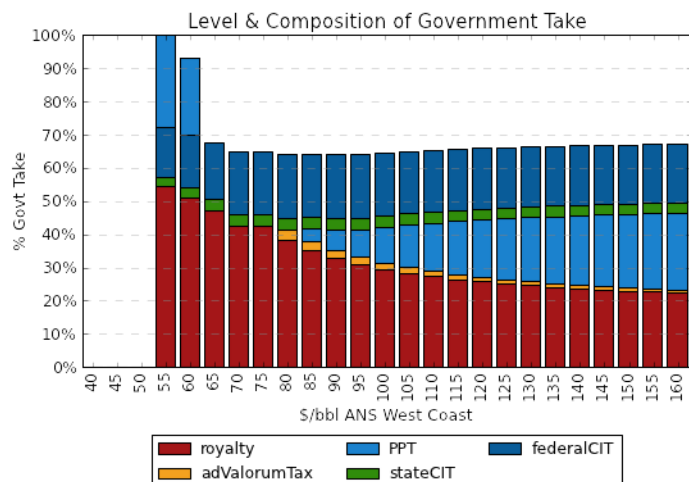


Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	70.08%	-1.08	9.62%	19.22
\$100/bbl	68.80%	1.47	14.94%	27.23
\$120/bbl	68.25%	4.03	19.46%	35.25
\$140/bbl	67.95%	6.58	23.45%	43.26

Bracketed Progressivity (Net) \$25/bbl New Development, Incremental

Bracketed Progressivity (Net), 16.7% Royalty, \$25/bbl New Development, Incremental to Incumbent

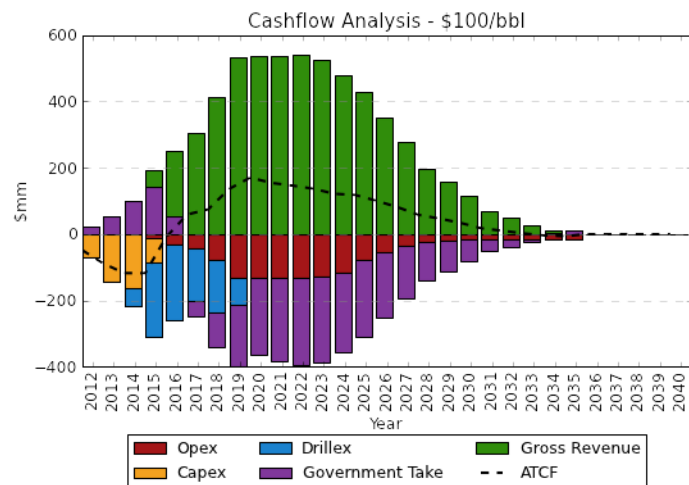
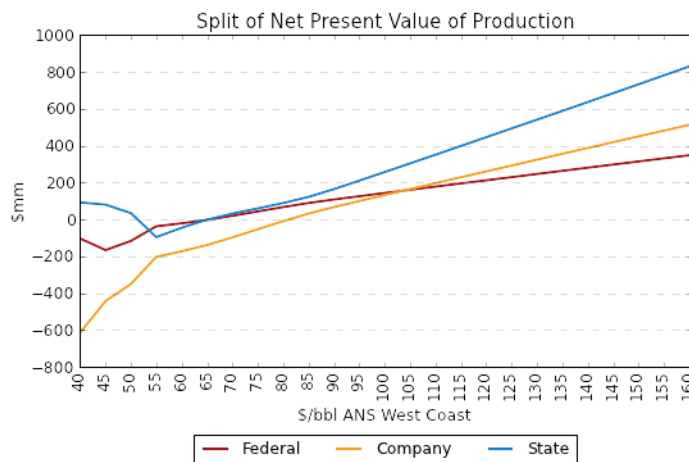
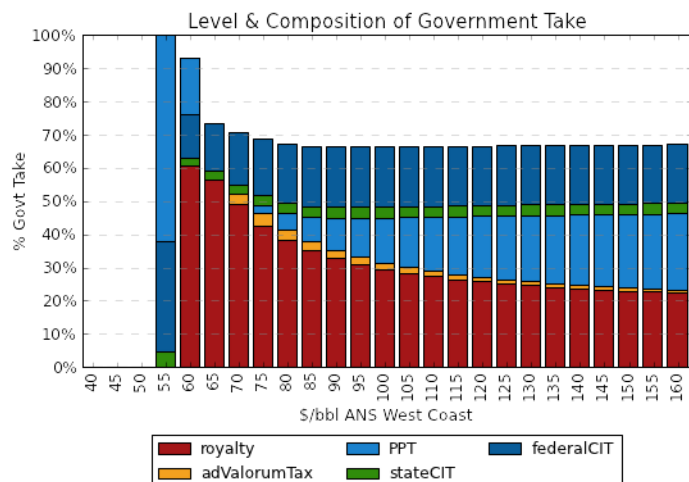


Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	64.17%	0.44	13.11%	20.88
\$100/bbl	64.66%	3.47	20.34%	28.76
\$120/bbl	66.03%	5.83	24.95%	36.16
\$140/bbl	66.79%	8.19	29.03%	43.56

Bracketed Progressivity (Gross) \$25/bbl New Development, Incremental

Bracketed Progressivity (Gross), 16.7% Royalty, \$25/bbl New Development, Incremental to Incumbent

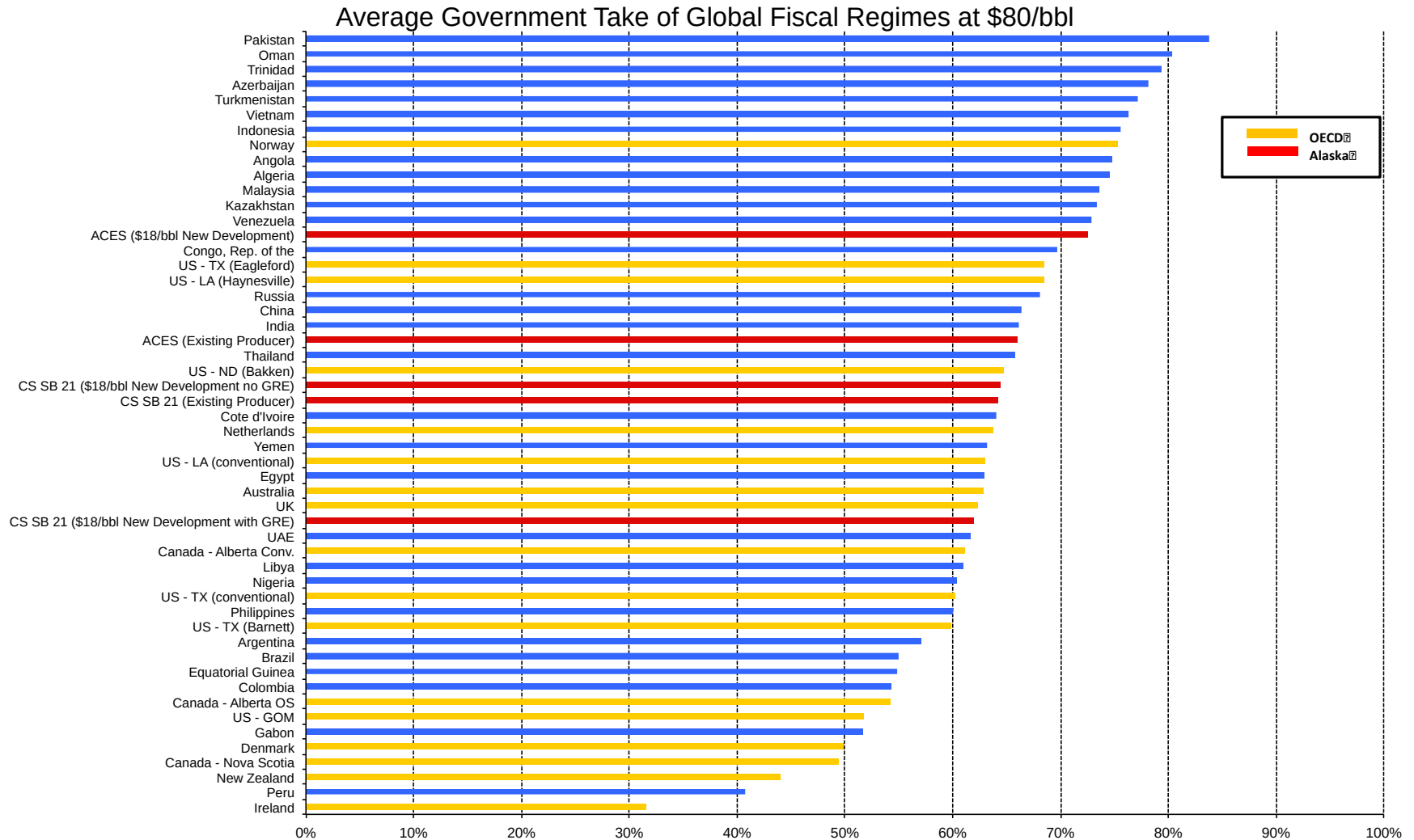


Economic Summary

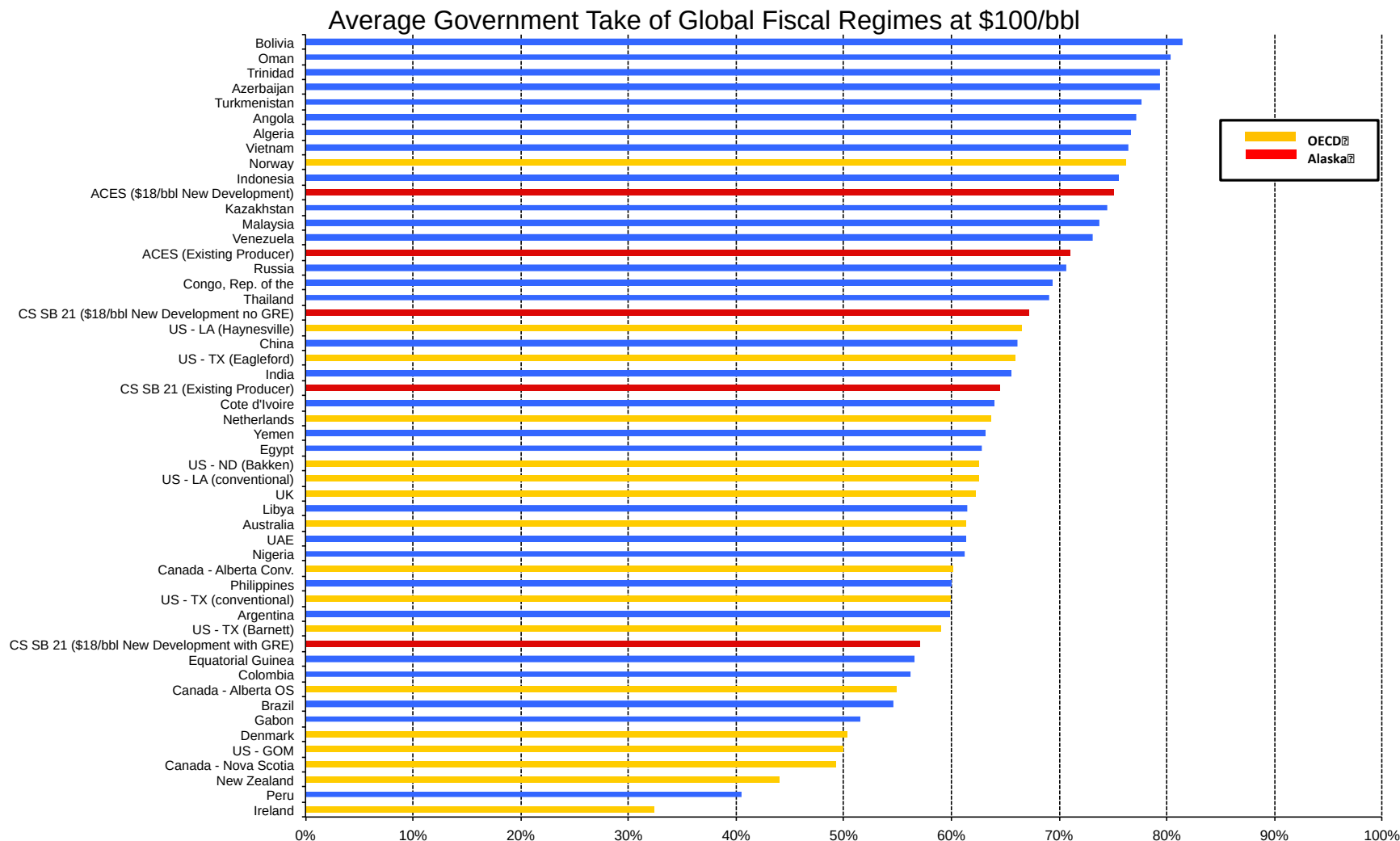
	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	67.33%	-0.17	11.59%	19.78
\$100/bbl	66.41%	2.66	17.91%	28.19
\$120/bbl	66.70%	5.22	22.77%	36.15
\$140/bbl	66.95%	7.77	27.12%	43.89

CS SB 21 Competitiveness

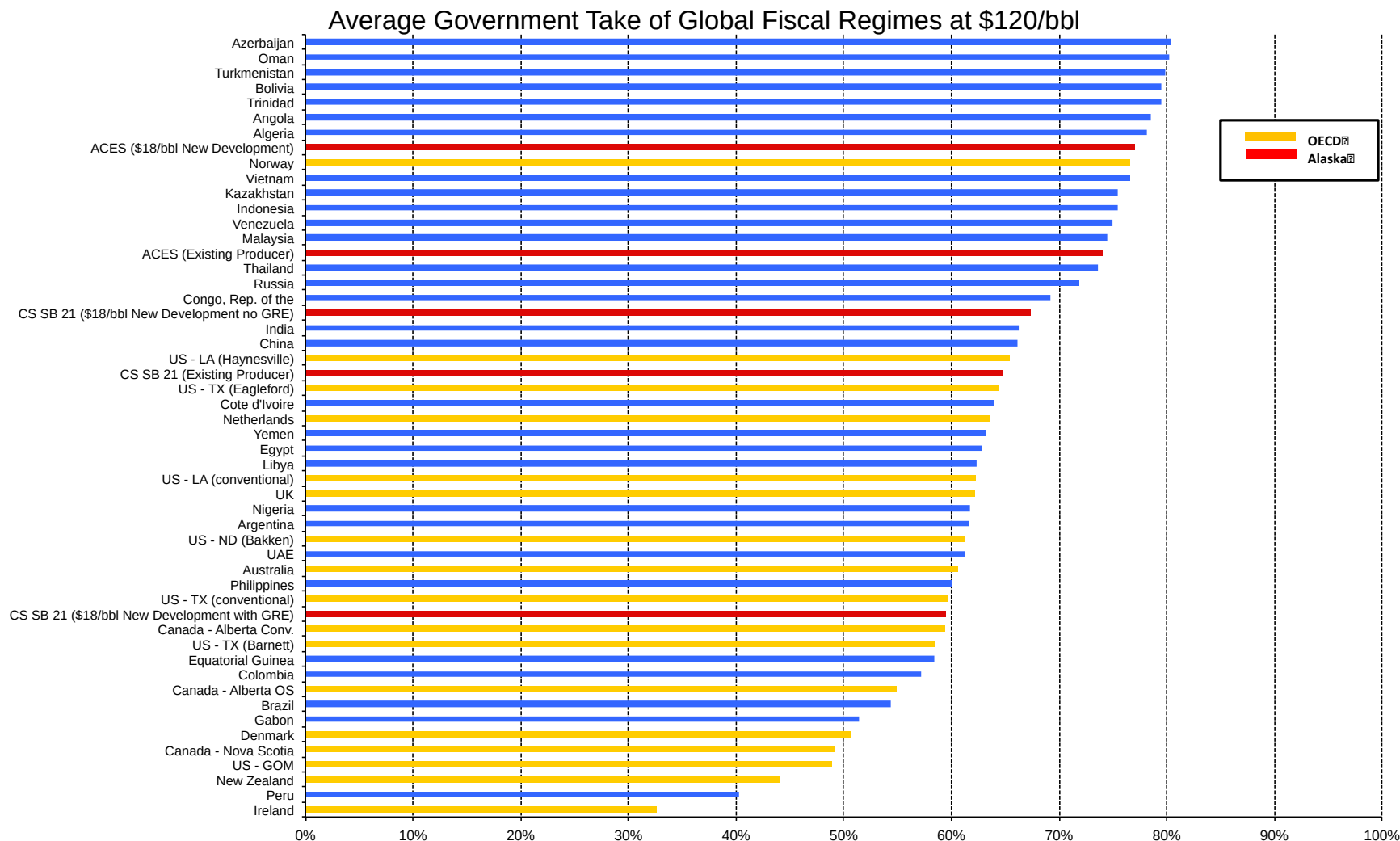
Regime Competitiveness - \$80/bbl



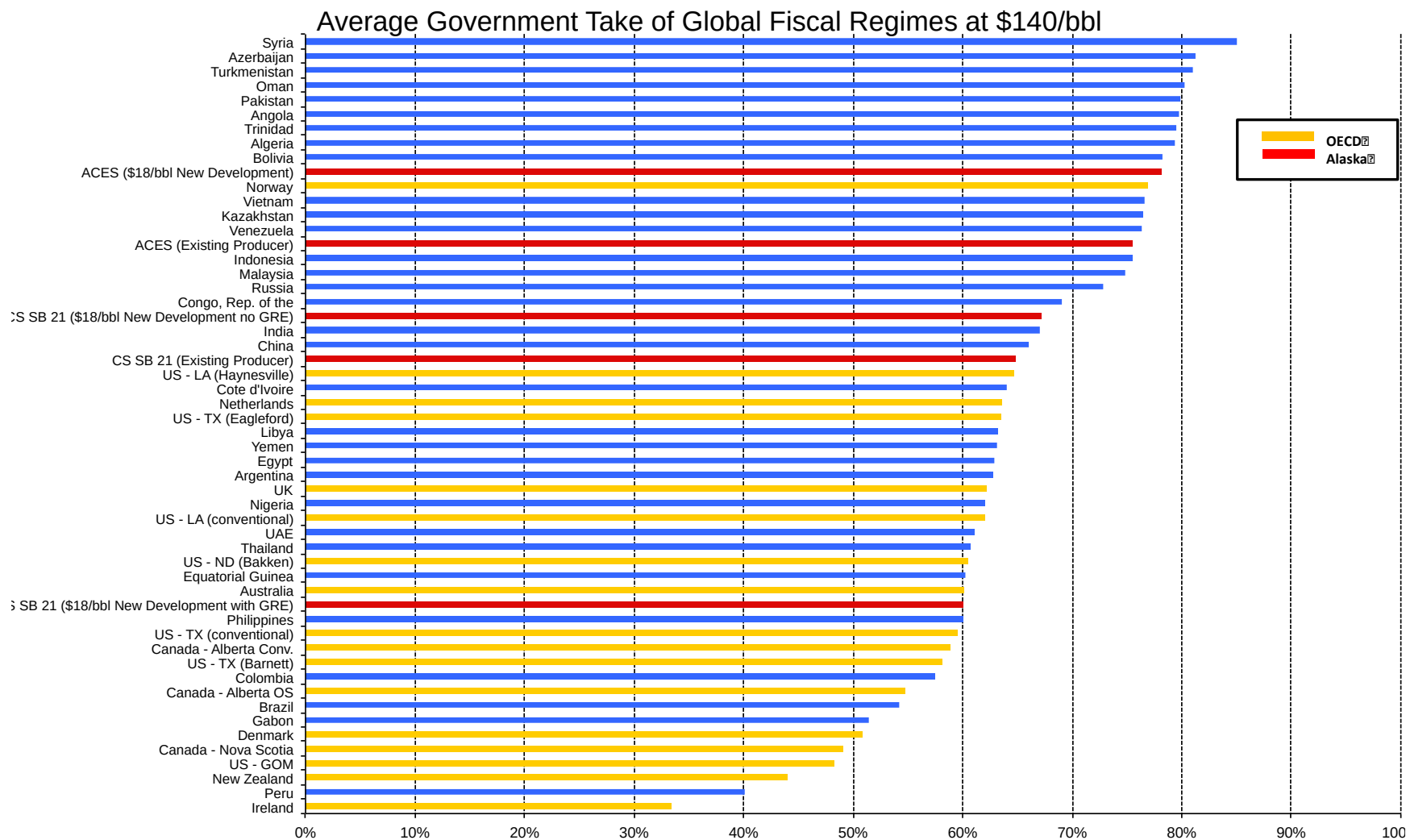
Regime Competitiveness - \$100/bbl



Regime Competitiveness - \$120/bbl



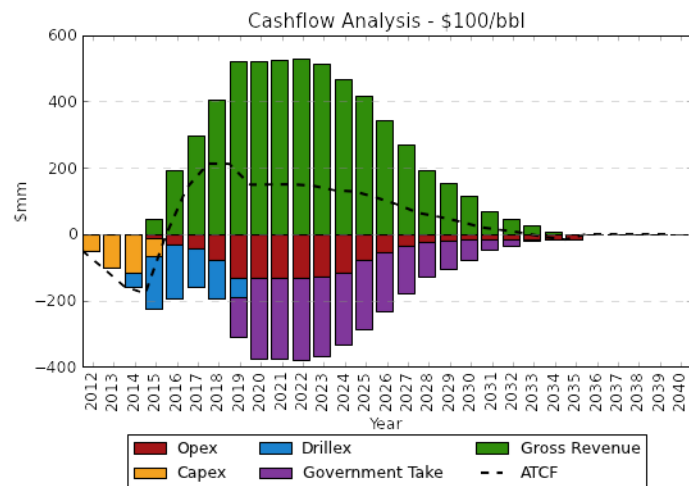
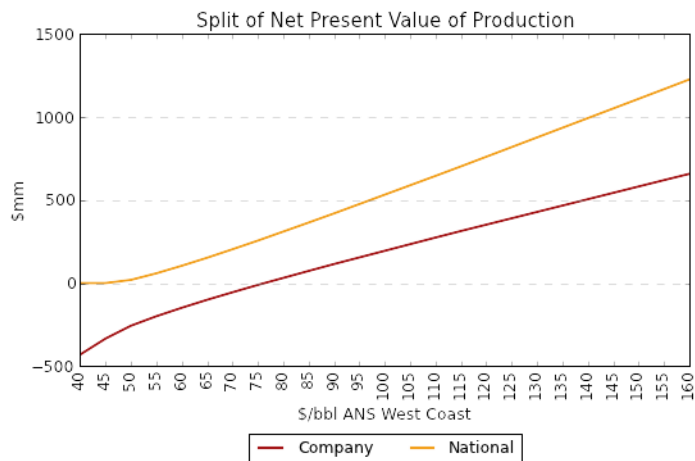
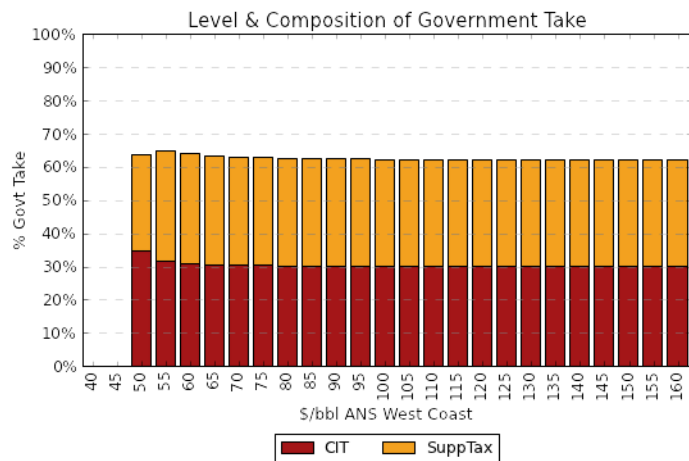
Regime Competitiveness - \$140/bbl



Targeting Neutrality Directly

Alaska \$18/bbl Development under UK North Sea regime

UK North Sea, \$18/bbl New Development

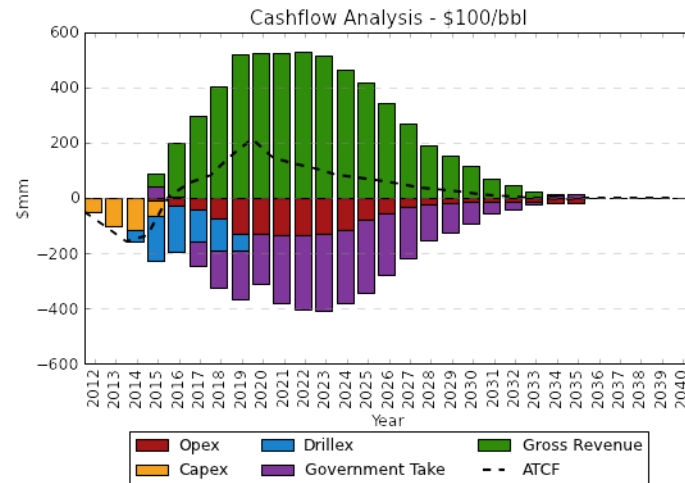
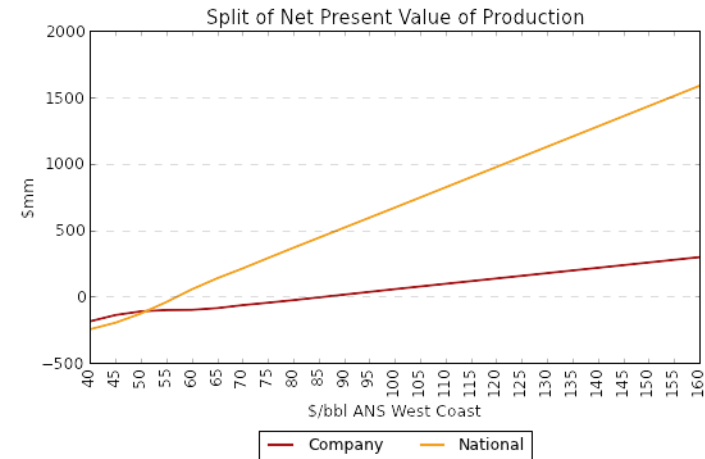
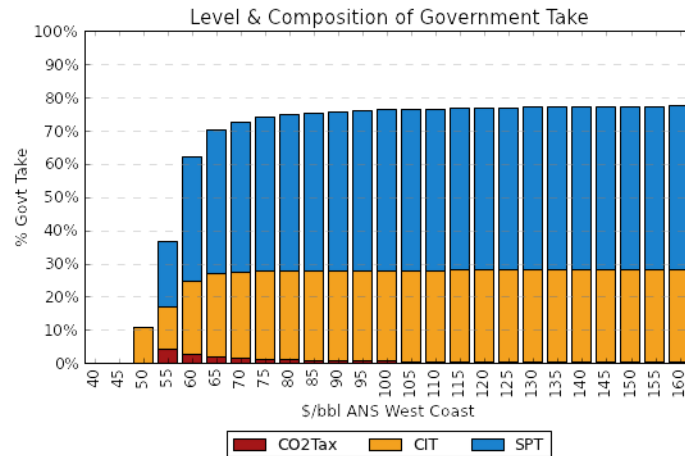


Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	62.79%	0.62	13.29%	30.66
\$100/bbl	62.46%	3.89	19.64%	38.58
\$120/bbl	62.31%	7.04	25.09%	46.5
\$140/bbl	62.23%	10.11	29.82%	54.42

Alaska \$18/bbl Development under Norway regime

Norway, \$18/bbl New Development



Economic Summary

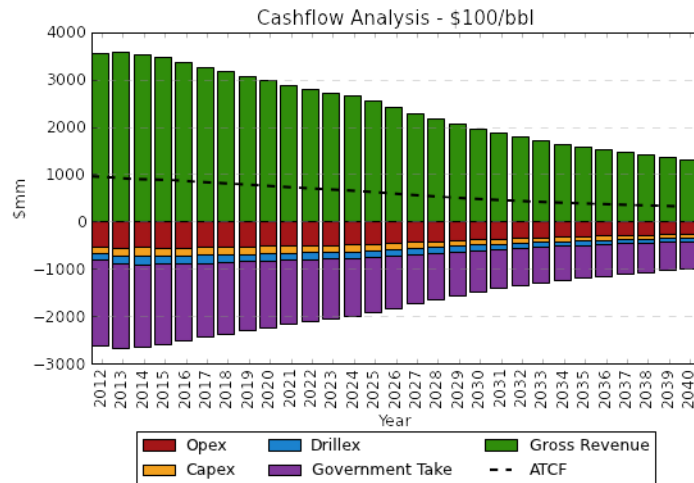
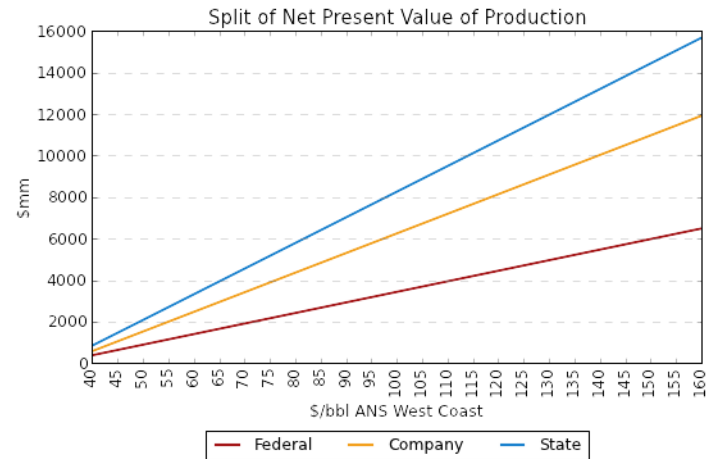
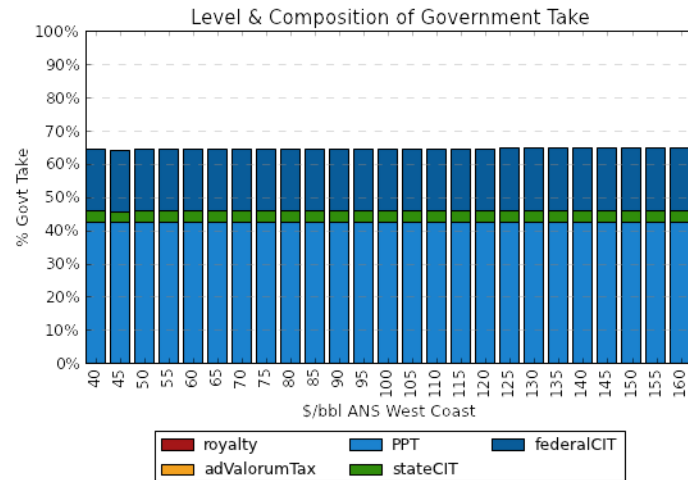
	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	75.12%	-0.53	10.71%	25.65
\$100/bbl	76.44%	1.13	14.53%	29.36
\$120/bbl	77.04%	2.74	17.69%	34.6
\$140/bbl	77.38%	4.34	20.47%	39.93

Targeting Neutrality Directly

- All of the preceding regimes seek to compensate indirectly for the regressive nature of the fixed royalty and ad valorem tax by inserting a roughly equal and opposite progressive element
- Inevitably, the match must be imperfect
- At low prices, government take is still very high – and for high cost developments, the fixed royalty can create a high level of price downside risk, particularly in conjunction with the gross minimum tax
- The only way to create a completely neutral regime is to counteract the regressive elements directly – either by eliminating or perfectly opposing them
 - Since royalties are contractual, and ad valorem taxes shared with local government, if this were desired, putting in place a perfect offset might be easier than elimination
 - All that would be required to achieve this would be a fully reimbursable tax credit equal to the amount of royalty and ad valorem tax paid
 - A completely neutral regime could increase downside price risk to the state, but would also lead to an even sharing of risk and reward
 - Many major OECD oil producing states with profit-based taxes have chosen to eliminate regressive elements altogether - ie Australia, UK, Norway – because of the distorting impact such elements have on investment
- The following slides model a **42.5% Profit-Based Production Tax rate**, combined with a fully reimbursable tax credit equal to the amount of royalty and ad valorem tax paid (or the eventual elimination or one or both of those elements)

Profit Tax Only (Royalty and Ad Valorem Reimbursed) Base Production

Profit Tax Only, Base Production

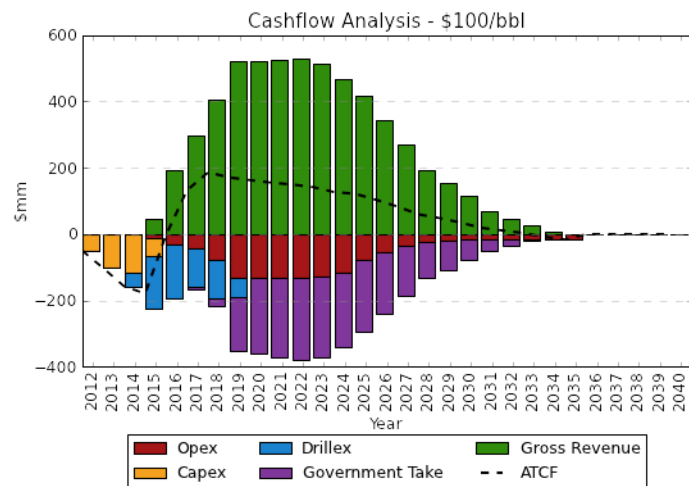
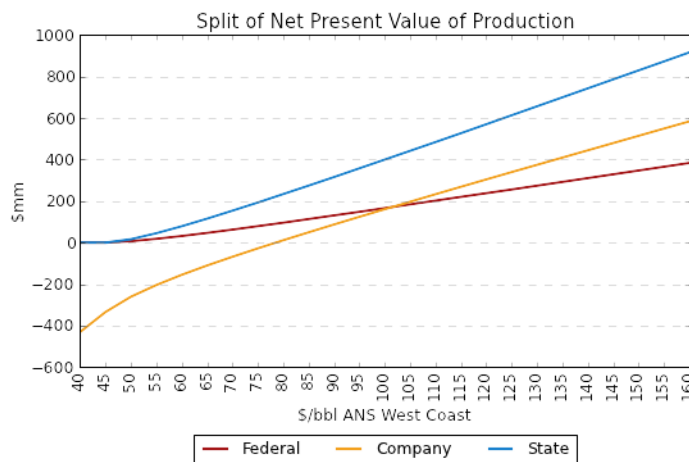
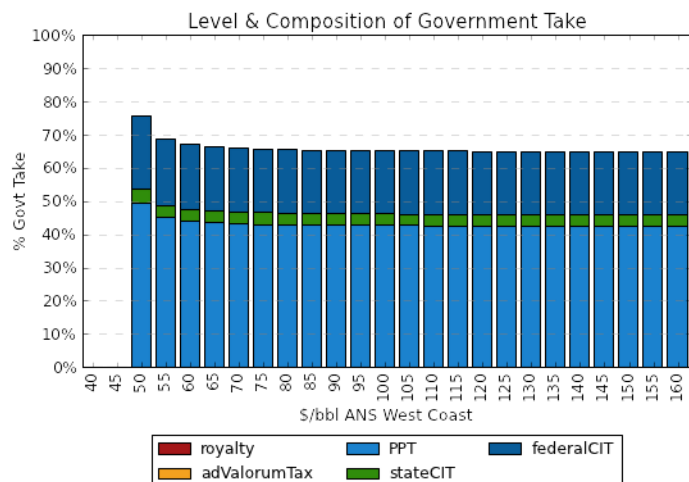


Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	64.76%	4.23		19.27
\$100/bbl	64.80%	6.06		27.7
\$120/bbl	64.81%	7.9		36.13
\$140/bbl	64.82%	9.74		44.57

Profit Tax Only (Royalty and Ad Valorum Reimbursed) \$18/bbl New Development, Standalone

Profit Tax Only, \$18/bbl New Development



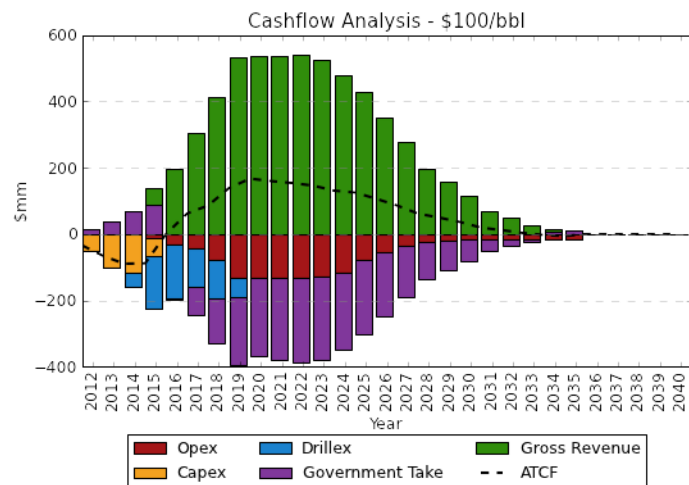
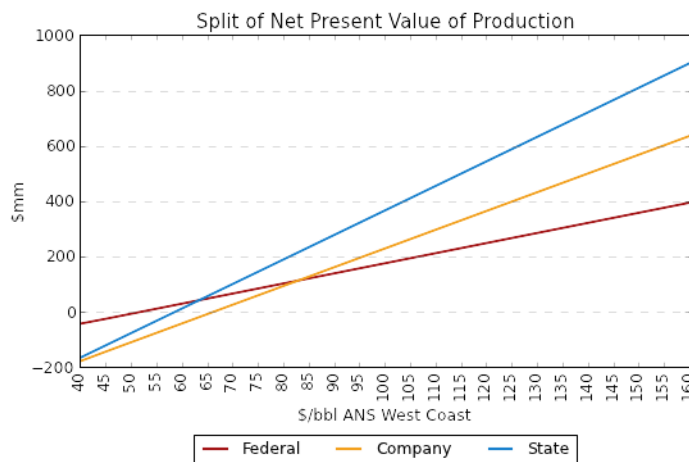
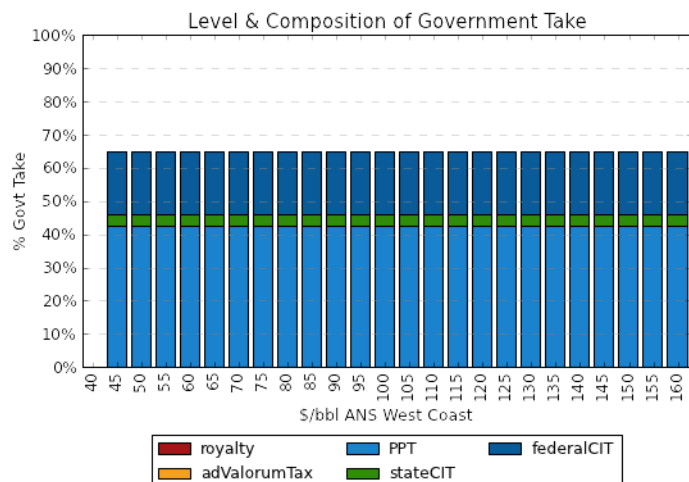
Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	65.70%	0.23	12.48%	29.25
\$100/bbl	65.35%	3.21	18.39%	36.41
\$120/bbl	65.20%	6.09	23.42%	43.67
\$140/bbl	65.11%	8.9	27.77%	50.96

Profit Tax Only (Royalty and Ad Valorum Reimbursed)

\$18/bbl New Development, Incremental

Profit Tax Only, \$18/bbl New Development, Incremental to Incumbent



Economic Summary

	GT0	NPV/boe	IRR	Cash Margin
\$80/bbl	64.87%	1.85	17.38%	20.75
\$100/bbl	64.87%	4.57	23.92%	29.25
\$120/bbl	64.87%	7.28	29.46%	37.76
\$140/bbl	64.87%	9.99	34.34%	46.27

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