ACES, SB21/HB72 and HCS CS SB21 (RES) for House Finance Committee

Barry Pulliam
Managing Director
Econ One Research, Inc.

April 6, 2013

Key Features of ACES, SB21/HB72 and HCS CS SB21 (RES)

	ACES	SB71/HB72	HCS CS SB21 (RES)
Base Tax Rate	25%	25%	33%
Progressive Tax	0.4% Per $1 Above $30 Net; 0.1% Per $1 Above $92.50 Net	None	None
Maximum Tax Rate	75%	25%	33%
Credits	20% of Qualified Capital Expenditure	None	Up to $8/Bbl Produced
Gross Revenue Exclusion (GRE)			
Rate	N/A	20%	20%
Applicability		New Units/PAs	New Units/PAs PA Expansions
Monetization of Net Operating Losses (NOLs)	Yes	No Carried Forward With 15% Increase	Yes
Minimum Tax	4% of Gross @ WC ANS > $25	4% of Gross @ WC ANS > $25	4% of Gross @ WC ANS > $25
Credits Reduce Minimum Tax	Yes	N/A	GRE Barrels Only
Small Producer Credit	$12 Million (2016)	$12 Million (2022)	$12 Million (2022)

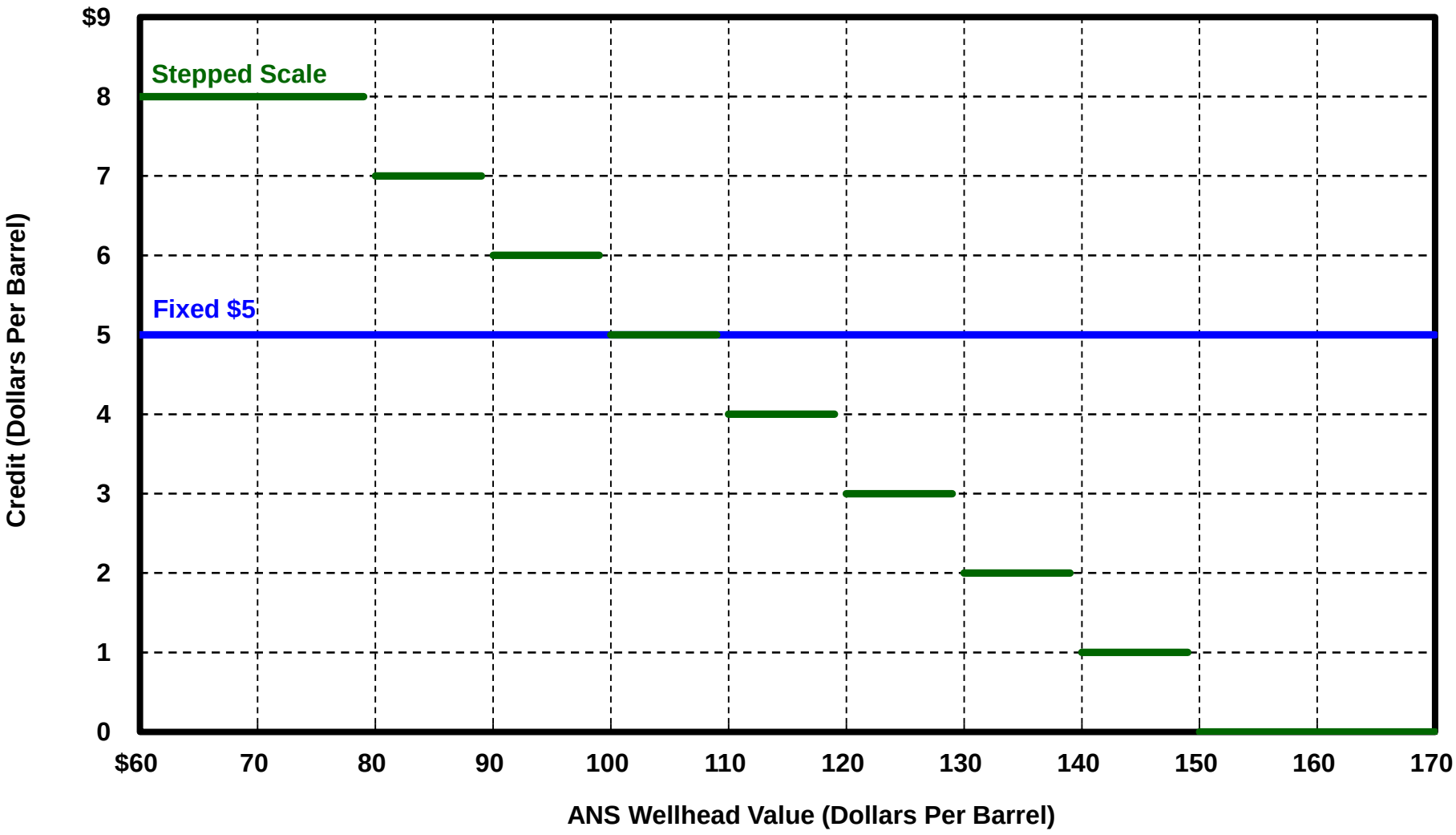
Tax Calculation Under ACES

(a) West Coast Price ($/Bbl)			$80.00	$100.00	$120.00	$140.00	$160.00
(b) Transportation ($/Bbl)		-	10.00	10.00	10.00	10.00	10.00
(c) Gross Value ($/Bbl)	(a) - (b)	=	$70.00	$90.00	$110.00	$130.00	$150.00
(d) Operating Costs ($/Bbl)		-	15.00	15.00	15.00	15.00	15.00
(e) Capital Expenditures ($/Bbl)		-	15.00	15.00	15.00	15.00	15.00
(f) Net Value ($/Bbl)	(c) - (d) - (e)	=	$40.00	$60.00	$80.00	$100.00	$120.00
(g) ACES Base Tax Rate (Percent)			25%	25%	25%	25%	25%
(h) ACES Progressive Tax Rate (Percent)		+	4%	12%	20%	26%	28%
(i) Total Tax Rate (Percent)	(g) + (h)	=	29%	37%	45%	51%	53%
(j) Production Tax Before Credit ($/Bbl)	(f) x (i)		$11.60	$22.20	$36.00	$50.75	$63.30
(k) Qualified Capital Expenditure Credit ($/Bbl)	(e) x 20%	-	3.00	3.00	3.00	3.00	3.00
(l) Production Tax After Credit ($/Bbl)	(j) - (k)		$8.60	$19.20	$33.00	$47.75	$60.30
(m) Taxable Barrels (Bbls)		x	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
(n) Total Production Tax After Credit ($000)	(l) x (m)	=	$8,600	$19,200	$33,000	$47,750	$60,300
(o) Effective Tax Rate on Net Value (%)	(l) ÷ (f)		21.5%	32.0%	41.3%	47.8%	50.3%
(p) Effective Tax Rate on Gross Value (%)	(l) ÷ (c)		12.3%	21.3%	30.0%	36.7%	40.2%

Tax Calculation Under ACES: Varying Costs

(a) West Coast Price ($/Bbl)			$100.00	$100.00	$100.00
(b) Transportation ($/Bbl)		-	10.00	10.00	10.00
(c) Gross Value ($/Bbl)	(a) - (b)	=	$90.00	$90.00	$90.00
(d) Operating Costs ($/Bbl)		-	10.00	15.00	20.00
(e) Capital Expenditures ($/Bbl)		-	10.00	15.00	20.00
(f) Net Value ($/Bbl)	(c) - (d) - (e)	=	$70.00	$60.00	$50.00
(g) ACES Base Tax Rate (Percent)			25%	25%	25%
(h) ACES Progressive Tax Rate (Percent)		+	16%	12%	8%
(i) Total Tax Rate (Percent)	(g) + (h)	=	41%	37%	33%
(j) Production Tax Before Credit ($/Bbl)	(f) x (i)		$28.70	$22.20	$16.50
(k) Qualified Capital Expenditure Credit ($/Bbl)	(e) x 20%	-	2.00	3.00	4.00
(l) Production Tax After Credit ($/Bbl)	(j) - (k)		$26.70	$19.20	$12.50
(m) Taxable Barrels (Bbls)		x	1,000,000	1,000,000	1,000,000
(n) Total Production Tax After Credit ($000)	(l) x (m)	=	$26,700	$19,200	$12,500
(o) Effective Tax Rate on Net Value (%)	(l) ÷ (f)		38.1%	32.0%	25.0%
(p) Effective Tax Rate on Gross Value (%)	(l) ÷ (c)		29.7%	21.3%	13.9%

HCS CS SB21 (RES) Per-Barrel Credits
Non-GRE Volumes (Stepped Scale) v. GRE Volumes (Fixed)

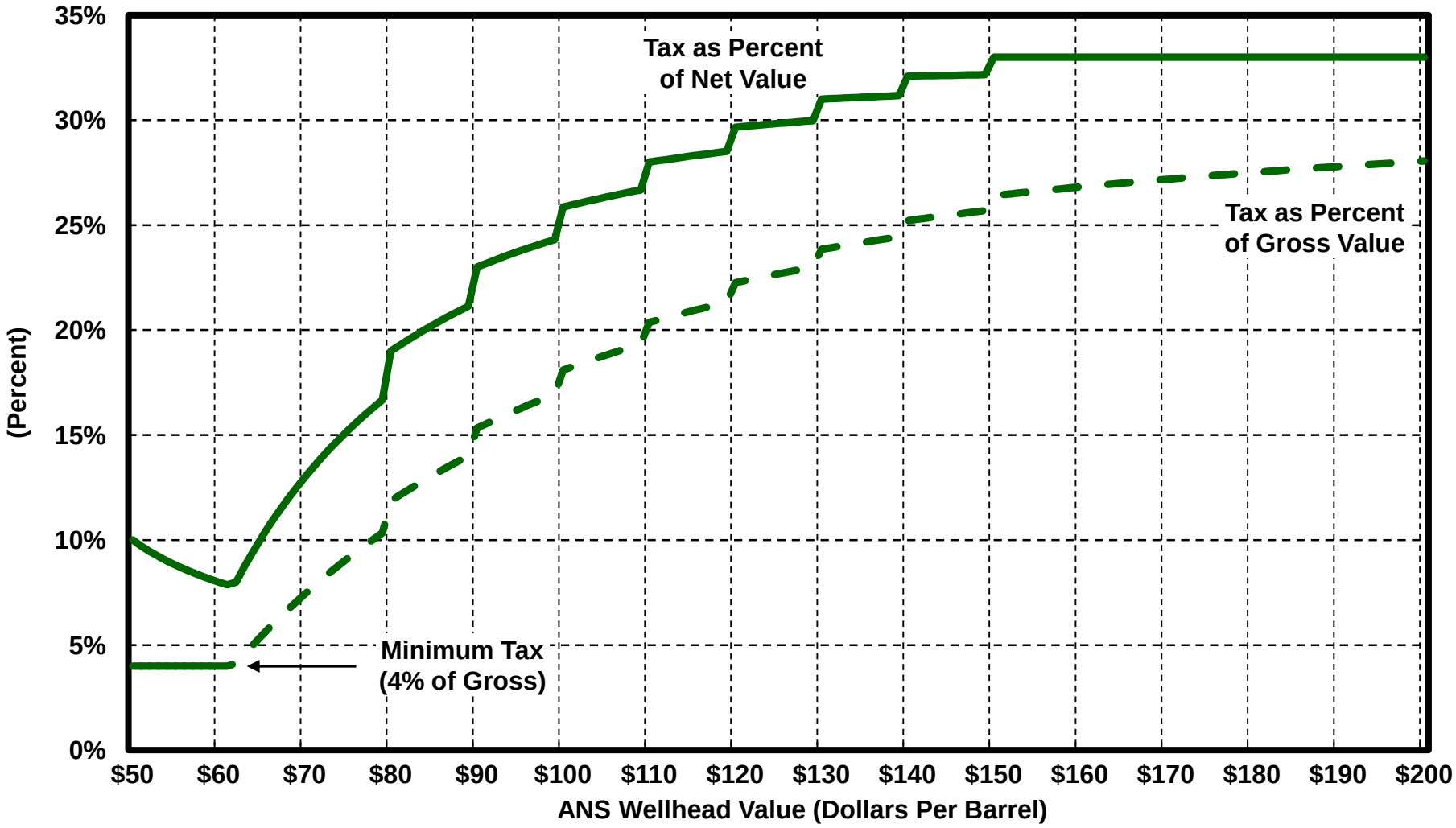


Tax Calculation Using Stepped Scale Production Credit (Volumes Not Subject to Gross Revenue Exclusion)

(a) West Coast Price ($/Bbl)			$80.00	$100.00	$120.00	$140.00	$160.00
(b) Transportation ($/Bbl)		-	10.00	10.00	10.00	10.00	10.00
(c) Gross Value ($/Bbl)	(a) - (b)	=	$70.00	$90.00	$110.00	$130.00	$150.00
(d) Lease Expenditures ($/Bbl)		-	30.00	30.00	30.00	30.00	30.00
(e) Net Value ($/Bbl)	(c) - (d)	=	$40.00	$60.00	$80.00	$100.00	$120.00
(f) Tax Rate (Percent)		x	33%	33%	33%	33%	33%
(g) Production Tax Before Credit ($/Bbl)	(e) x (f)		$13.20	$19.80	$26.40	$33.00	$39.60
(h) Production Credit ($/Bbl)		-	8.00	6.00	4.00	2.00	0.00
(i) Production Tax After Credit ($/Bbl)	(g) - (h)		$5.20	$13.80	$22.40	$31.00	$39.60
(j) Taxable Barrels (Bbls)		x	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
(k) Total Production Tax After Credit ($000)	(i) x (j)	=	$5,200	$13,800	$22,400	$31,000	$39,600
(l) Effective Tax Rate on Net Value (%)	(i) ÷ (e)		13.0%	23.0%	28.0%	31.0%	33.0%
(m) Effective Tax Rate on Gross Value (%)	(i) ÷ (c)		7.4%	15.3%	20.4%	23.8%	26.4%

Note: Per barrel credit is equal to $8/Bbl at wellhead prices below $80/bbl, diminishing to $0/Bbl at a wellhead price of $150/bbl.
The minimum tax is 4% of the wellhead value of the oil whenever West Coast ANS is above $25/Bbl.

Effective Tax Rates Under HCS CS SB21 (RES)
(Volumes Not Subject to Gross Revenue Exclusion)

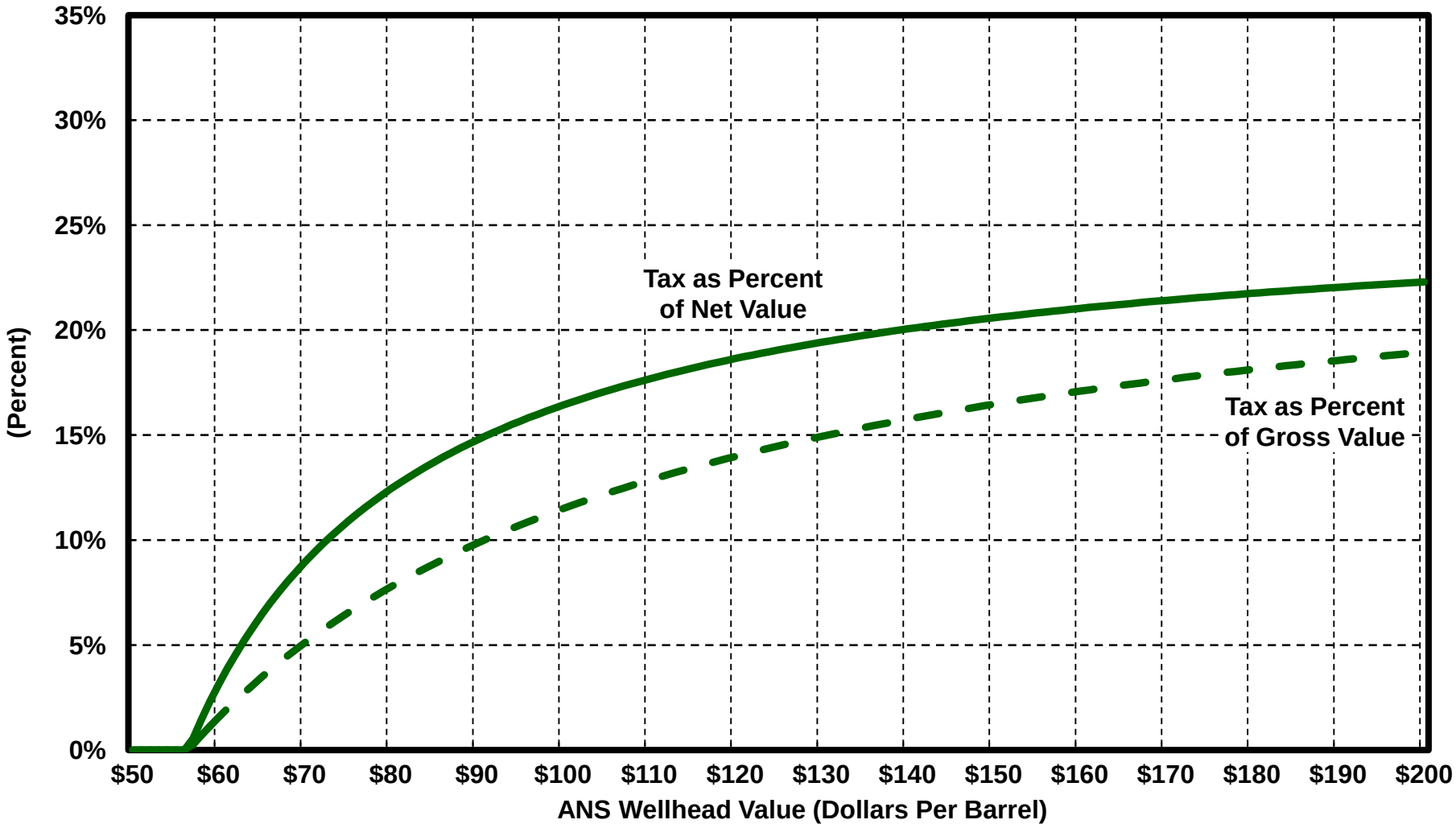


Note: Per barrel credit is equal to $8/Bbl at wellhead prices below $80/bbl, diminishing to $0/Bbl at a wellhead price of $150/bbl.
The minimum tax is 4% of the wellhead value of the oil whenever West Coast ANS is above $25/Bbl.

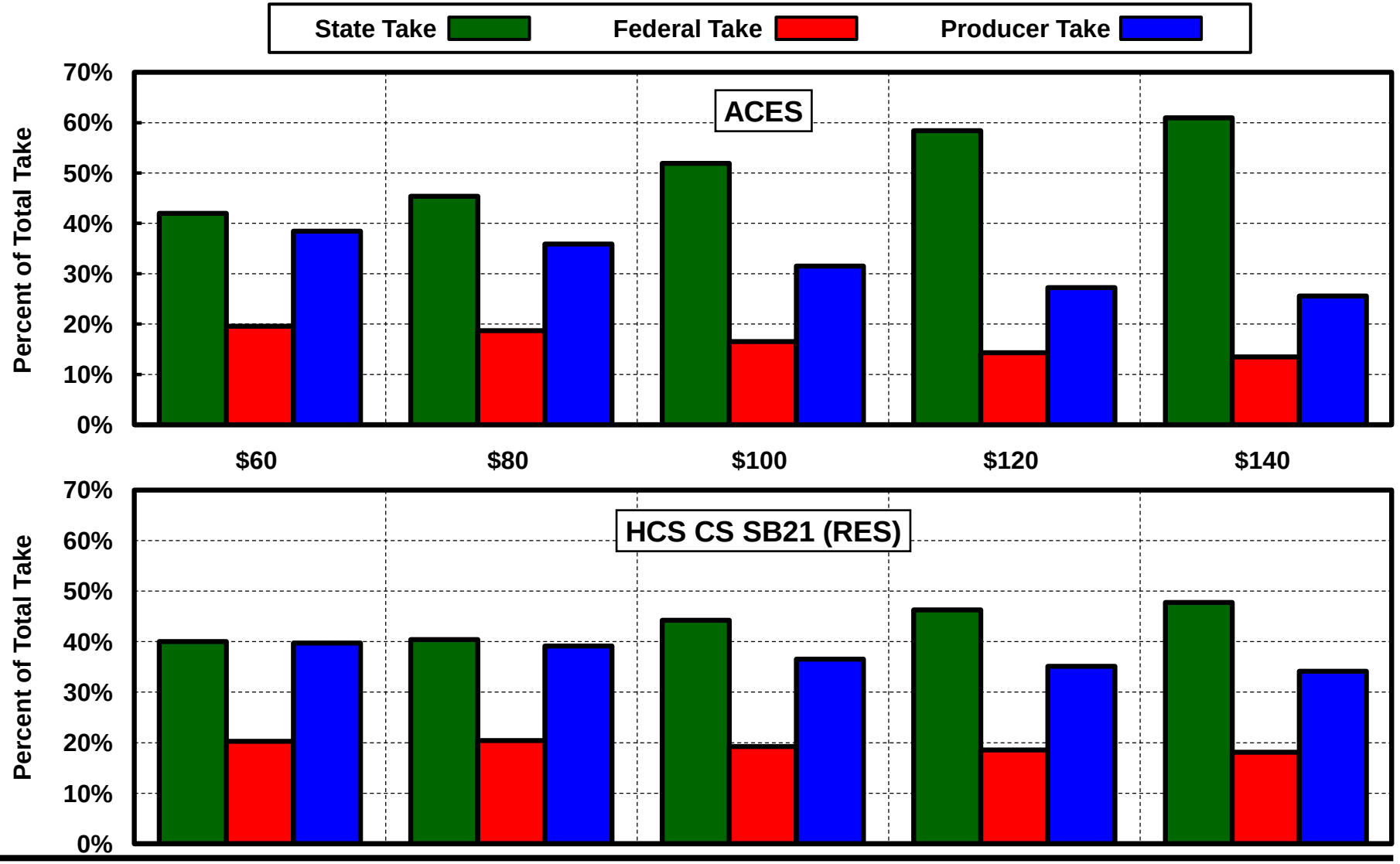
Tax Calculation Using Fixed $5 Production Credit (Volumes Subject to Gross Revenue Exclusion)

(a) West Coast Price ($/Bbl)			$80.00	$100.00	$120.00	$140.00	$160.00
(b) Transportation ($/Bbl)		-	10.00	10.00	10.00	10.00	10.00
(c) Gross Value ($/Bbl)	(a) - (b)	=	$70.00	$90.00	$110.00	$130.00	$150.00
(d) Lease Expenditures ($/Bbl)		-	30.00	30.00	30.00	30.00	30.00
(e) Net Value ($/Bbl)	(c) - (d)	=	$40.00	$60.00	$80.00	$100.00	$120.00
(f) Gross Revenue Exclusion (%)			20%	20%	20%	20%	20%
(g) Gross Value After GRE ($/Bbl)	(c) x [100%-(h)]		$56.00	$72.00	$88.00	$104.00	$120.00
(h) Net Value After GRE ($/Bbl)	(g) - (d)		$26.00	$42.00	$58.00	$74.00	$90.00
(i) Tax Rate (Percent)		x	33%	33%	33%	33%	33%
(j) Production Tax Before Credit ($/Bbl)	(h) x (i)	=	$8.58	$13.86	$19.14	$24.42	$29.70
(k) Production Credit ($/Bbl)		-	5.00	5.00	5.00	5.00	5.00
(l) Production Tax After Credit ($/Bbl)	(j) - (k)	=	$3.58	$8.86	$14.14	$19.42	$24.70
(m) Taxable Barrels (Bbls)		x	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
(n) Total Production Tax After Credit ($000)	(l) x (m)	=	$3,580	$8,860	$14,140	$19,420	$24,700
(o) Effective Tax Rate on Net Value (%)	(l) ÷ (e)		9.0%	14.8%	17.7%	19.4%	20.6%
(p) Effective Tax Rate on Gross Value (%)	(l) ÷ (c)		5.1%	9.8%	12.9%	14.9%	16.5%

Effective Tax Rates Under HCS CS SB21 (RES)
(Volumes Subject to Gross Revenue Exclusion)



State, Federal and Producer Take at Various $2012 WC ANS Prices for All Producers (FY 2015 - FY 2019)
ACES and HCS CS SB21 (RES)

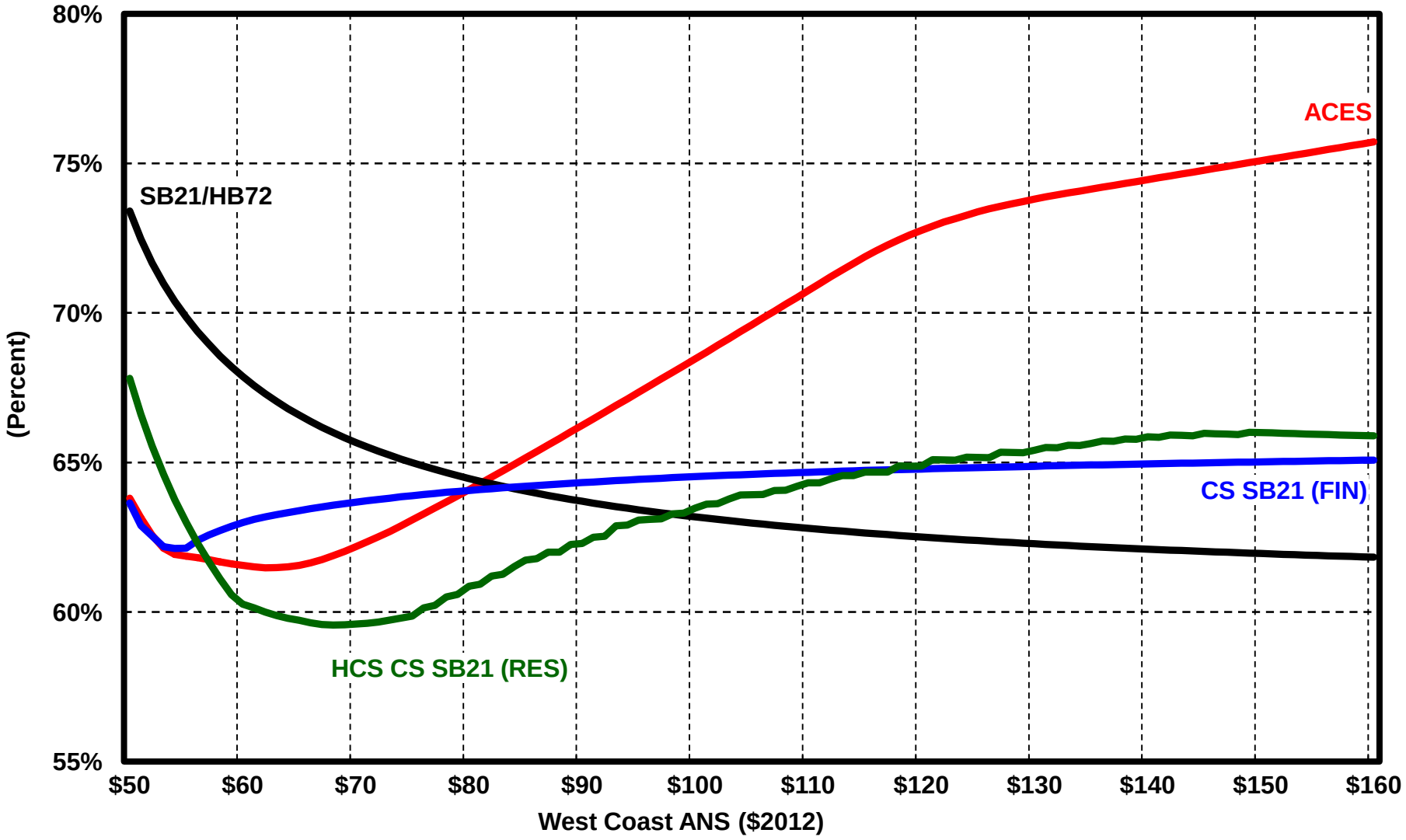


Average Government Take for All Existing Producers (FY2015-FY2019)

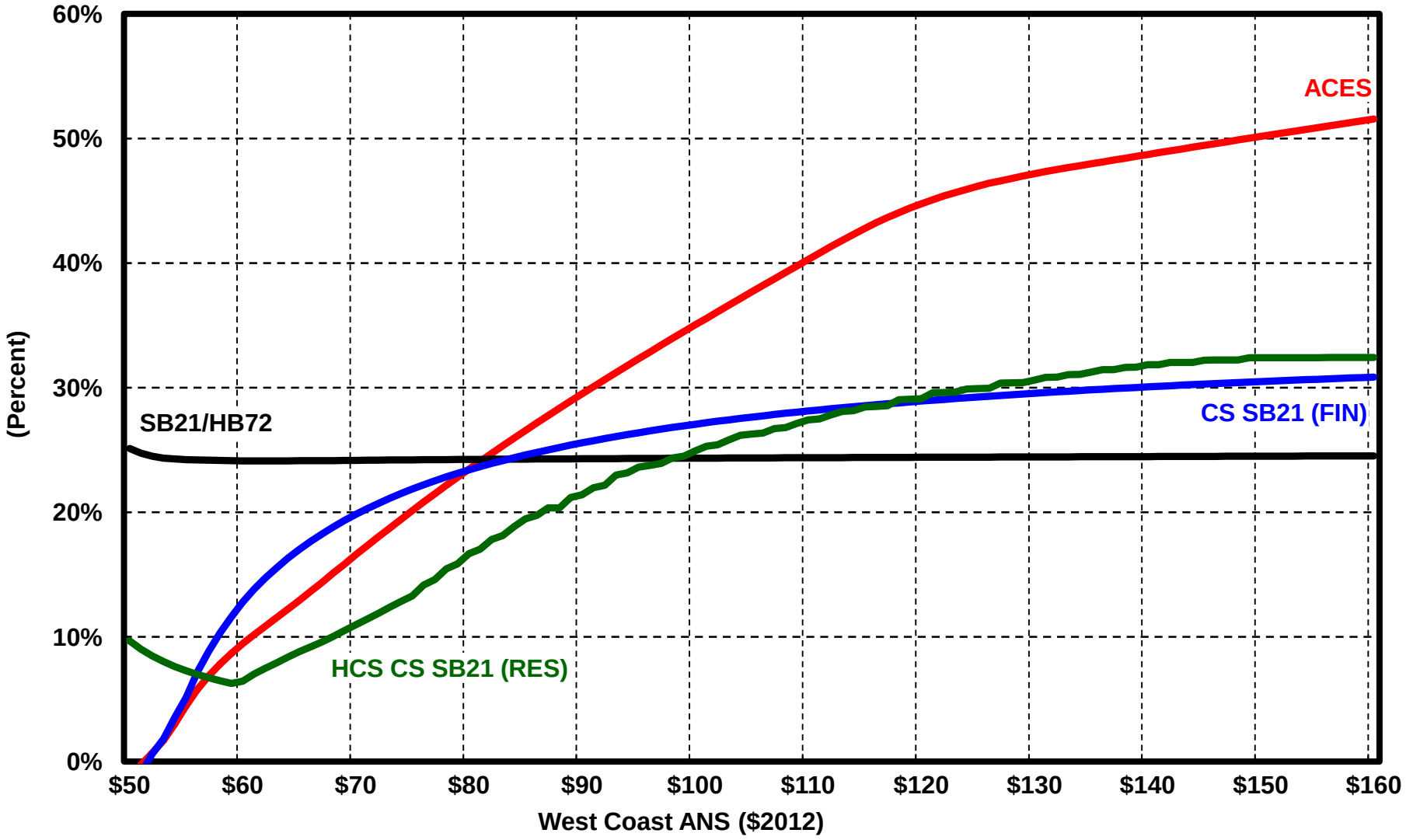
$2012 West Coast ANS Price	Government Take			
	HB72/SB21	CS SB21 (FIN)	HCS CS SB21 (RES)	ACES
($2012 $/Bbl)	**(Percent)**			
(1)	(2)	(3)	(4)	(5)
$60	67.9%	63.0%	60.3%	61.6%
$70	65.7%	63.7%	59.6%	62.2%
$80	64.5%	64.1%	60.9%	64.1%
$90	63.7%	64.3%	62.3%	66.2%
$100	63.2%	64.5%	63.5%	68.5%
$110	62.8%	64.7%	64.3%	70.7%
$120	62.5%	64.8%	64.9%	72.8%
$130	62.3%	64.9%	65.4%	73.8%
$140	62.1%	65.0%	65.9%	74.5%
$150	62.0%	65.0%	66.0%	75.1%
$160	61.8%	65.1%	65.9%	75.7%

Note: Under HCS CS SB21 (RES), per barrel credit is equal to $8/Bbl at wellhead prices below $80/bbl, diminishing to $0/Bbl at a wellhead price of $150/bbl. The minimum tax is 4% of the wellhead value of the oil whenever West Coast ANS is above $25/Bbl for non-GRE barrels.

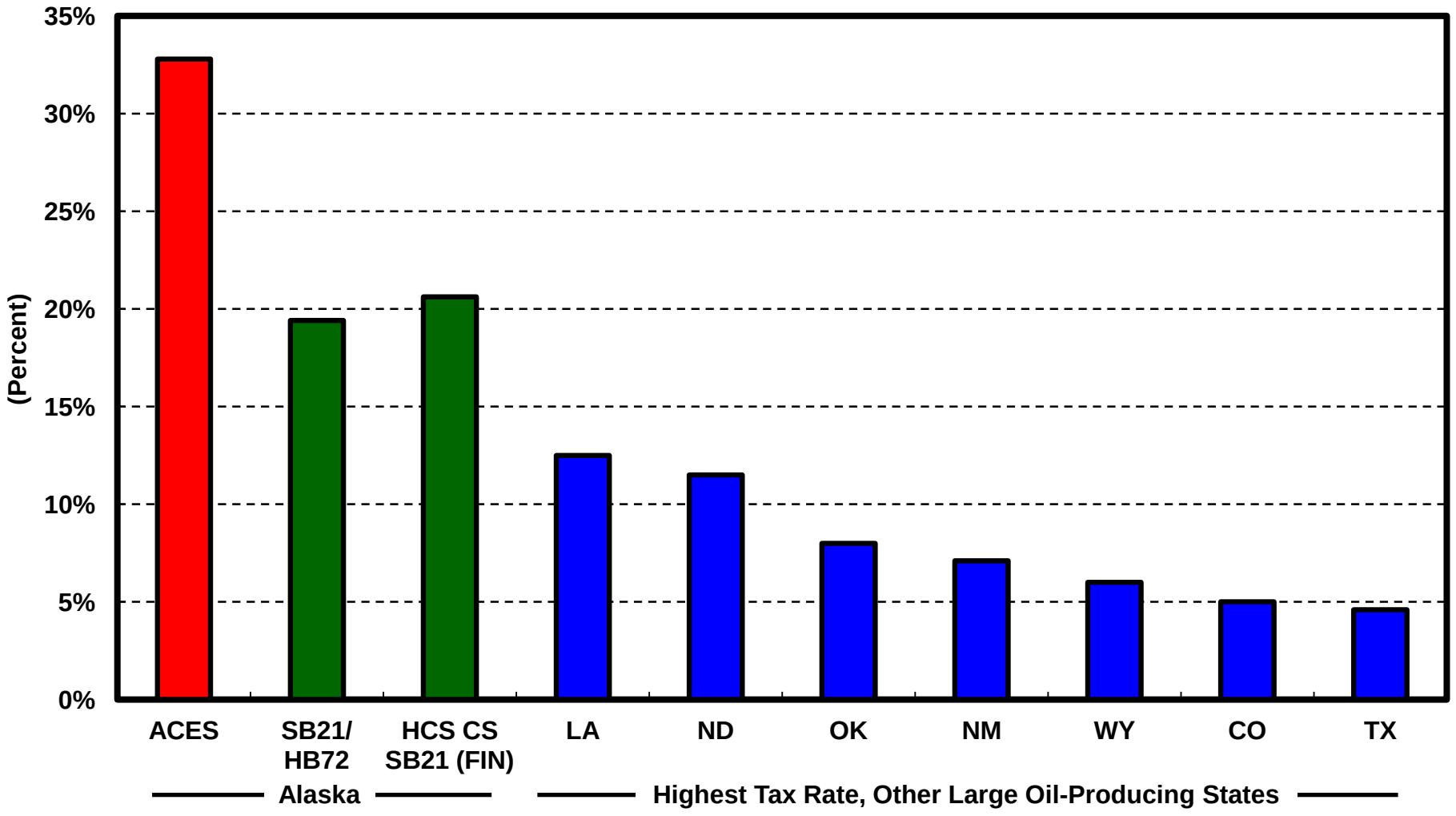
Average Government Take
for All Existing Producers (FY2015-FY2019)
ACES v. SB21/HB72, CS SB21 (FIN) and HCS CS SB21 (RES)



Effective Tax Rate
for All Existing Producers (FY2015-FY2019)
ACES v. SB21/HB72, CS SB21 (FIN) and HCS CS SB21 (RES)



Effective Tax Rates on Gross Value for Legacy Production
ACES vs. SB21/HB72, HCS CS SB21 (RES) and Other Large Oil-Producing States With Production Taxes at $100 Wellhead Value*



Note: California and Federal Offshore properties are not subject to a severance tax.
* FY2012 Combined PBU/KPU Costs and Volumes

Summary of Investment Measures for New Participant
50 MMBO Alaska Oil Development
ACES and HCS CS SB21 (RES) v. Benchmark Areas

Real $2012 West Coast ANS Price	ACES 16.67% Royalty	ACES 12.50% Royalty	HCS CS SB21 (RES) GRE 16.67% Royalty	HCS CS SB21 (RES) Non-GRE 12.50% Royalty	Unconventional Lower-48 Eagle Ford	Unconventional Lower-48 Bakken	Offshore GOM	Canada Oil Sands SAGD	Norway	United Kingdom Pre-1993 w/ Brownfield Allowance*	United Kingdom Post-1993 w/ Brownfield Allowance*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Producer NPV-12 / BOE (Dollars Per BOE)											
$80	$2.28	$2.76	$3.24	$2.95	$3.61	$0.67	$2.80	($0.93)	$0.24	$4.81	$4.62
$100	$4.17	$4.68	$6.35	$6.39	$6.75	$4.29	$6.22	$0.46	$2.34	$7.09	$8.25
$120	$5.79	$6.35	$9.21	$9.80	$11.17	$9.16	$9.64	$2.01	$4.44	$9.09	$11.88
Profitability Index-12											
$80	1.18	1.22	1.26	1.24	1.25	1.04	1.25	0.88	1.01	1.22	1.21
$100	1.33	1.37	1.51	1.51	1.47	1.28	1.55	1.06	1.14	1.33	1.38
$120	1.46	1.51	1.74	1.78	1.78	1.60	1.85	1.26	1.27	1.42	1.55
IRR (Percent)											
$80	18.4%	19.6%	19.5%	18.8%	29.9%	13.6%	18.3%	9.7%	12.4%	34.5%	24.7%
$100	23.3%	24.5%	25.6%	25.4%	46.3%	22.7%	24.3%	13.1%	16.0%	45.2%	32.9%
$120	26.9%	28.1%	30.5%	31.1%	73.6%	37.0%	29.3%	16.3%	19.3%	53.5%	40.2%
5-Year (2017-2021) Cash Margins (Dollars Per BOE)											
$80	$20.82	$22.25	$23.62	$22.41	$23.39	$28.39	$26.31	$26.07	$34.51	$22.94	$29.35
$100	$26.78	$28.26	$33.03	$32.55	$29.99	$36.48	$37.34	$29.14	$39.42	$28.85	$37.82
$120	$30.79	$32.26	$40.98	$42.16	$36.87	$44.91	$48.37	$33.37	$44.32	$31.29	$46.30
Government Take (Percent)											
$80	70.4%	67.8%	60.2%	61.4%	71.7%	77.1%	55.7%	63.4%	67.8%	61.0%	52.0%
$100	73.9%	72.0%	62.1%	61.3%	67.9%	72.1%	52.6%	63.5%	71.7%	68.6%	55.8%
$120	76.0%	74.4%	63.5%	61.3%	65.1%	68.7%	50.9%	63.0%	73.4%	72.0%	57.5%
State/Municipal NPV-12/BOE (Dollars Per BOE)											
$80	$6.06	$5.33	$4.58	$5.03	-	-	-	-	-	-	-
$100	$11.80	$11.02	$8.45	$8.39	-	-	-	-	-	-	-
$120	$17.96	$17.10	$12.70	$11.78	-	-	-	-	-	-	-

*** Brownfield Allowance applied to 100 MMBOE development.**

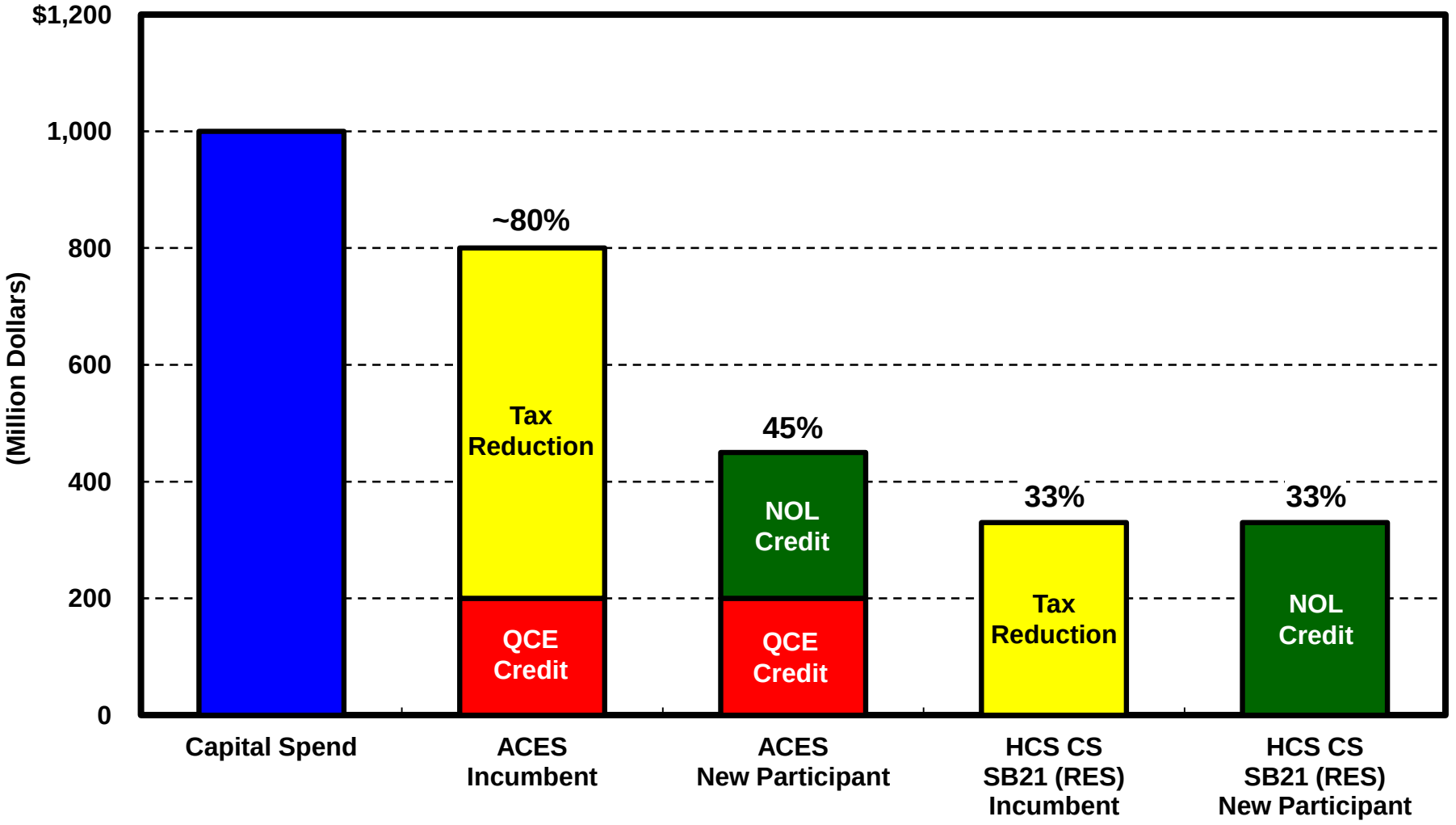
Alaska Oil Development : New development profile and costs are based on Pioneer's presentation dated February 18, 2013 -- $18/Bbl. Development Capex.

Summary of Investment Measures for Incumbent 50 MMBO Alaska Oil Development ACES and HCS CS SB21 (RES) v. Benchmark Areas

Real $2012 West Coast ANS Price	ACES 16.67% Royalty	ACES 12.50% Royalty	HCS CS SB21 (RES) GRE 16.67% Royalty	HCS CS SB21 (RES) Non-GRE 12.50% Royalty	Unconventional Lower-48 Eagle Ford	Unconventional Lower-48 Bakken	Offshore GOM	Canada Oil Sands SAGD	Norway	United Kingdom Pre-1993 w/ Brownfield Allowance*	United Kingdom Post-1993 w/ Brownfield Allowance*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Producer NPV-12 / BOE (Dollars Per BOE)											
$80	$3.44	$3.88	$3.23	$3.04	$3.61	$0.67	$2.80	($0.93)	$0.24	$4.81	$4.62
$100	$5.94	$6.39	$6.14	$6.24	$6.75	$4.29	$6.22	$0.46	$2.34	$7.09	$8.25
$120	$8.28	$8.82	$8.92	$9.54	$11.17	$9.16	$9.64	$2.01	$4.44	$9.09	$11.88
Profitability Index-12											
$80	1.27	1.31	1.26	1.24	1.25	1.04	1.25	0.88	1.01	1.22	1.21
$100	1.47	1.51	1.49	1.50	1.47	1.28	1.55	1.06	1.14	1.33	1.38
$120	1.66	1.70	1.71	1.76	1.78	1.60	1.85	1.26	1.27	1.42	1.55
IRR (Percent)											
$80	23.7%	24.9%	19.6%	19.2%	29.9%	13.6%	18.3%	9.7%	12.4%	34.5%	24.7%
$100	34.8%	36.1%	25.4%	25.3%	46.3%	22.7%	24.3%	13.1%	16.0%	45.2%	32.9%
$120	47.8%	49.3%	30.2%	30.9%	73.6%	37.0%	29.3%	16.3%	19.3%	53.5%	40.2%
5-Year (2017-2021) Cash Margins (Dollars Per BOE)											
$80	$20.26	$21.48	$23.10	$22.72	$23.39	$28.39	$26.31	$26.07	$34.51	$22.94	$29.35
$100	$25.51	$26.81	$31.36	$31.58	$29.99	$36.48	$37.34	$29.14	$39.42	$28.85	$37.82
$120	$28.68	$30.18	$39.20	$40.45	$36.87	$44.91	$48.37	$33.37	$44.32	$31.29	$46.30
Government Take (Percent)											
$80	67.5%	65.0%	60.9%	61.6%	71.7%	77.1%	55.7%	63.4%	67.8%	61.0%	52.0%
$100	71.9%	70.2%	63.0%	62.0%	67.9%	72.1%	52.6%	63.5%	71.7%	68.6%	55.8%
$120	73.3%	71.7%	64.4%	62.1%	65.1%	68.7%	50.9%	63.0%	73.4%	72.0%	57.5%
State/Municipal NPV-12/BOE (Dollars Per BOE)											
$80	$4.27	$3.60	$4.61	$4.89	-	-	-	-	-	-	-
$100	$9.08	$8.38	$8.77	$8.62	-	-	-	-	-	-	-
$120	$14.13	$13.30	$13.15	$12.19	-	-	-	-	-	-	-

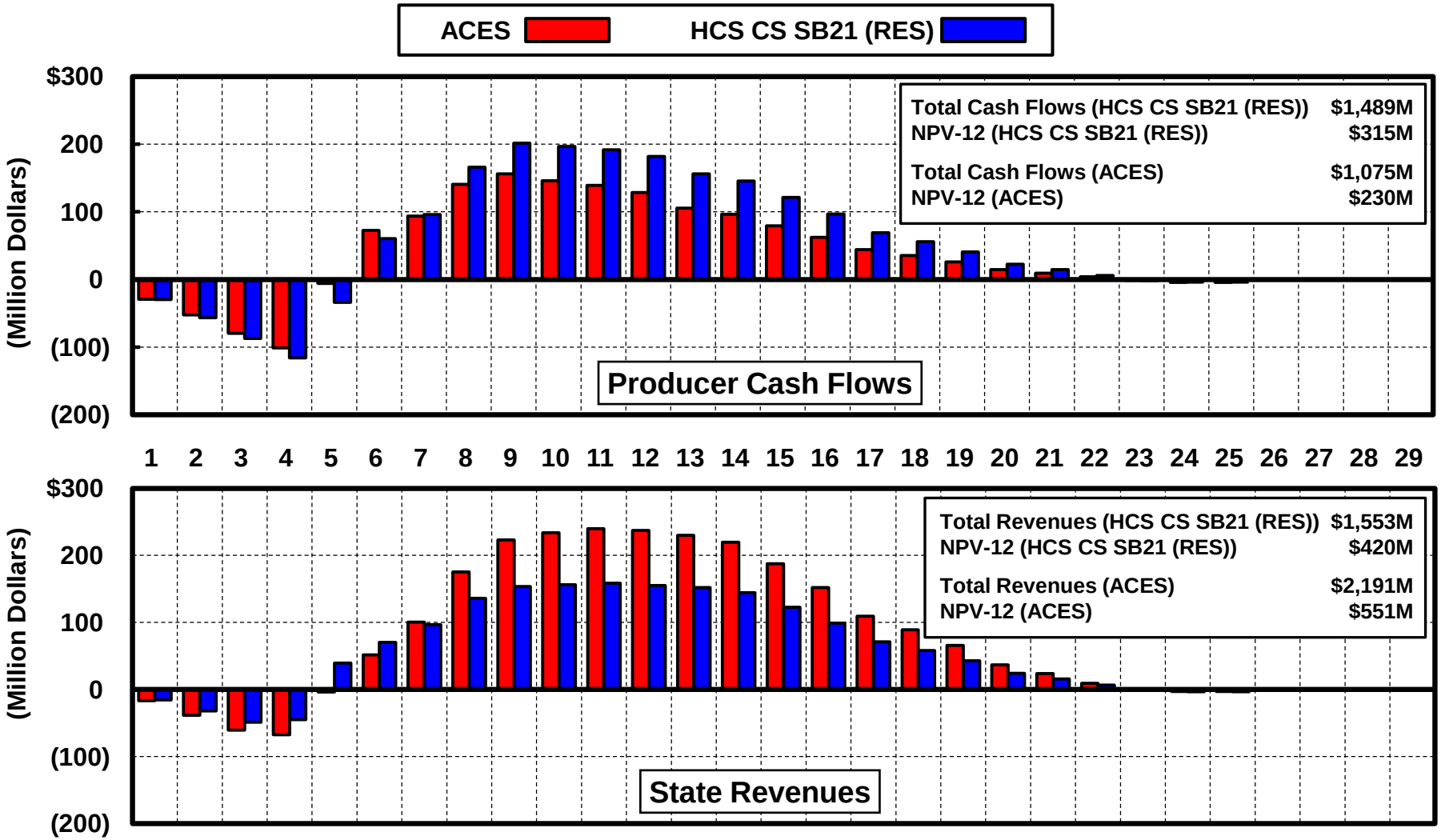
Note: Analysis of incumbent production includes "buy-down" impact for reduced taxes on existing production.
*** Brownfield Allowance applied to 100 MMBOE development.**
Alaska Oil Development : New development profile and costs are based on Pioneer's presentation dated February 18, 2013 -- $18/Bbl. Development Capex.

State Support for Capital Spending Under ACES and HCS CS SB21 (RES) at $100 West Coast ANS ($2012)



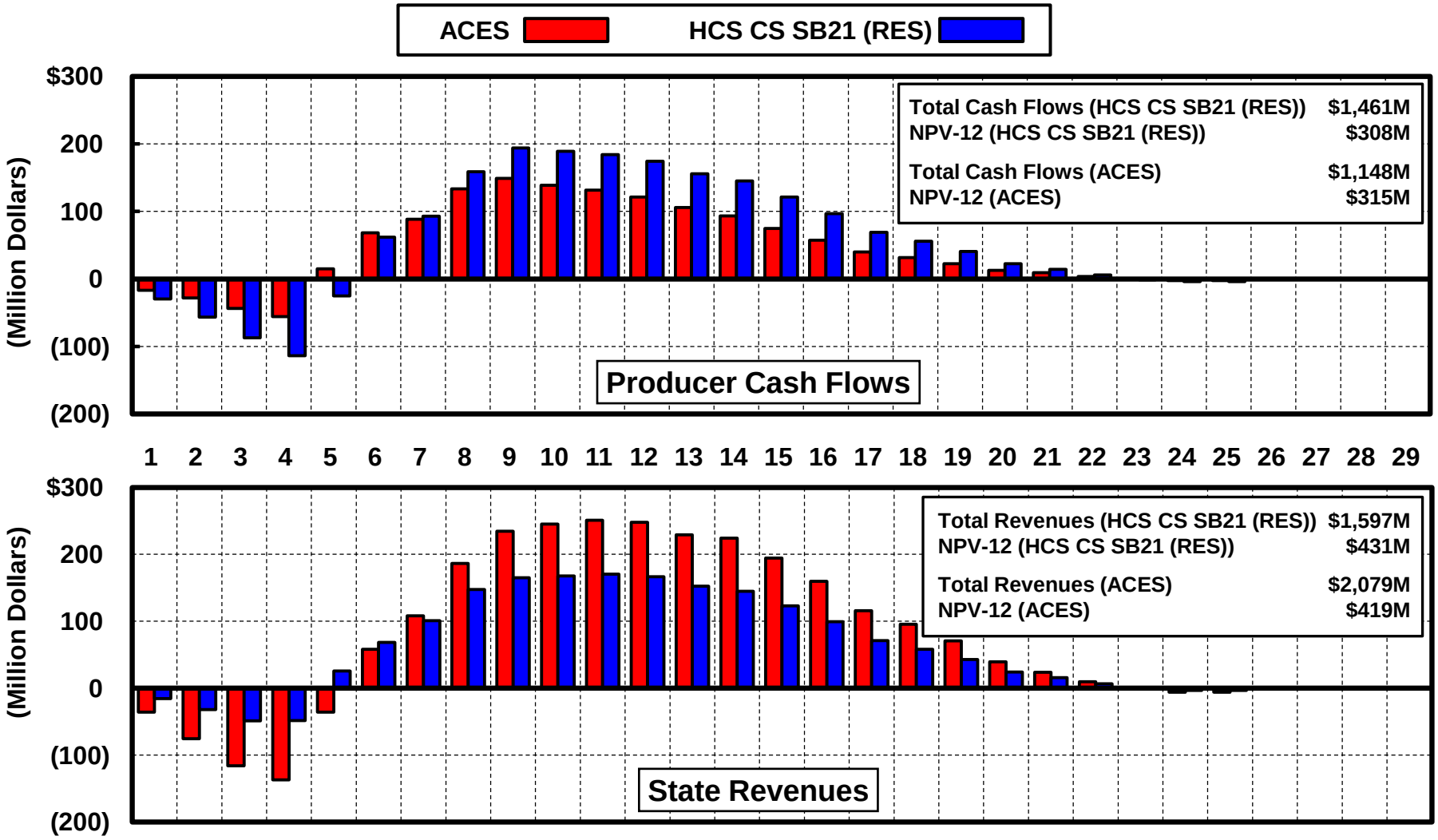
Assumes $1 billion of development spending prior to new production

Annual State Revenues and Producer Cash Flows at $100 West Coast ANS ($2012)
50 MMBO Alaska Oil Development
New Participant in Alaska



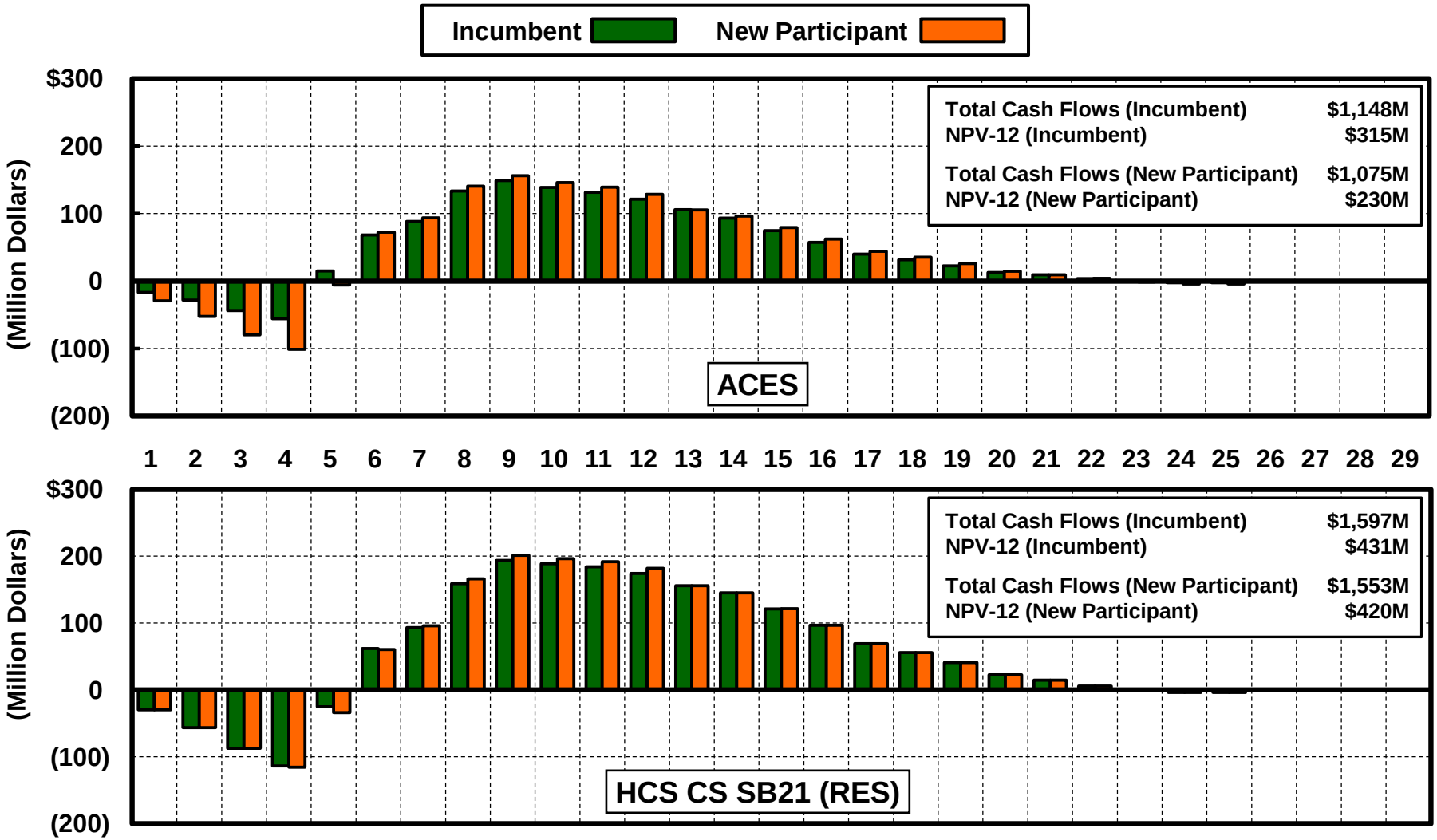
New development profile and costs are based on Pioneer's presentation dated February 18, 2013 -- $18/Bbl. Development Capex.

Annual State Revenues and Producer Cash Flows at $100 West Coast ANS ($2012)
50 MMBO Alaska Oil Development
Incumbent Participant in Alaska



New development profile and costs are based on Pioneer's presentation dated February 18, 2013 -- $18/Bbl. Development Capex.

Annual Producer Cash Flows at $100 West Coast ANS ($2012)
50 MMBO Alaska Oil Development



New development profile and costs are based on Pioneer's presentation dated February 18, 2013 -- $18/Bbl. Development Capex.

Additional Volumes Need to Offset Projected Fiscal Impact of HCS CS SB21 (RES) (FY2014 - FY2043)

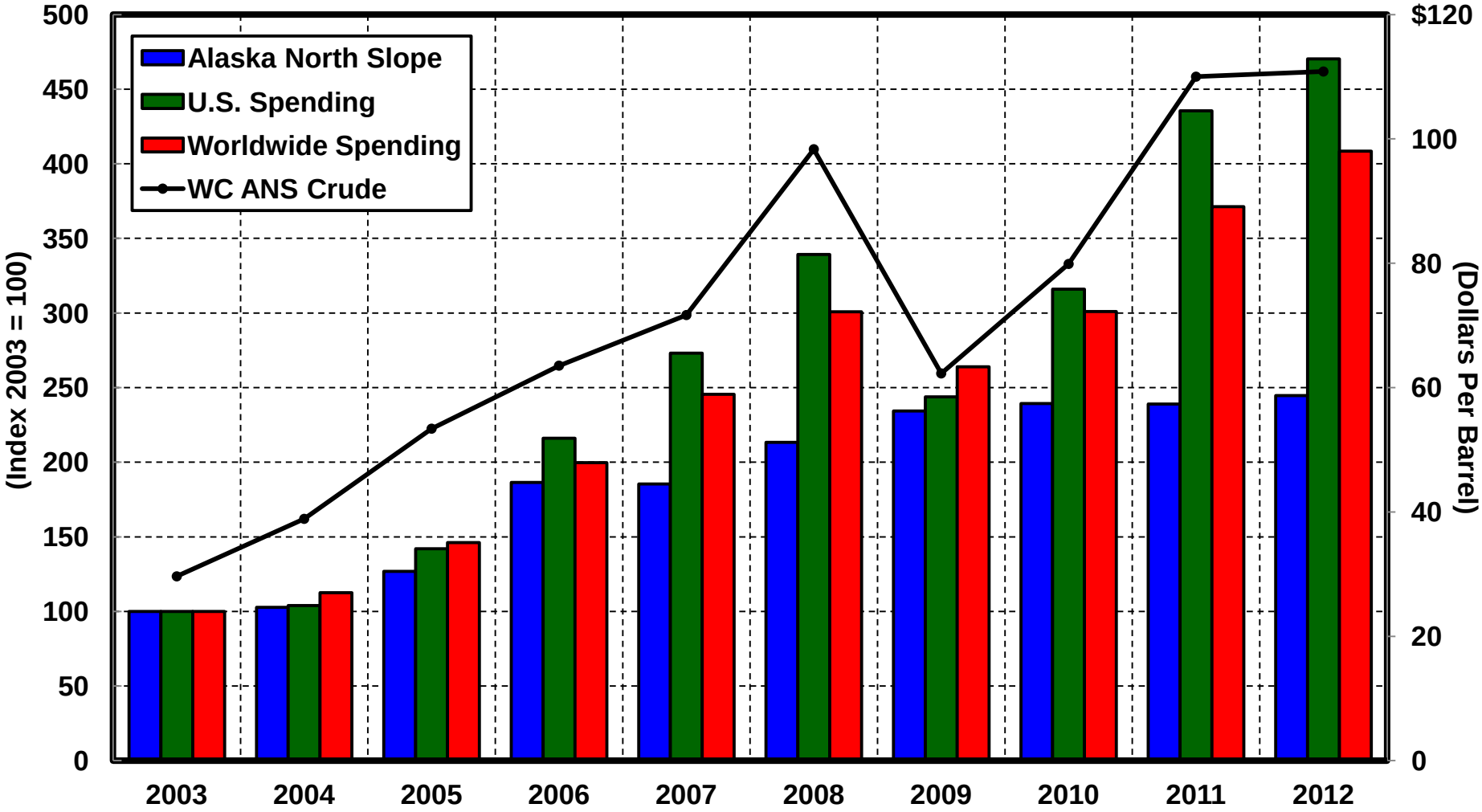
Assumptions: $18/Bbl Development Cost
Price = $105/Bbl West Coast ANS Price ($2012)
Taxes Per HCS CS SB21 (RES): 33% Base Rate, $5/Bbl Credit (GRE Volumes), 20% GRE

	16.67% Royalty	12.5% Royalty
State Revenue From New Development ($2012/Bbl)		
Excluding Impact on Tariff	$25.25	$22.25
Tariff Impact	$3.50	$3.50
Total	$28.75	$25.75
Annual Average Revenue Loss Assuming No New Development 2014 - 2043 ($2012 Million)	$475	$475
Total Barrels Needed to Develop (MMBO)	496	553
Annual Barrels Needed (MMBO)	17	18
Central North Slope Undiscovered Conventional Economically Recoverable Resources (MMBO)	3,000	3,000
% of Resources Required Annually	0.6%	0.6%
Additional Needed on Daily Basis (BPD)	45,000	51,000

Testing Reasonableness of Achieving Breakeven Development Capital Required ($2012)

Annual Development Required (Barrels)		17,500,000
$/Bbl Development Costs	x	$18
Annual Capital Required (Dollars)	=	$315,000,000
2012 Capital Spending (Dollars)		$2,400,000,000
Additional Capital Required as Percent of 2012 Spending Level		13.1%

Estimated Capital Spending for Exploration and Development
Alaska North Slope vs. U.S. and Worldwide Spending*
2003 - 2012



* North Slope based on tax return information; U.S. based on top 50 public companies; worldwide based on top 75 public companies

Testing Reasonableness of Achieving Breakeven Development Capital Spending Increase at Worldwide Pace

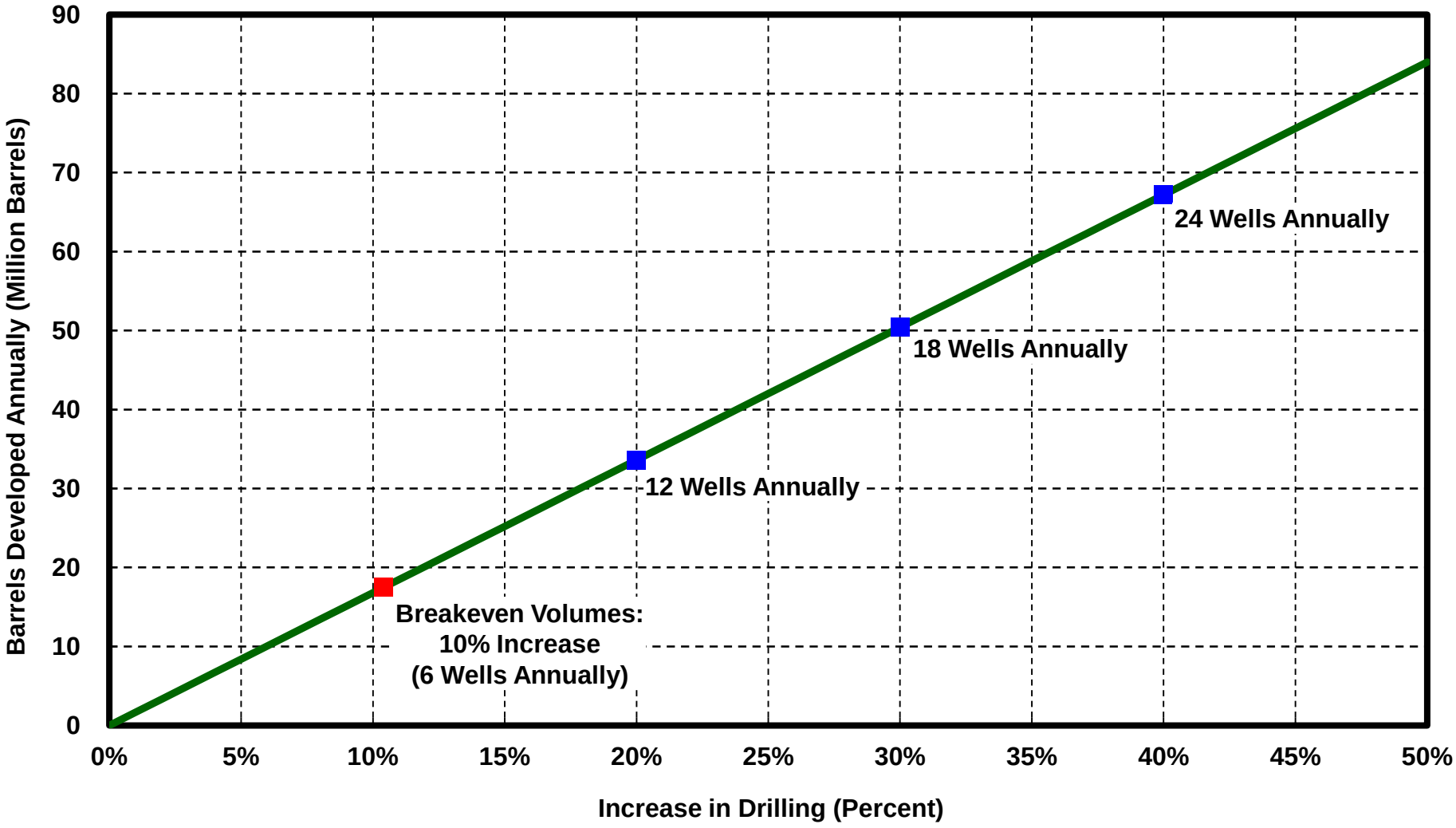
Worldwide Capital Spending Growth 2003-2012 (Percent)		400%
Alaska Capital Spending in 2003 (Dollars)		$1,000,000,000
Alaska Capital Spending in 2012 with Growth at Worldwide Pace (Dollars)		$4,000,000,000
Actual 2012 Capital Spending (Dollars)	-	2,400,000,000
Worldwide Pace vs Actual (Dollars)	=	$1,600,000,000
Percentage Over Actual 2012 Spending (Percent)		67%
Potential Development @ $18/Bbl (Barrels)		88,900,000
Breakeven Volume (Barrels)		17,500,000
Difference (Barrels)		71,400,000

Testing Reasonableness of Achieving Breakeven Development
Gerking, et al. Study of Sensitivity of Drilling to Tax Rates

Drilling Change Due to Reduction in Gross Severance Tax By 5.3 Percentage Points (From 10.6% to 5.3%) *		23.0%
Change Per 1% Change in Severance Tax Rate		4.0%
Change in Alaska Tax Rate (Gross Equivalent) (10 Percentage Points)	x	10%
Implied Impact on Drilling Starts (Percent)	=	40.0%
2012 Well Starts in Alaska with Production	x	60
Implied Increase in Drilling Starts	=	24
Expected First Year Recovery (Barrels) (Assumes 80% in-field wells with initial production of 1,000 b/d; 20% new field drilling with initial produciton of 2,000 b/d)		10,512,000
Total Expected Recovery (Barrels) (Assumes 15% Annual Decline)		67,200,000

* "Kunce, Gerking and Morgan, 2001." Study found that a hypothetical doubling of the severance tax rate in Wyoming from 5.3% to 10.6% would result in a19.4% decrease in drilling rates (from 211 new wells to 170 new wells annually). Reversing the direction of the tax change (i.e., a reduction from 10.6% to 5.3%), therefore, would be expected to increase drilling by 23% (from 170 to 211 wells). The study also found that while the impact of a tax increase on new drilling (i.e., new investment) was relatively large, the impact on overall production was relatively small, as new wells bring on an average of approximately 75 barrels per day of initial production in Wyoming and production from existing wells (i.e., prior investments) would not be significantly reduced. Average well productivity in Alaska is significantly higher than in Wyoming (1,000 barrels per day v. 75 barrels per day). Accordingly, a similar impact on drilling rates in Alaska would carry with it a much greater impact on total State production.

Testing Reasonableness of Achieving Breakeven Development Relationship Between Drilling Increases and Expected Barrels Developed Annually



HCS CS SB21 (RES) Per-Barrel Credits for Non-GRE Volumes
Stepped Scale v. Smoothed Scale