

# Discussion Slides: Alaska House Resources Committee

April 23, 2012

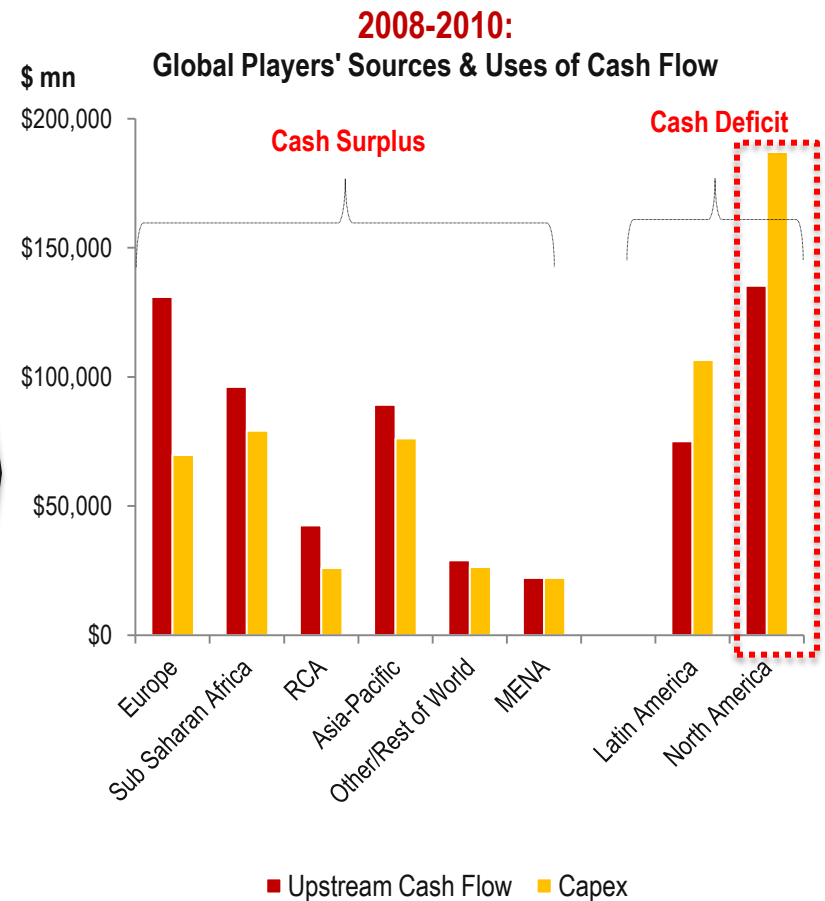
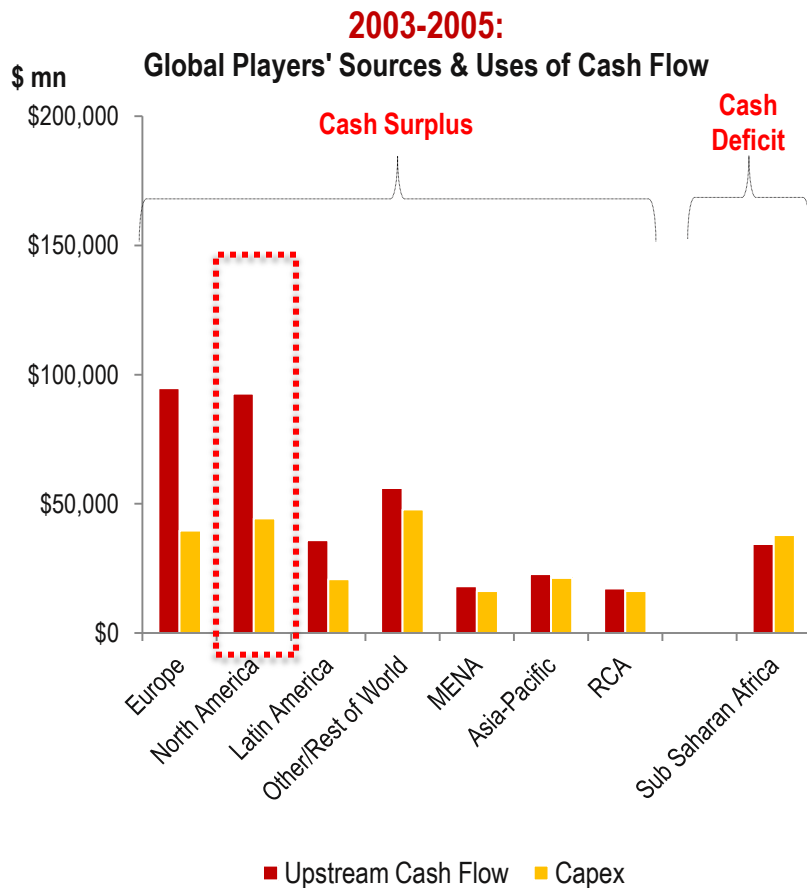
Janak Mayer

Manager, Upstream & Gas

PFC Energy

# **Alaska's Oil & Gas Competitive Context**

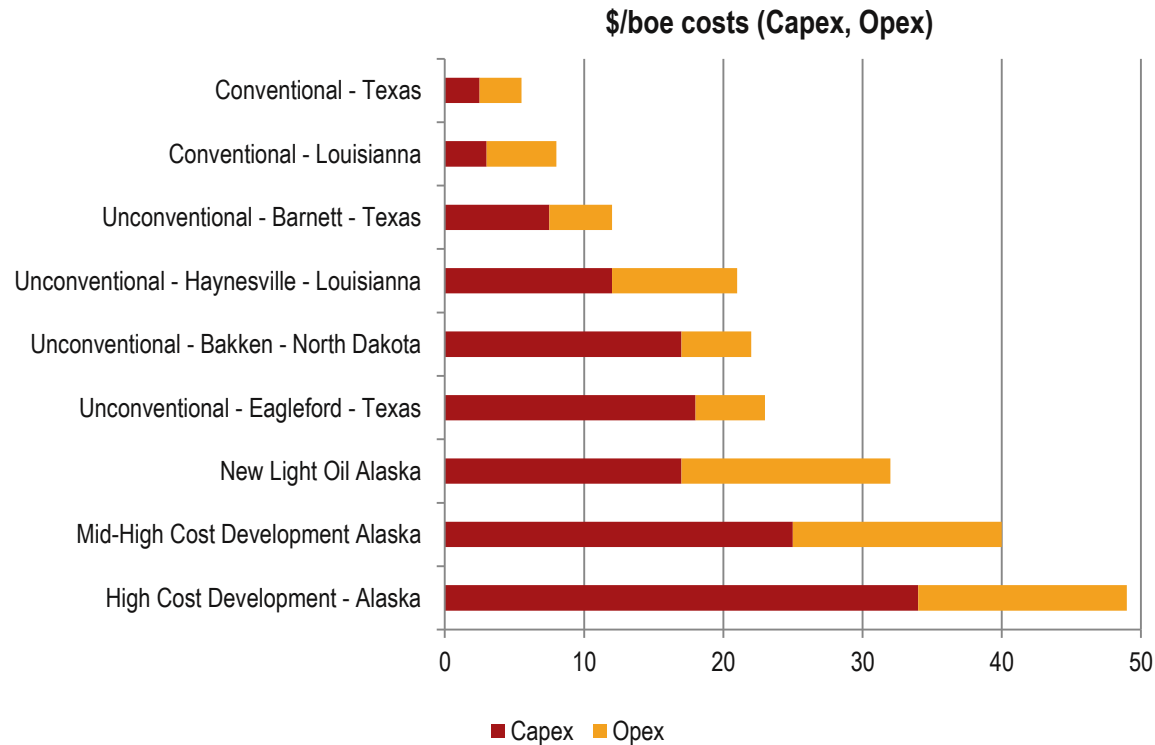
# Fixed-Royalty Jurisdictions in US Lower 48 Are A Key Competitor to Alaska for Investment Dollars



It is now an exception not to be targeting unconventional in North America as a major growth platform.

# Alaska's Days of "Easy Oil" Are Gone: High Costs and High Government Take Present Challenges

\$/boe Costs (Capex, Opex)



Costs are significantly higher in Alaska than the Lower 48 – even compared to unconvensionals. Meanwhile, Alaska's Government Take has risen significantly over recent years, meaning new project economics can be very challenging

# Relative Government Take (Definition)

**Relative Government  
Take =**

**Government Take  
Divisible Income**

Divisible Income equals Gross Revenues less costs, including capex and transportation costs.

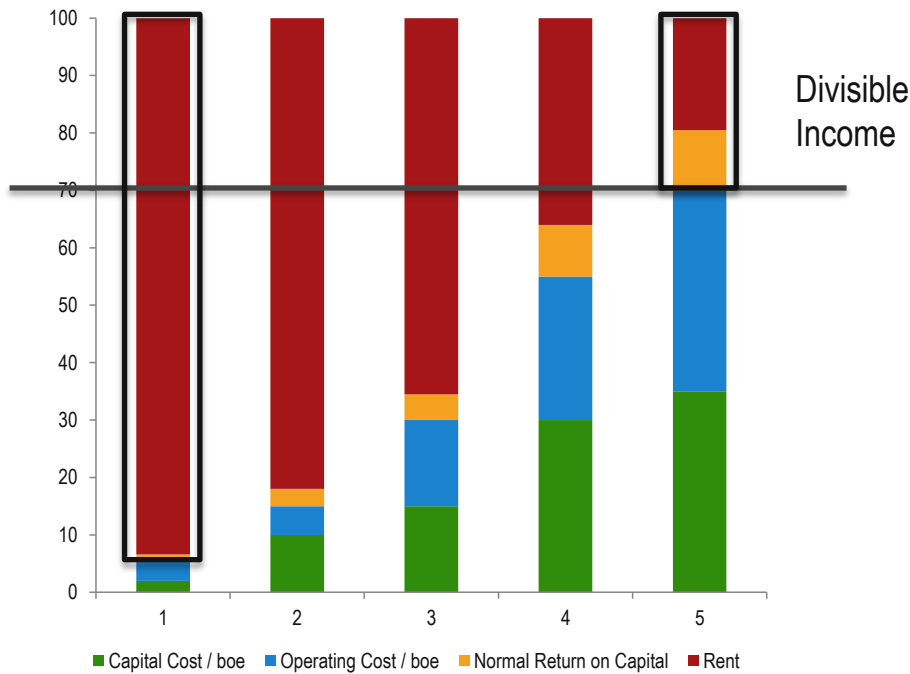
Government Take includes all payments the government mandates in its function as a sovereign:

- Royalties
- Land rental fees, property taxes
- Production taxes
- Income taxes

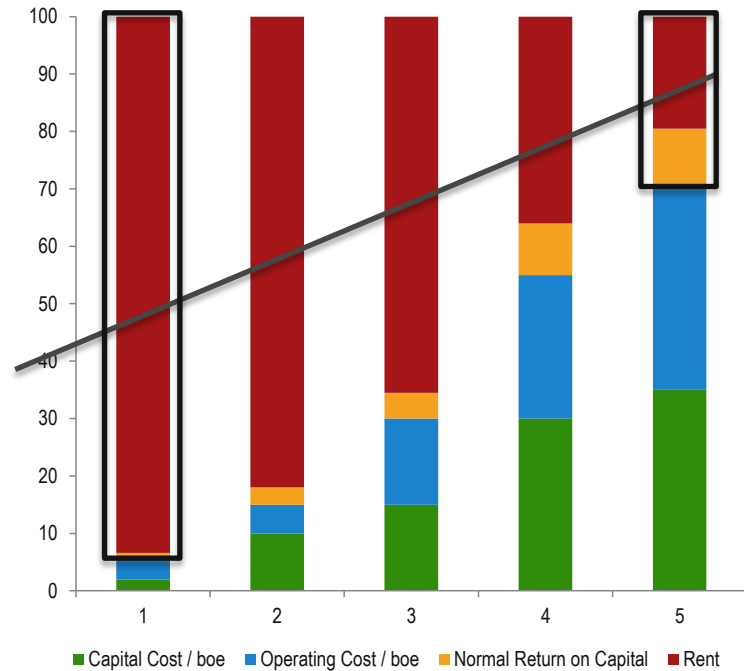
Government Take does not include amounts the government earns via a direct equity stake

# Fixed Royalty v Profit Based Fiscal Systems

Incidence of a 30% Fixed Royalty on 5 Different Projects

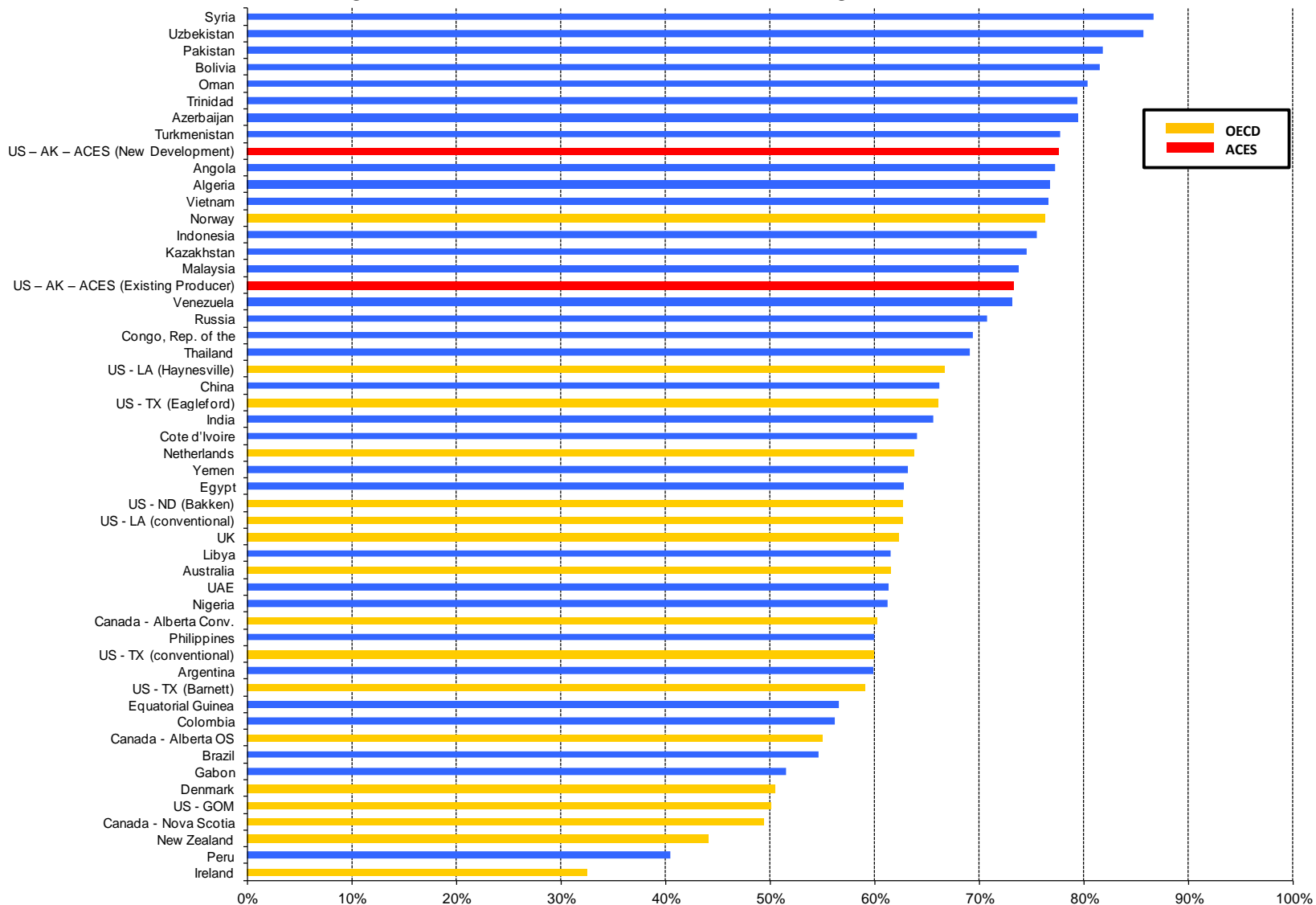


Incidence of a 50% Profit-Based Tax on 5 Different Projects



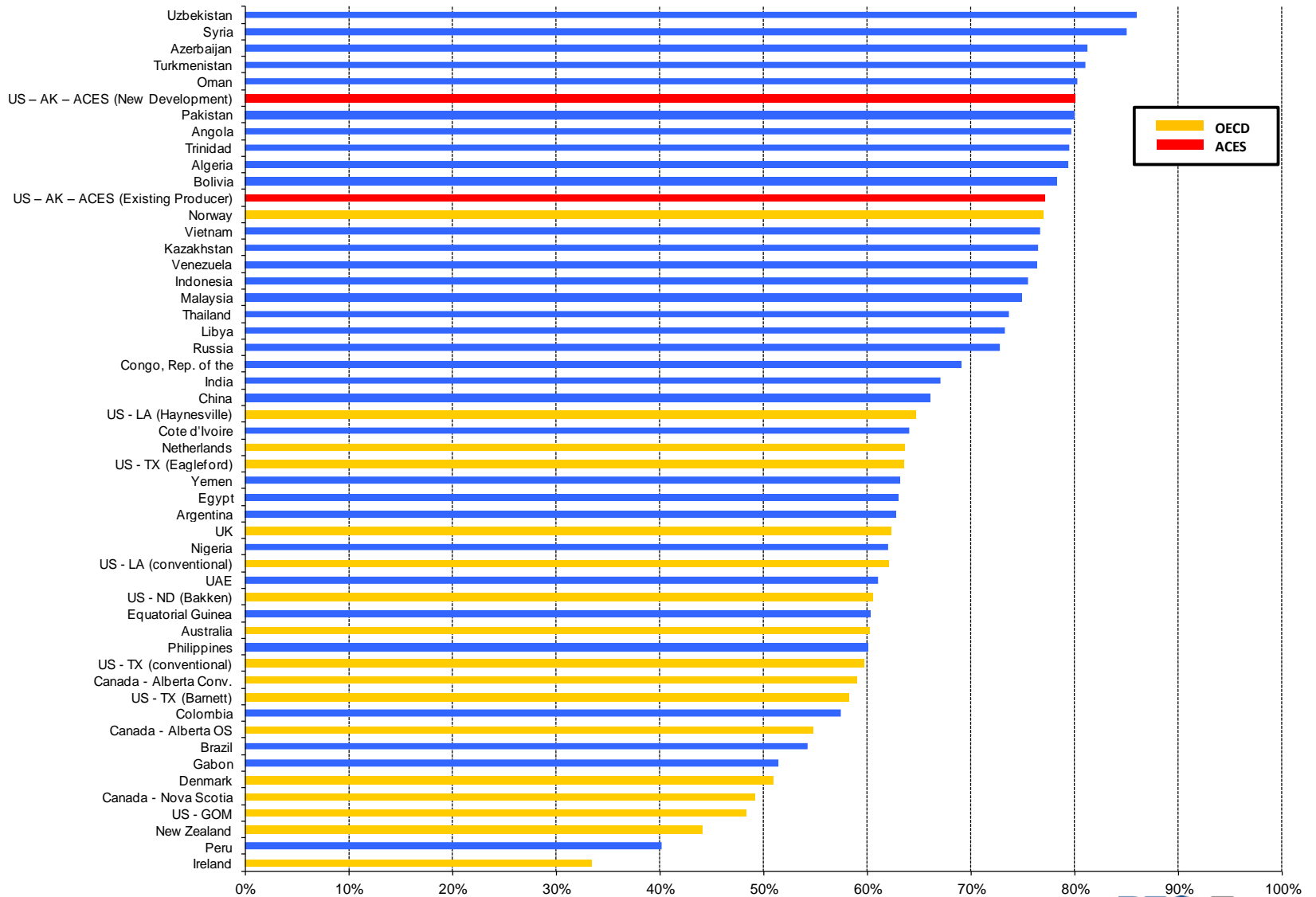
# Regime Competitiveness: Average Government Take

Average Government Take of Global Fiscal Regimes at \$100/bbl



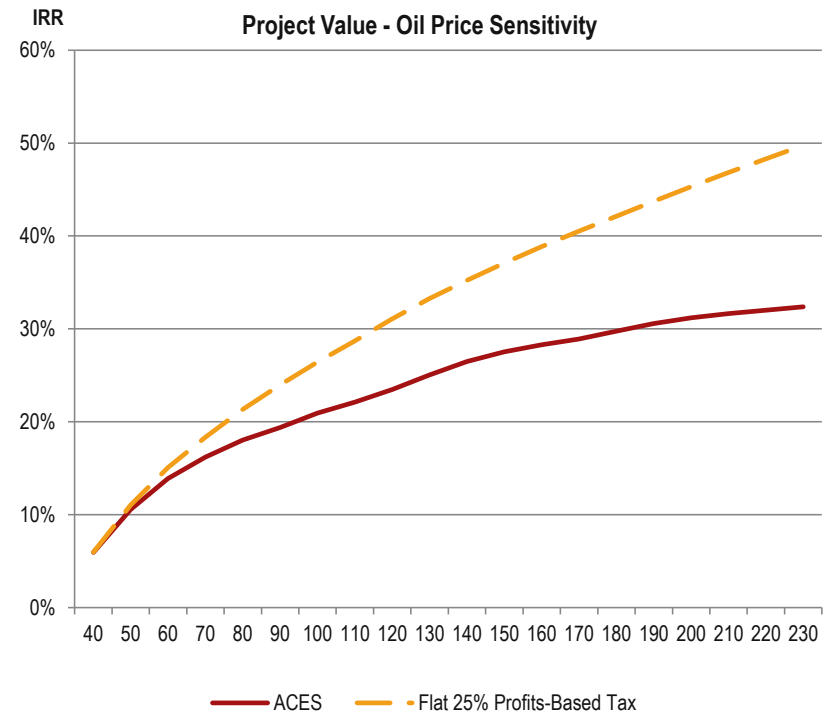
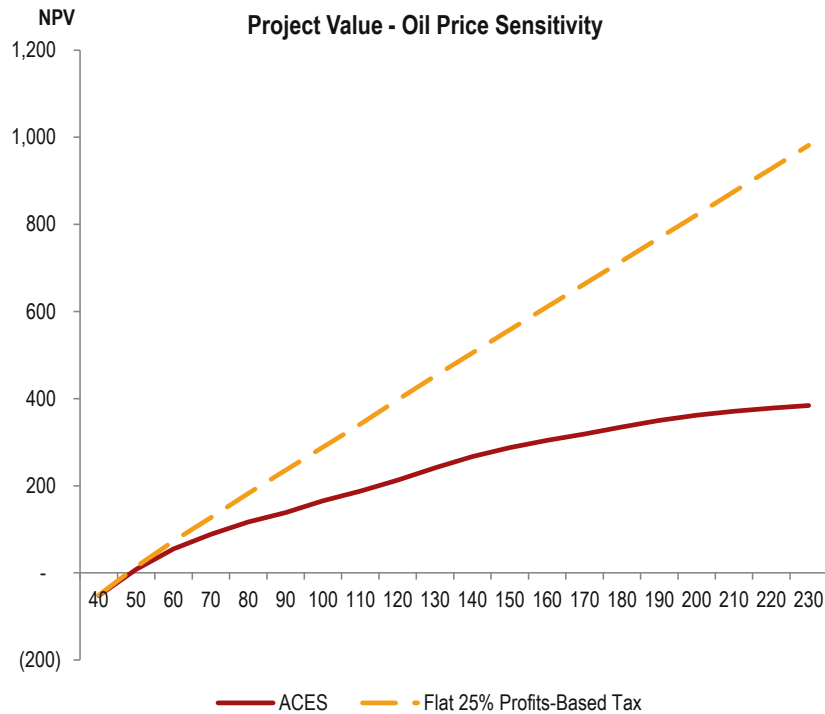
# Regime Competitiveness: Average Government Take

Average Government Take of Global Fiscal Regimes at \$140/bbl

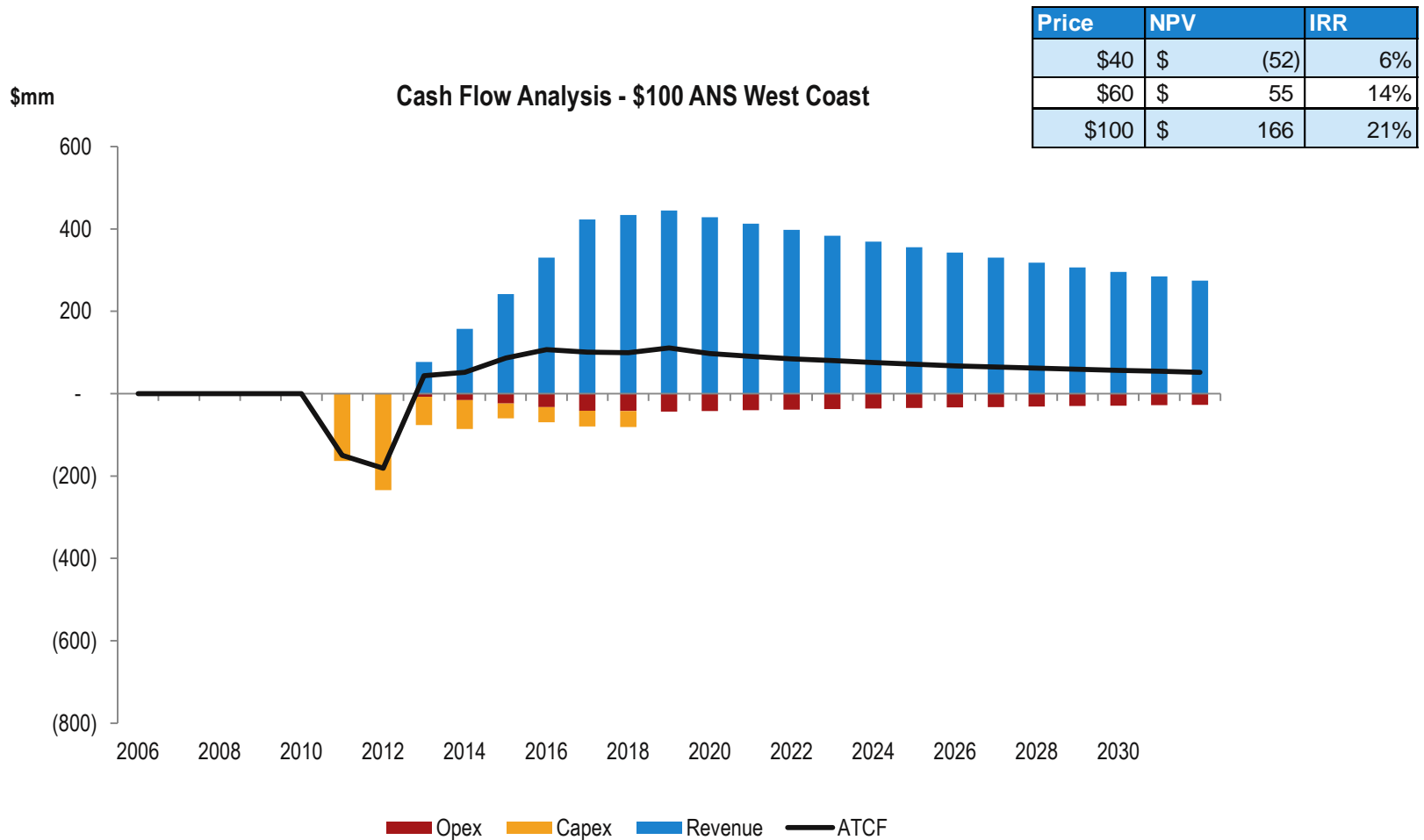




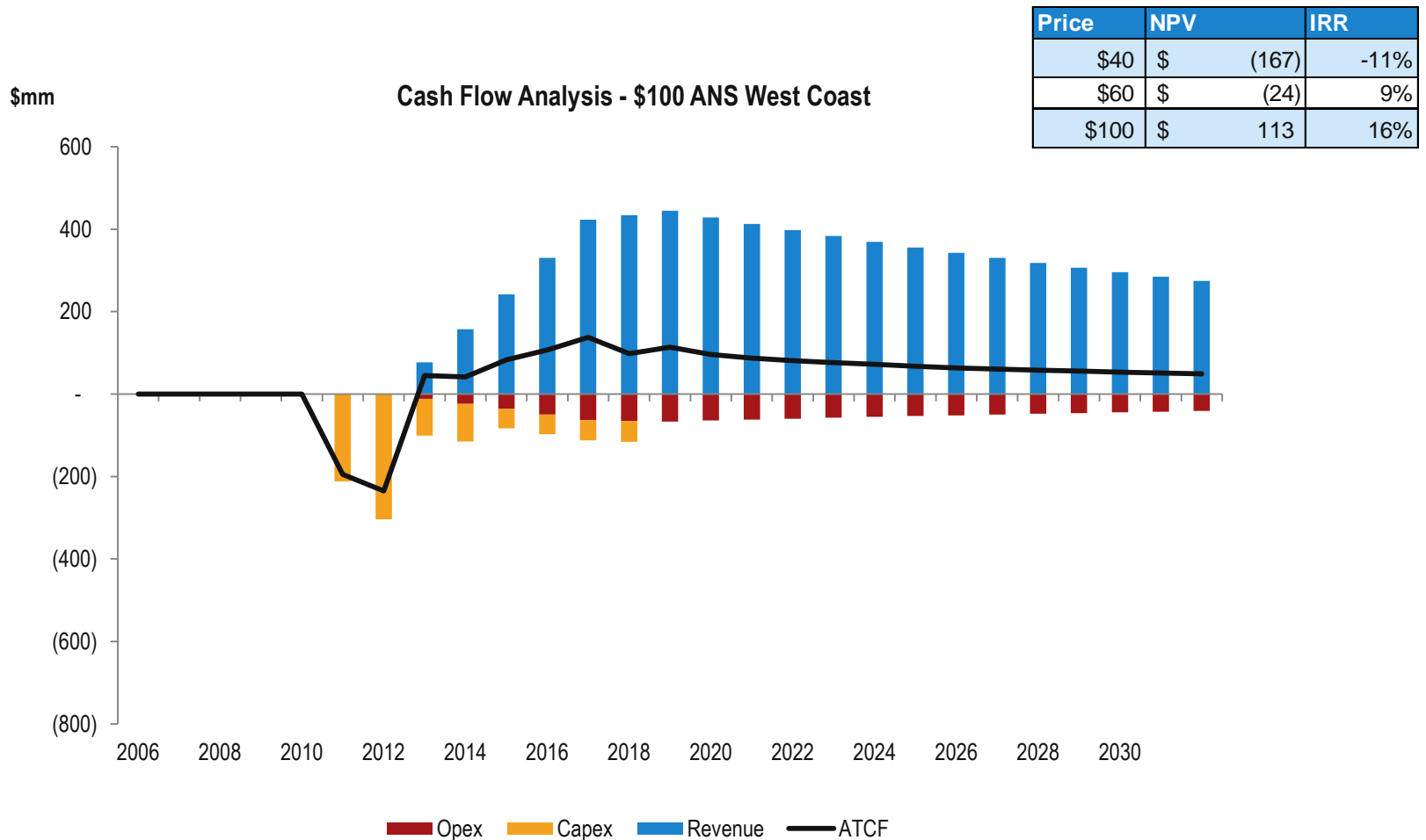
# Effect of Progressivity on Price Upside



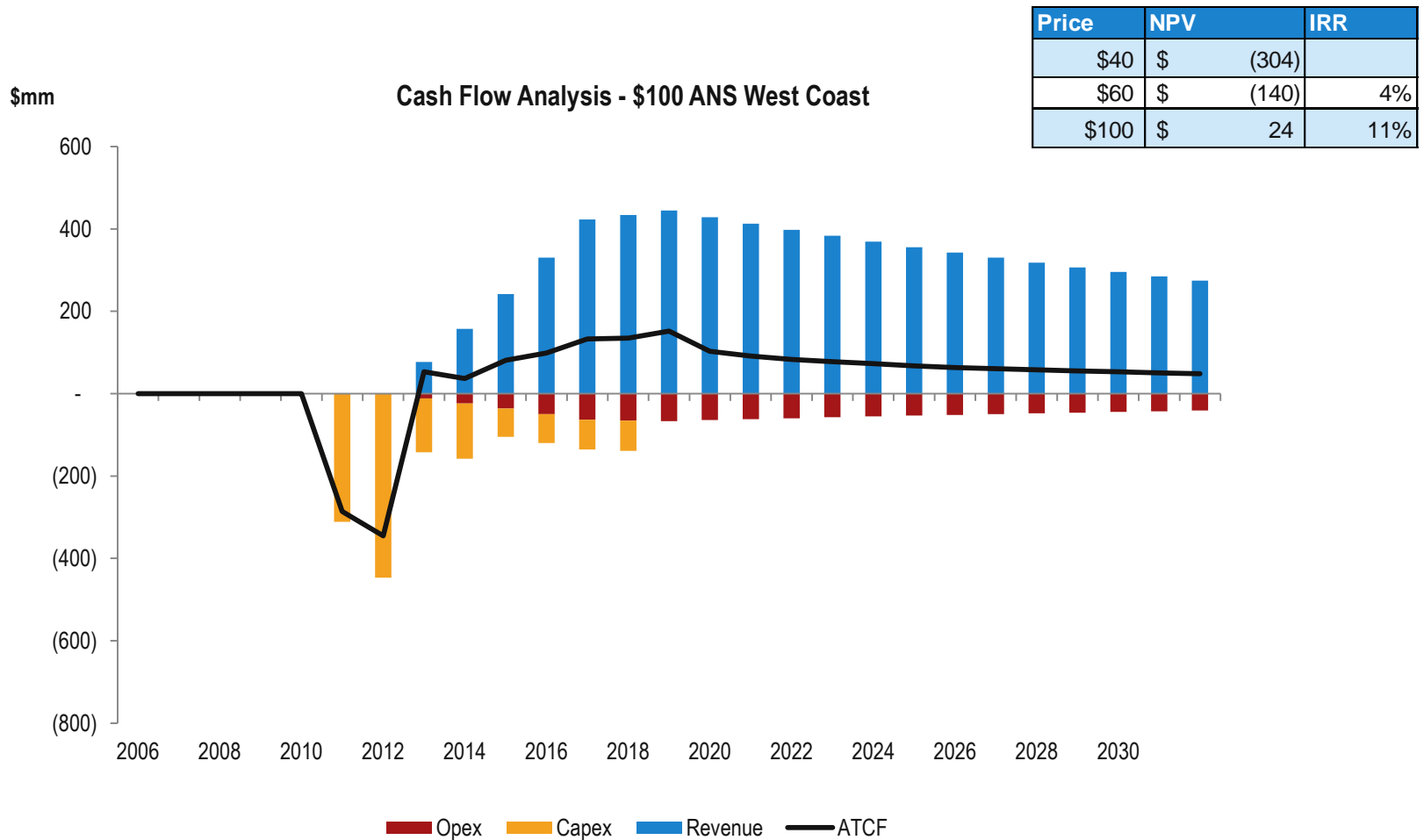
# Low Cost Light Oil: Hypothetical 10 mb/d Project Cashflows (\$13/bbl Capex, \$10/bbl Opex)



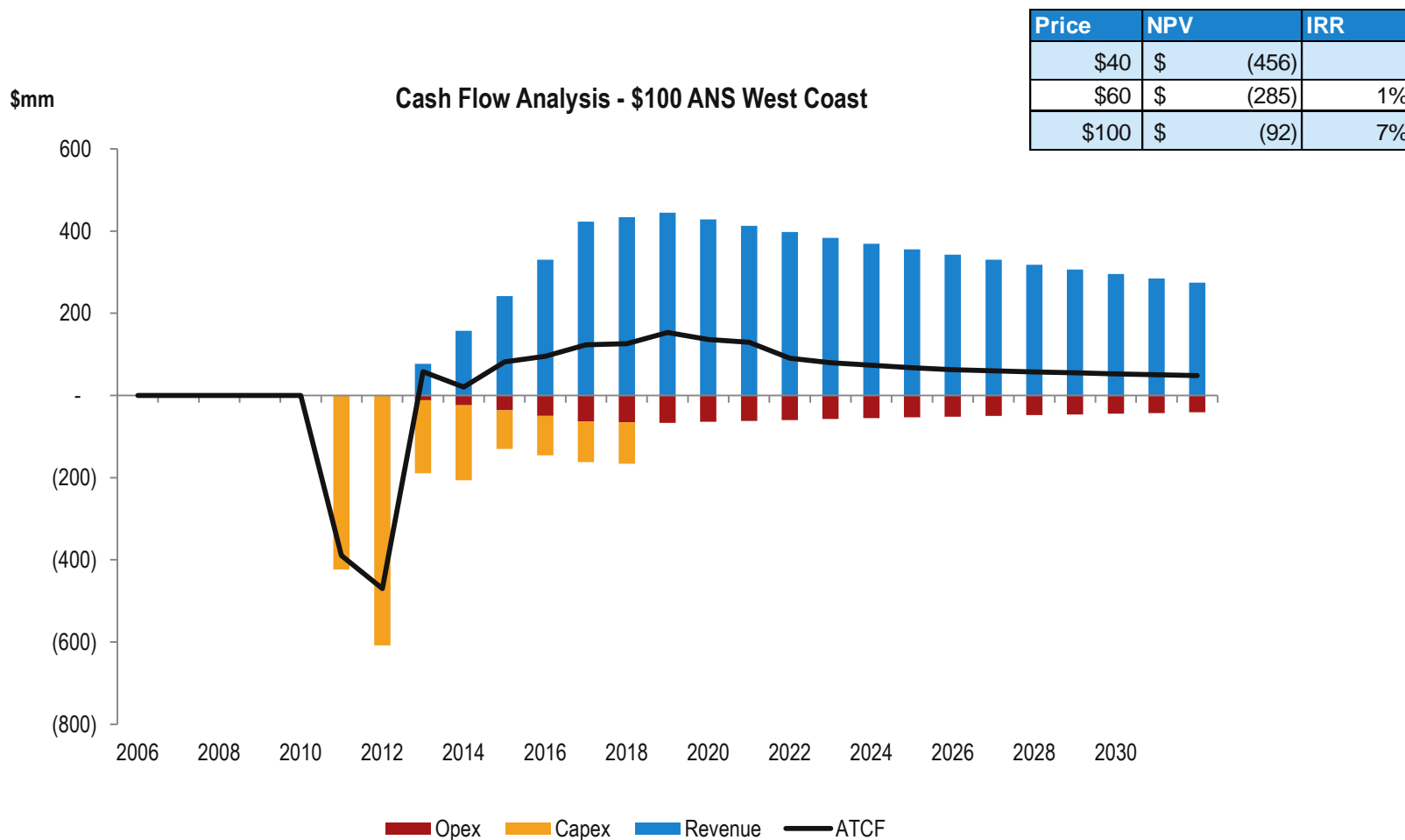
# New Light Oil: Hypothetical 10 mb/d Project Cashflows (\$17/bbl Capex, \$15/bbl Opex)



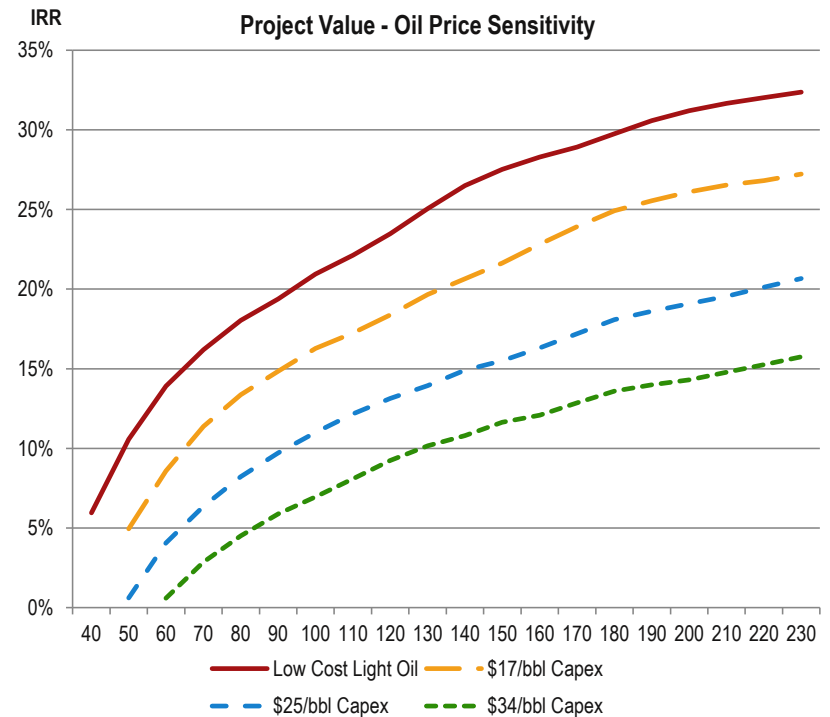
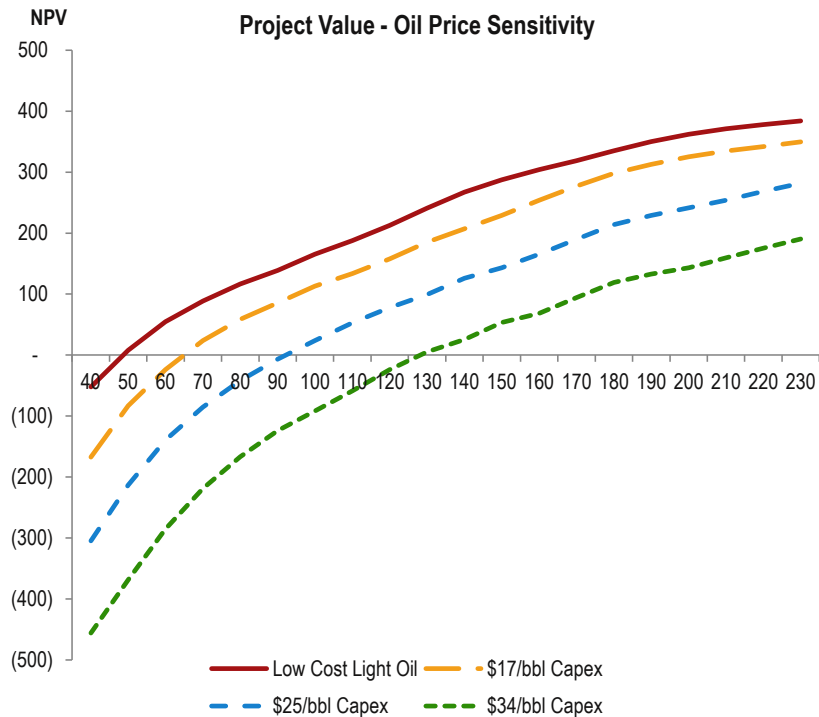
# Mid-High Cost Project: Hypothetical 10 mb/d Project Cashflows (\$25/bbl Capex, \$15/bbl Opex)



# High Cost Project: Hypothetical 10 mb/d Project Cashflows (\$34/bbl Capex, \$15/bbl Opex)



# Project Value Under ACES: Cost and Price Sensitivity



# ACES – Effective as a Harvest Area Fiscal Regime

- ACES appears to work well as a “harvest” regime
  - Existing **mature fields remain profitable**, including capital work required to achieve ~6% decline (renewal capex)
  - **Maximum ‘rent’** extracted from a declining production base is captured for the state
- ACES inhibits the development of new projects and resources that might help stem or even reverse the decline
  - ACES is **not progressive with regard to costs**, so high government take applies even to very high cost projects
  - Existing system of capital credits etc appears to do more to encourage ‘renewal capex’ than it does new production spending
  - Progressivity can have a major **detrimental impact on breakeven prices** for high-cost projects at current oil prices

# Options to Spur New Developments

Approach	Implementation Options	Advantages	Disadvantages
Uniform lowering of Government Take	<ul style="list-style-type: none"> <li>•Bracketing</li> <li>•Reduced Base Rate</li> <li>•Increased Progressivity Thresholds</li> <li>•Reduced Progressivity Rates</li> <li>•Progressivity Caps</li> </ul>	<ul style="list-style-type: none"> <li>•Does not require increased complexity</li> <li>•May present opportunities for simplification</li> </ul>	<ul style="list-style-type: none"> <li>•Incentivizing new high cost resources through this method alone requires giving substantial 'rent' back to producers on the mature producing assets</li> </ul>
Differentiation between old and new production	<ul style="list-style-type: none"> <li>•Allowance for New Oil</li> <li>•Switching in part away from Net Profits taxation to Gross Revenue Taxation, to enable different tax rates for different production streams without separate cost accounting and tax returns</li> <li>•Use of some combination of definitions for incremental production, ie base decline rate, regulator-agreed new programs, new areas</li> </ul>	<ul style="list-style-type: none"> <li>•Allows significant reductions in Govt Take on new and costlier developments (including heavy oil etc) without requiring significant reductions on the mature producing assets</li> </ul>	<ul style="list-style-type: none"> <li>•Administrative difficulties around definitions of 'new production'</li> </ul>
Enhancements to cost progressivity of ACES	<ul style="list-style-type: none"> <li>•Changes to allowable cost deduction or credits mechanism etc to provide greater 'uplift' for high capital and operating costs, while restricting negative Production Tax in marginal cases</li> <li>•Enhancements to royalty relief</li> </ul>	<ul style="list-style-type: none"> <li>•Does not require structural change away from ACES</li> </ul>	<ul style="list-style-type: none"> <li>•Increases already high complexity and opacity</li> <li>•May exacerbate problem of poor cost control incentives</li> <li>•Increases likelihood of unintended consequences</li> <li>•Likely less significant impact than new production differentiation</li> </ul>



# **Analysis of HB 3001**

# Options to Spur New Developments

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# HB 3001 – Main Aspects

- For production from new North Slope fields, 30% gross revenue exclusion
  - Applies to calculation of both base and progressive tax amounts
  - Does not apply to progressivity rate calculation
  - Applies for 10 years
- For all other North Slope production, 40% gross revenue exclusion
  - Applies to calculation of progressive tax amount only
  - Does not apply to base tax amount or to progressivity rate calculation
  - Applies indefinitely
- Maximum progressive tax rate capped at 60% (reduced from 75%)
- 40% Well Lease Expenditure Credit applied to North Slope
- Capital credits redeemed in single year (rather than spread over two)

# Understanding the Gross Revenue Exclusions

	Price /Barrel	Barrels	ACES (\$mm)	HB 3001 Existing	HB 3001 New Fields
ANS Oil Price	\$ 109.47	555,227.00			
<b>Total Annual Production</b>		<b>202,657,895</b>	<b>\$ 22,185</b>	<b>\$ 22,185</b>	<b>\$ 22,185</b>
Royalty Barrels		(30,158,081)	\$ (3,301)	\$ (3,301)	\$ (3,301)
Taxable Barel		172,499,814	\$ 18,884	\$ 18,884	\$ 18,884
Total Transportation Costs	\$ (8.56)		\$ (1,477)	\$ (1,477)	\$ (1,477)
<b>Gross Value at Point of Production (GVPP)</b>		<b>172,499,814</b>	<b>\$ 17,407</b>	<b>\$ 17,407</b>	<b>\$ 17,407</b>
Total Lease Expenditures	\$ (29.11)		\$ (5,021)	\$ (5,021)	\$ (5,021)
<b>Production Tax Value (PTV)</b>	<b>\$ 71.80</b>		<b>\$ 12,385</b>	<b>\$ 12,385</b>	<b>\$ 12,385</b>
30% GVPP Allowance					\$ 5,222
40% GVPP Allowance				\$ 6,963	
Adjusted PTV for Base Tax			\$ 12,385	\$ 12,385	\$ 7,163
Adjusted PTV for Progressive Tax			\$ 12,385	\$ 5,423	\$ 7,163
Base Production Tax - 25%			\$ 3,096	\$ 3,096	\$ 1,791
Progressive Production Tax - 16.72%			\$ 2,071	\$ 907	\$ 1,198
Production Tax before Credits			\$ 5,167	\$ 4,003	\$ 2,989
Credits			\$ 450	\$ 750	\$ 750
Estimated Total Tax After Credits			\$ 4,717	\$ 3,253	\$ 2,239

# Purpose of Gross Revenue Exclusion Concept

- ACES Production Tax is a profit-based tax – ie it taxes wellhead revenue net of costs
- Under the ACES structure, varying either the base or the progressive rates for some forms of production and not others introduces significant complexity – requires ‘ring-fencing’ to allocate costs between different streams of production
- Gross Revenue Exclusion is a concept that makes it possible to reduce government take on some streams of production but not others, without requiring ring-fencing
- In HB 3001, however, it is also used to reduce government take across all North Slope fields
  - This could also be accomplished through simply lowering progressivity
  - Approximately equivalent to reducing progressivity from .4% to .15%

# FY 2013 Revenue Comparison

	Production Tax				Total State Take				Total Government Take				Cash to Companies				FY 2013 % Government Take			
	ACES	HB 3001 (ex 40% Well Credit)	HB 3001 (With 40% Well Credit)	HB110	ACES	HB 3001 (ex 40% Well Credit)	HB 3001 (With 40% Well Credit)	HB110	ACES	HB 3001 (ex 40% Well Credit)	HB 3001 (With 40% Well Credit)	HB110	ACES	HB 3001 (ex 40% Well Credit)	HB 3001 (With 40% Well Credit)	HB110	ACES	HB 3001 (ex 40% Well Credit)	HB 3001 (With 40% Well Credit)	HB110
40	(233)	(233)	(528)	(323)	1,413	1,413	1,142	1,330	1,616	1,616	1,441	1,563	378	378	554	432	81%	81%	72%	78%
50	82	82	(213)	(8)	2,148	2,148	1,877	2,065	2,803	2,803	2,628	2,750	1,218	1,218	1,393	1,271	70%	70%	65%	68%
60	513	513	218	423	2,989	2,989	2,719	2,907	4,060	4,060	3,884	4,006	1,988	1,988	2,164	2,042	67%	67%	64%	66%
70	996	957	662	864	3,878	3,842	3,572	3,757	5,347	5,323	5,148	5,268	2,727	2,751	2,927	2,806	66%	66%	64%	65%
80	1,736	1,493	1,198	1,339	5,002	4,779	4,509	4,638	6,787	6,642	6,466	6,550	3,314	3,459	3,635	3,551	67%	66%	64%	65%
90	2,613	2,111	1,816	1,898	6,252	5,792	5,522	5,597	8,308	8,010	7,834	7,883	3,819	4,118	4,293	4,245	69%	66%	65%	65%
100	3,628	2,813	2,518	2,522	7,629	6,881	6,611	6,615	9,913	9,427	9,251	9,254	4,241	4,727	4,903	4,900	70%	67%	65%	65%
110	4,782	3,597	3,302	3,210	9,132	8,046	7,776	7,692	11,599	10,893	10,718	10,663	4,582	5,287	5,463	5,517	72%	67%	66%	66%
120	6,073	4,464	4,169	3,963	10,761	9,287	9,017	8,829	13,367	12,409	12,233	12,111	4,840	5,798	5,974	6,096	73%	68%	67%	67%
130	7,503	5,414	5,119	4,783	12,517	10,603	10,333	10,026	15,218	13,974	13,798	13,598	5,016	6,260	6,435	6,635	75%	69%	68%	67%
140	8,550	6,193	5,898	5,645	13,922	11,764	11,494	11,261	16,841	15,438	15,262	15,111	5,420	6,823	6,998	7,149	76%	69%	69%	68%
150	9,623	6,989	6,694	6,507	15,352	12,940	12,670	12,498	18,479	16,911	16,736	16,624	5,808	7,376	7,551	7,663	76%	70%	69%	68%
160	10,730	7,806	7,511	7,370	16,813	14,135	13,864	13,735	20,138	18,397	18,222	18,137	6,175	7,916	8,092	8,176	77%	70%	69%	69%
170	11,873	8,644	8,349	8,232	18,306	15,349	15,078	14,971	21,818	19,896	19,720	19,650	6,522	8,444	8,620	8,690	77%	70%	70%	69%
180	13,049	9,503	9,208	9,095	19,830	16,581	16,311	16,208	23,518	21,406	21,231	21,163	6,849	8,960	9,136	9,203	77%	70%	70%	70%
190	14,261	10,382	10,087	9,957	21,386	17,833	17,563	17,444	25,239	22,929	22,753	22,676	7,155	9,464	9,640	9,717	78%	71%	70%	70%
200	15,506	11,282	10,987	10,820	22,974	19,104	18,834	18,681	26,980	24,464	24,289	24,189	7,440	9,955	10,131	10,230	78%	71%	71%	70%

Note: Consistent with DOR methodology, these revenue numbers do not include payments for tax credits which are not claimed against current production, as these are accounted for separately in the budget. In 2013, DOR forecasts a potential liability of \$400mm for these credits.

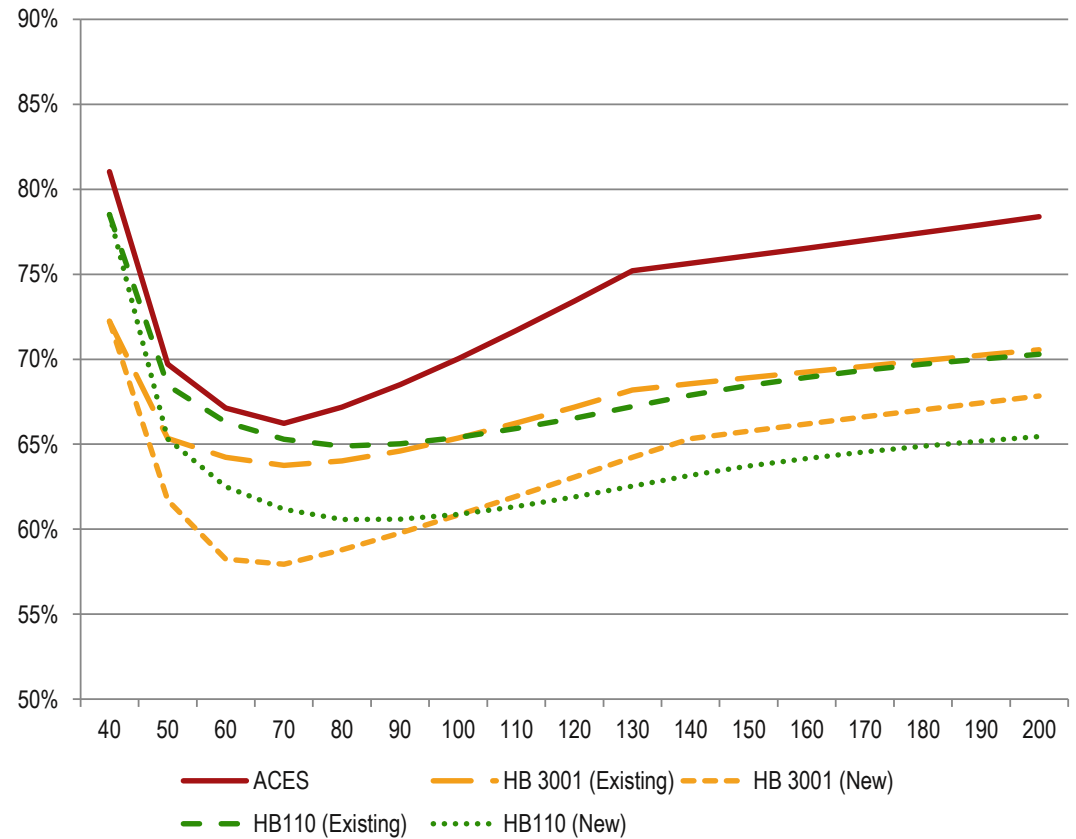
Well Credit impact has been estimated assuming 40% of Capex dollars are Well Expenditures, qualifying for the 40% Well Credit. Actual impact will vary depending on proportion of Capex qualifying for the Well Credit.

# FY 2013 Government Take Comparison

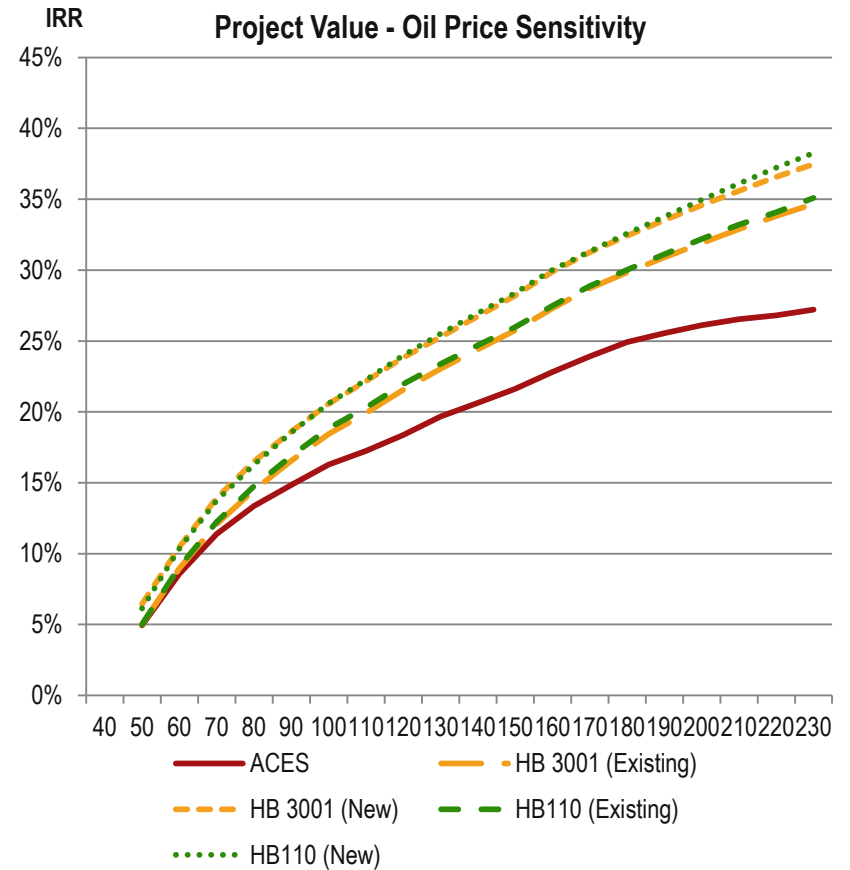
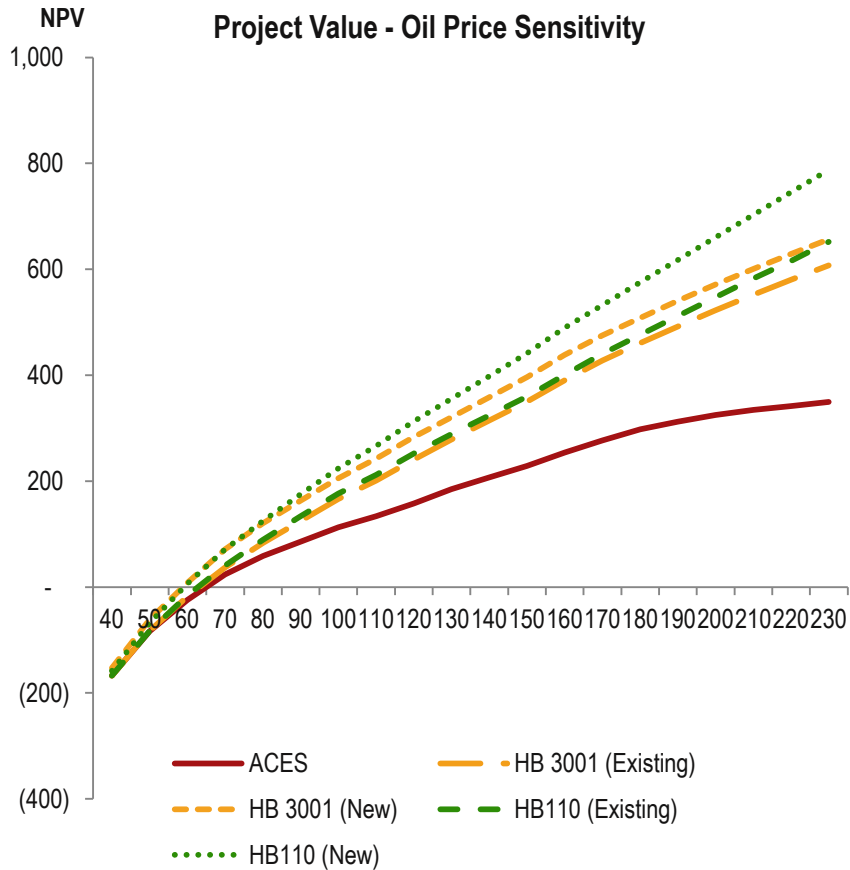
FY 2013 % Government Take

Price	ACES	HB 3001 (Existing)	HB 3001 (New)	HB110 (Existing)	HB110 (New)
40	81%	72%	72%	79%	79%
50	70%	65%	62%	68%	65%
60	67%	64%	58%	66%	62%
70	66%	64%	58%	65%	61%
80	67%	64%	59%	65%	61%
90	69%	65%	60%	65%	61%
100	70%	65%	61%	65%	61%
110	72%	66%	62%	66%	61%
120	73%	67%	63%	67%	62%
130	75%	68%	64%	67%	63%
140	76%	69%	65%	68%	63%
150	76%	69%	66%	68%	64%
160	77%	69%	66%	69%	64%
170	77%	70%	67%	69%	65%
180	77%	70%	67%	70%	65%
190	78%	70%	67%	70%	65%
200	78%	71%	68%	70%	65%

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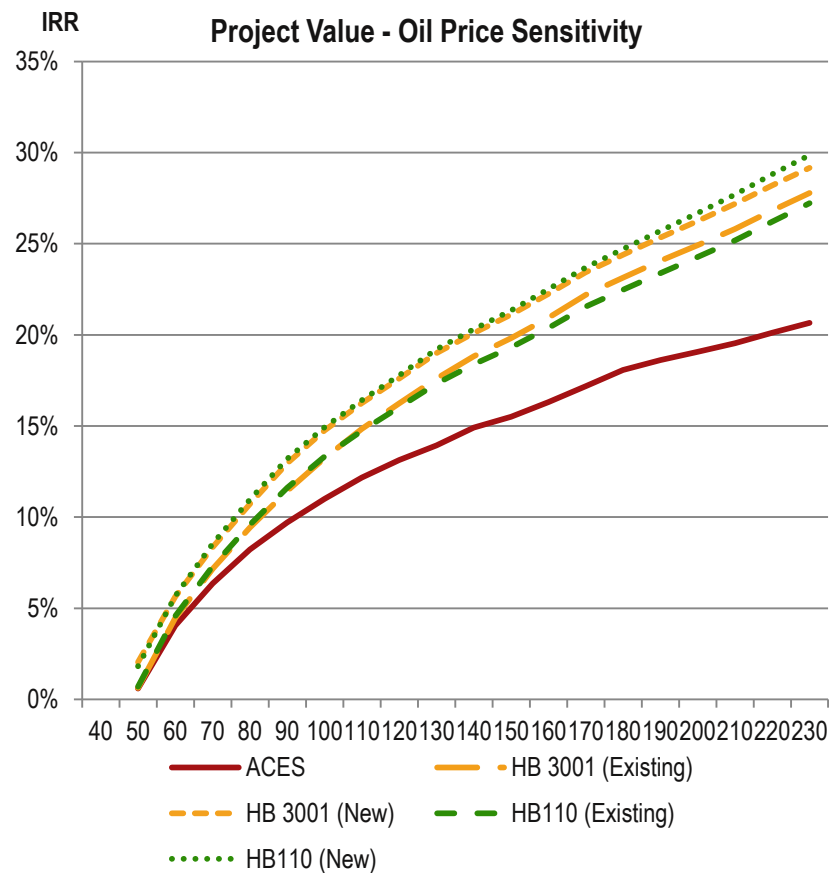
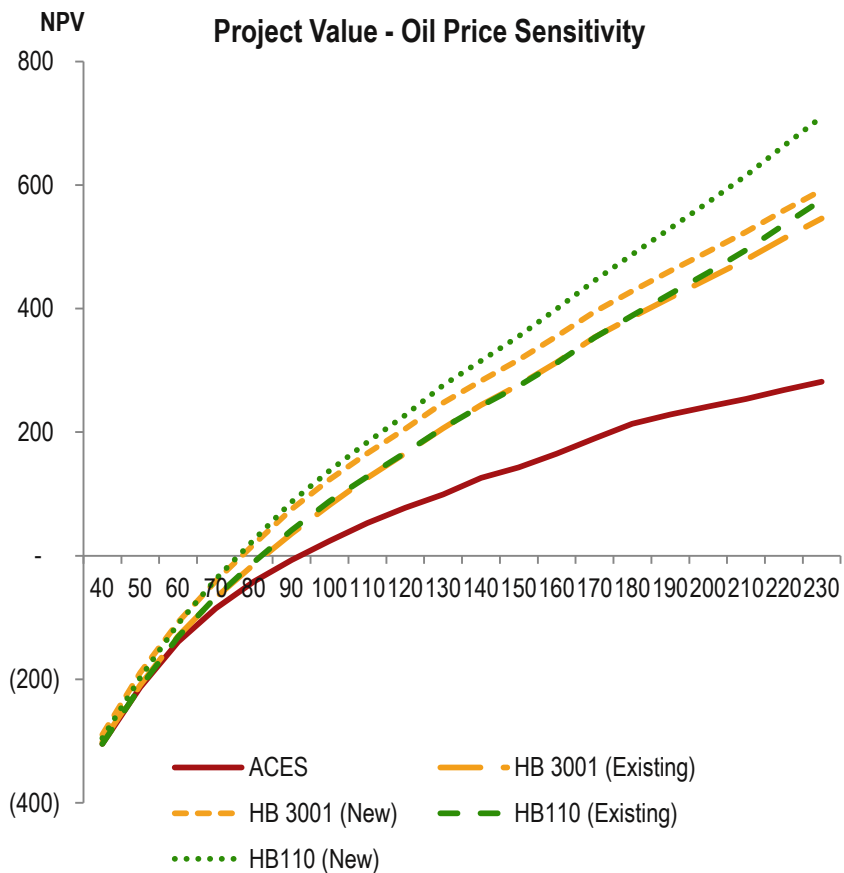


# \$17/bbl Field: Project Value Under Different Fiscal Options

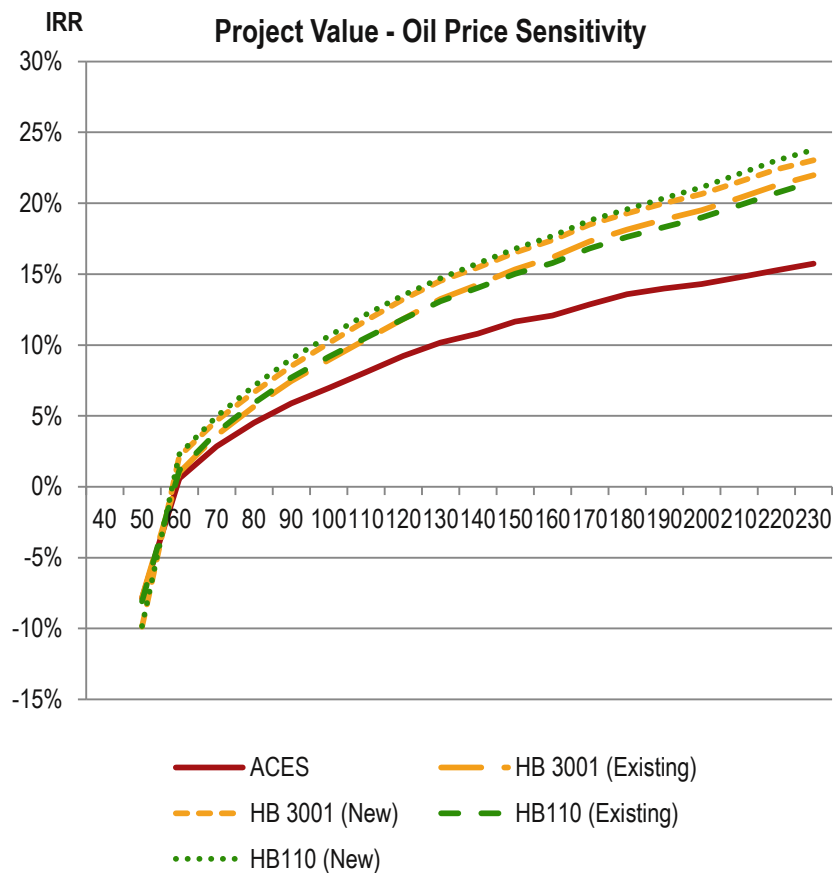
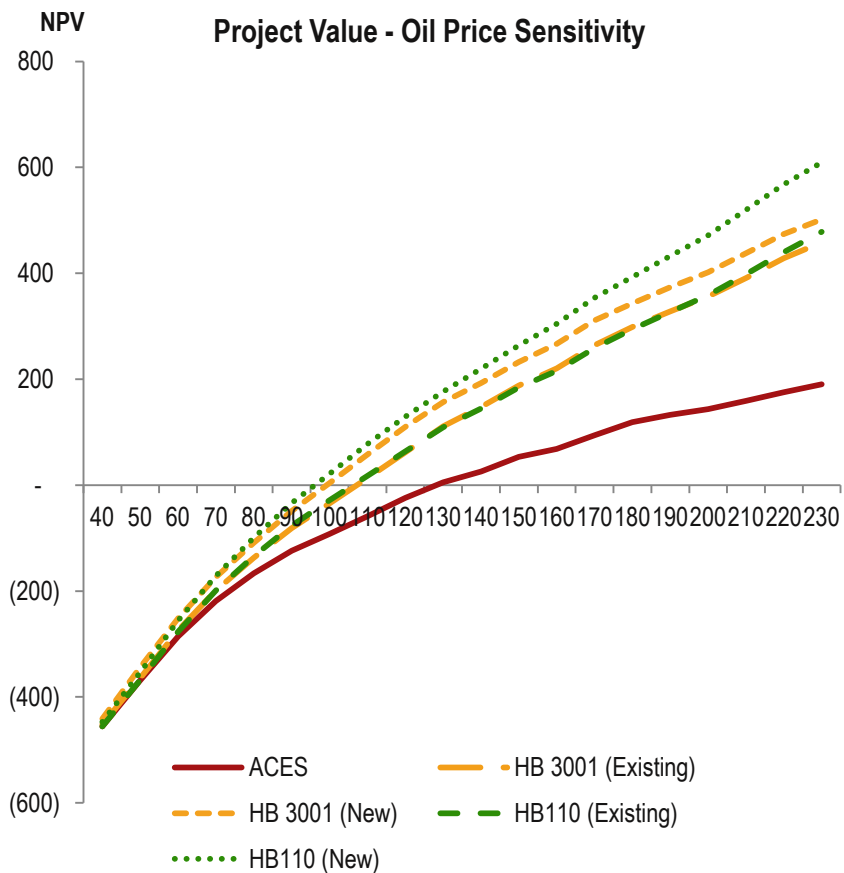




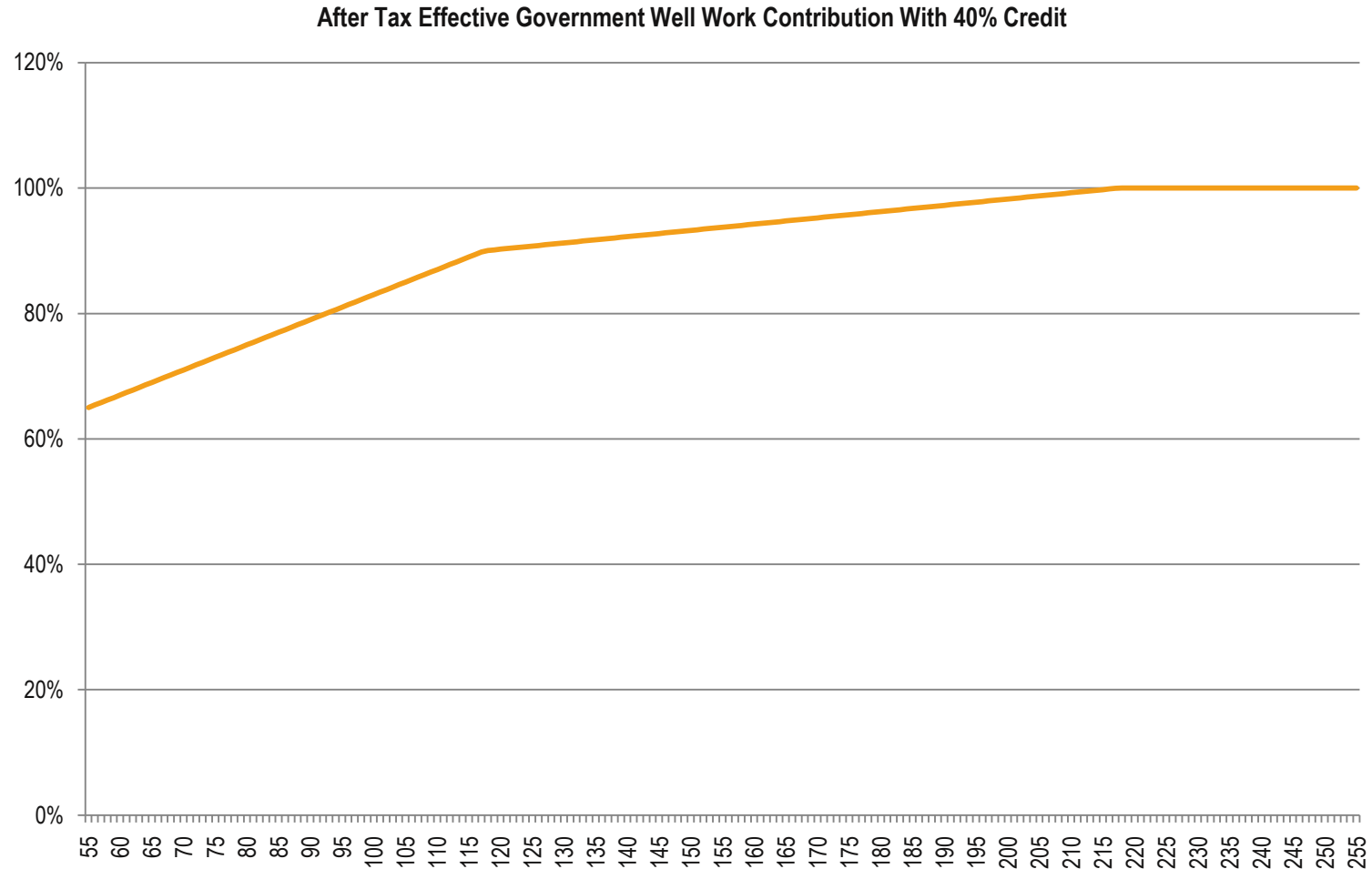
# \$25/bbl Field: Project Value Under Different Fiscal Options



# \$34/bbl Field: Project Value Under Different Fiscal Options



# 40% Well Credits Create High Levels of Government Support



# Key Issues

- Across-the-board reduction in government take is simplest approach, but requires forgoing significant revenue on activities that are currently economic
- If, hypothetically, decline on legacy fields could be reduced to 2% from 6%, revenue from 2020 onward could be higher than under current scenario; revenue until that point would be significantly reduced
- Alternative approach is to endeavor to differentiate between existing v incremental production from legacy fields
  - Significant complexities to doing this effectively
- HB3001 does not address other key issues with ACES including
  - Oil / Gas decoupling
  - High levels of spending support through high credits & progressivity

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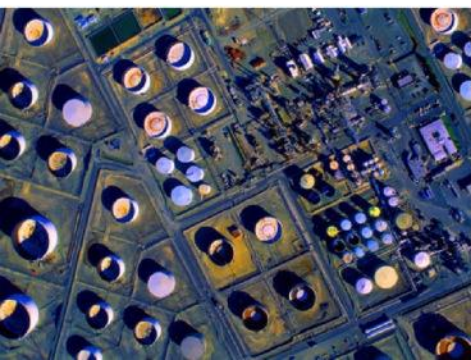
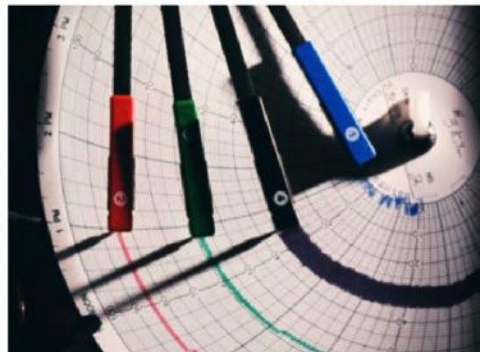
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