



# House Finance Committee

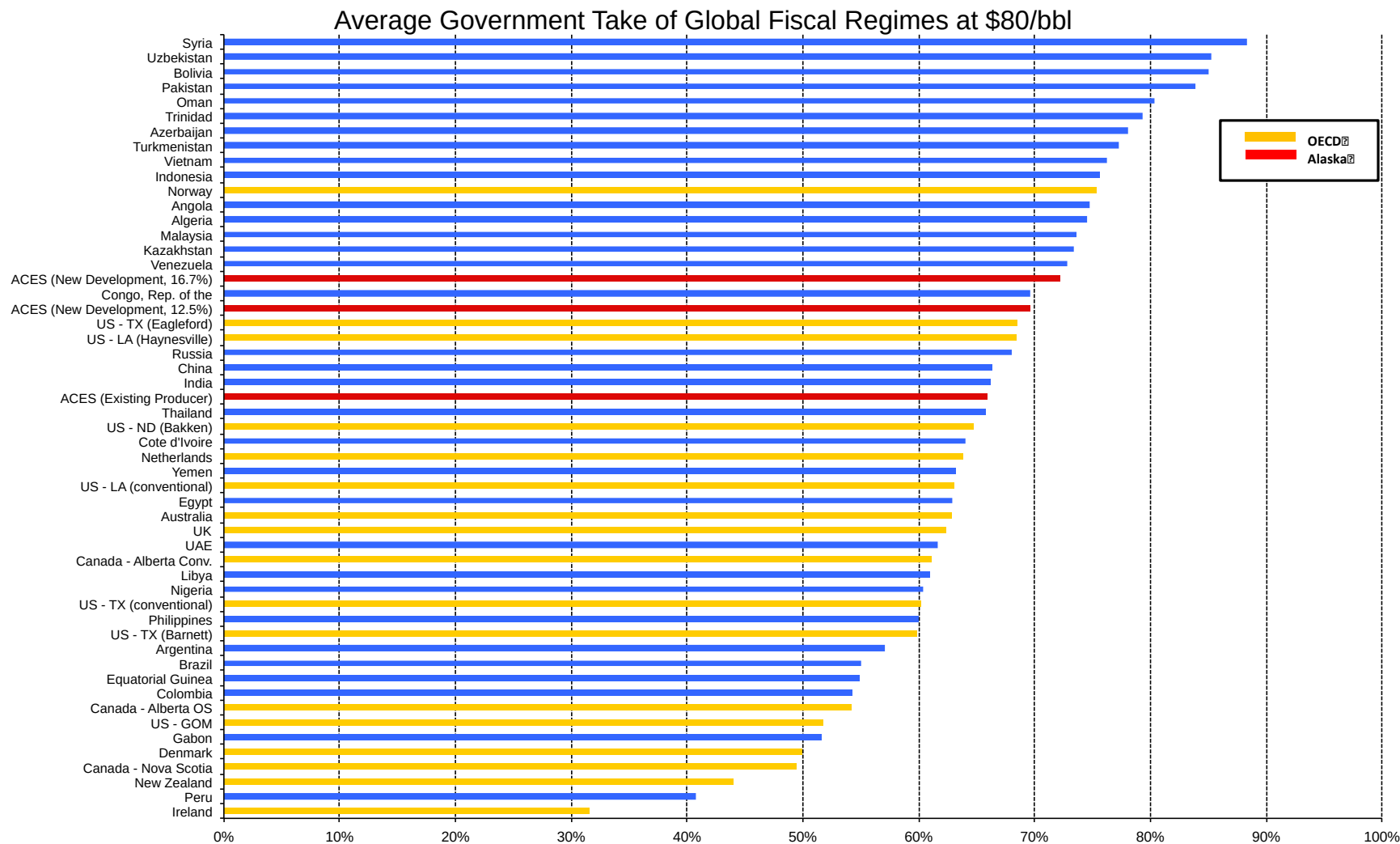
## Alaska Fiscal System Discussion Slides

April 6 2013  
Janak Mayer  
Manager, Upstream  
PFC Energy

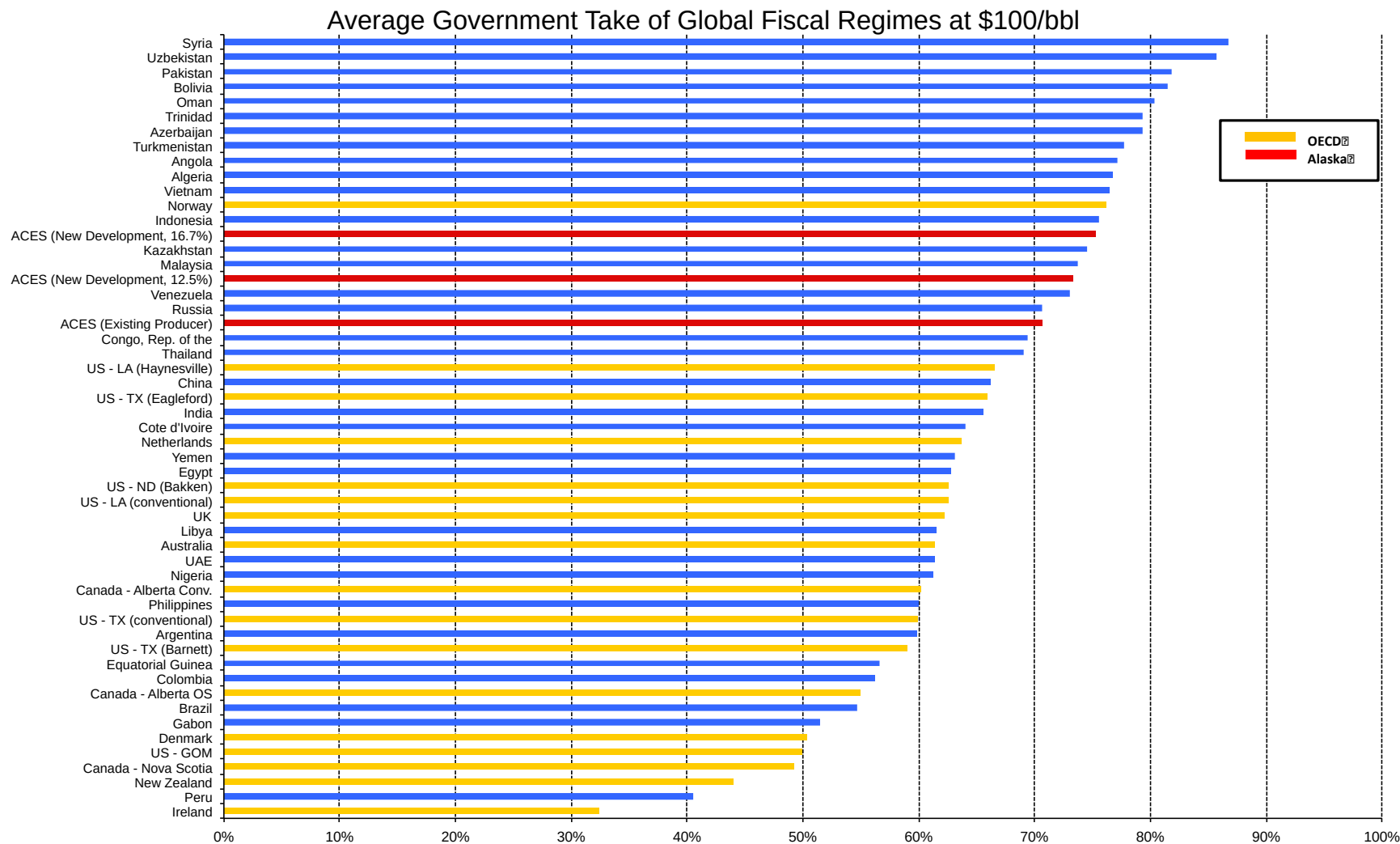
## ACES – Key Issues

- **High Government Take and high degree of progressivity means uncompetitive for investment at current prices**
- High marginal rates mean little incentive for producer efficiency
- “Buydown” effect means incremental and standalone economics very different – with very different impacts for incumbent vs new producer
- Credits create significant downside exposure to state in low price environments, for high cost projects, and projects not on state lands
- Large scale gas sales would reduce taxes on oil
- Complex system, with often counter-intuitive effects

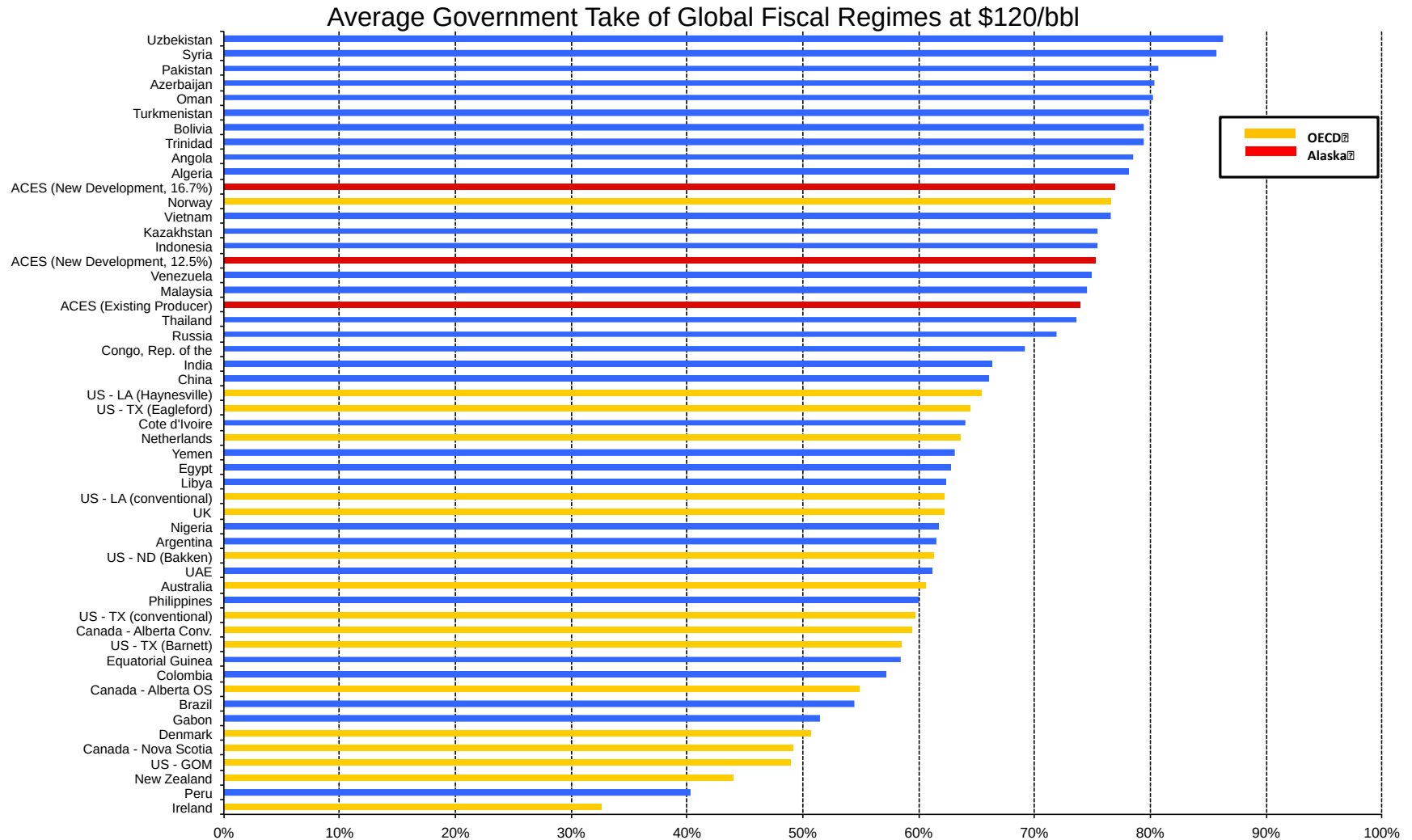
# Regime Competitiveness - \$80/bbl



# Regime Competitiveness - \$100/bbl

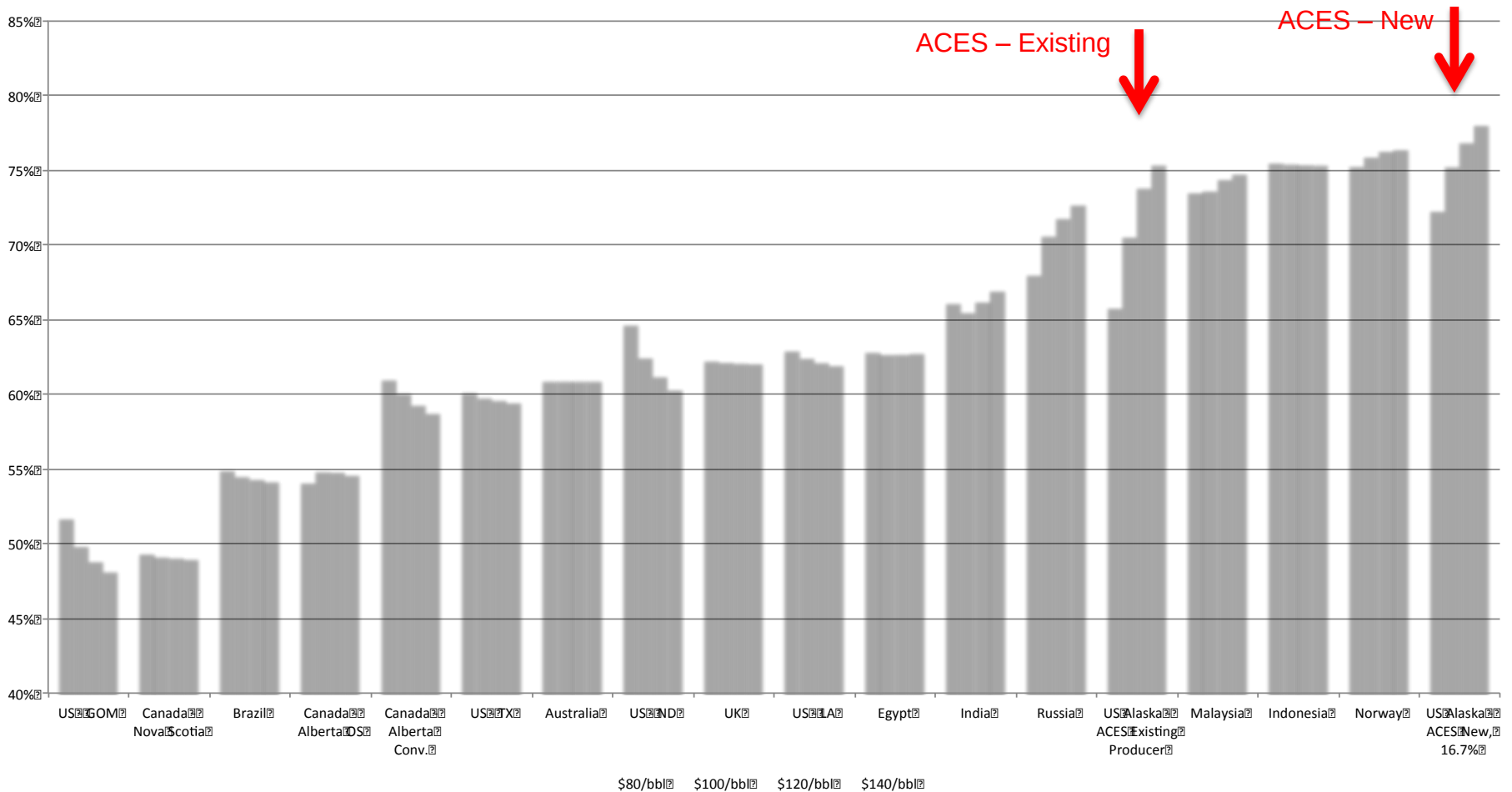


# Regime Competitiveness - \$120/bbl



# Government Take Competitiveness – Most Relevant Competitor Regimes

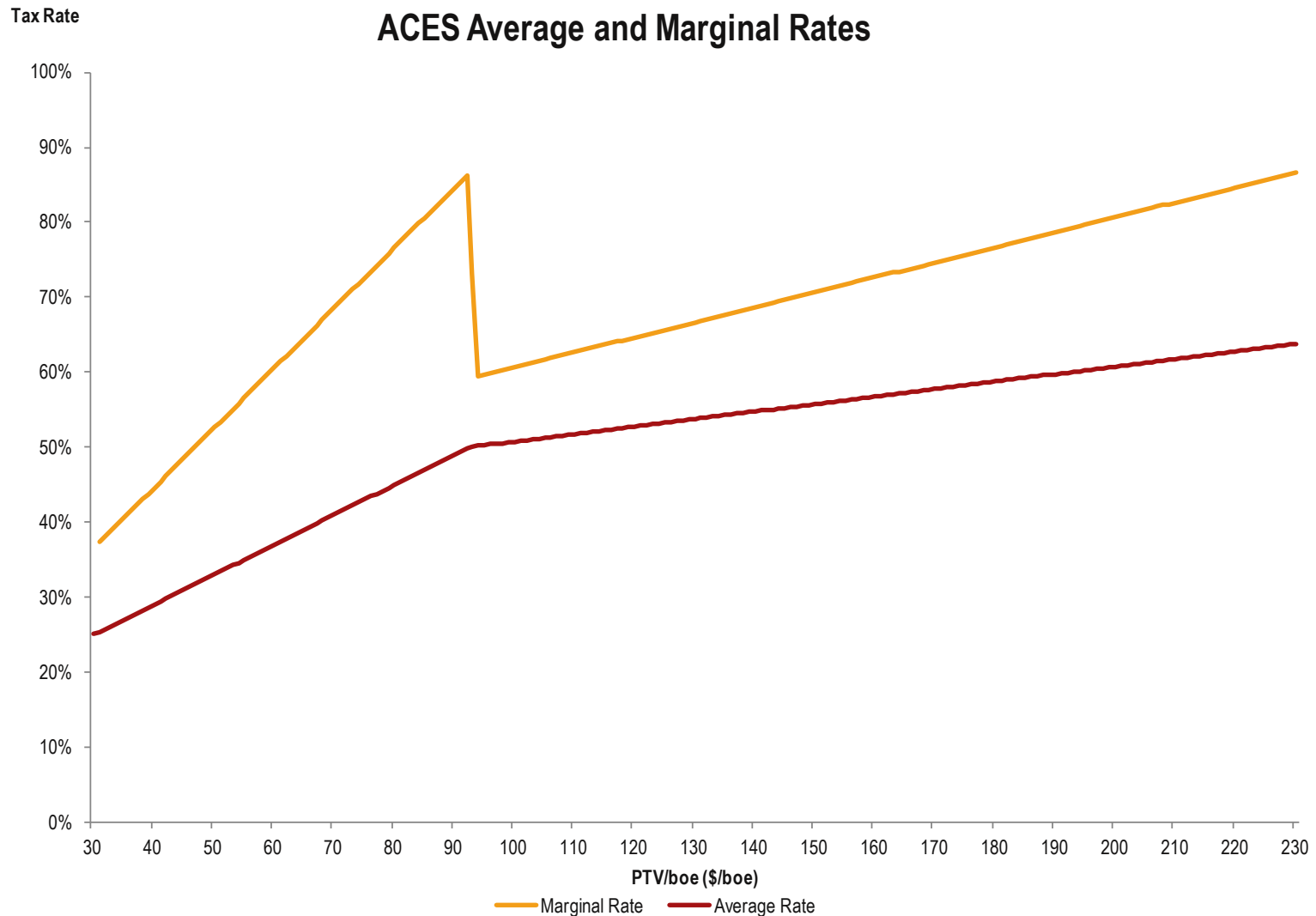
Alaska Government Take Competitiveness – Comparable Regimes



## ACES – Key Issues

- High Government Take and high degree of progressivity means uncompetitive for investment at current prices
- **High marginal rates mean little incentive for producer efficiency**
- “Buydown” effect means incremental and standalone economics very different – with very different impacts for incumbent vs new producer
- Credits create significant downside exposure to state in low price environments, for high cost projects, and projects not on state lands
- Large scale gas sales would reduce taxes on oil
- Complex system, with often counter-intuitive effects

# ACES: Average and Marginal Production Tax Rates





# Impact of Spending Under High Marginal Rates



## Calculation of ACES Tax: Additional Capital Spending

|                                                                        |   |                 |                 |                 |
|------------------------------------------------------------------------|---|-----------------|-----------------|-----------------|
| Annual Taxable Production (Bbls)                                       |   | 50,000,000      | 50,000,000      | 50,000,000      |
| Initial Expenditure (\$)                                               |   | \$1,500,000,000 | \$1,500,000,000 | \$1,500,000,000 |
| Additional Expenditure (\$)                                            | + | 250,000,000     | 250,000,000     | 250,000,000     |
| Total Lease Expenditure (\$)                                           |   | \$1,750,000,000 | \$1,750,000,000 | \$1,750,000,000 |
| WC ANS Price (\$/Bbl)                                                  |   | \$80.00         | \$100.00        | \$120.00        |
| Tax Value Prior To Additional Expenditure (\$/Bbl)                     |   | \$40.00         | \$60.00         | \$80.00         |
| Additional Capital Spending Per-Barrel of Existing Production (\$/Bbl) | - | 5.00            | 5.00            | 5.00            |
| Tax Value After Additional Expenditure (\$/Bbl)                        | = | \$35.00         | \$55.00         | \$75.00         |
| <b>Taxes Before Additional Expenditure</b>                             |   |                 |                 |                 |
| Tax Rate (%)                                                           |   | 29.0%           | 37.0%           | 45.0%           |
| Production Tax Before Credits (\$)                                     |   | \$580,000,000   | \$1,110,000,000 | \$1,800,000,000 |
| Capital Credits (20% x Capital Expenditures) (\$)                      | - | 300,000,000     | 300,000,000     | 300,000,000     |
| Production Tax After Credits (\$)                                      | = | \$280,000,000   | \$810,000,000   | \$1,500,000,000 |
| <b>Taxes After Additional Expenditure</b>                              |   |                 |                 |                 |
| Tax Rate (%)                                                           |   | 27.0%           | 35.0%           | 43.0%           |
| Production Tax Before Credits (\$)                                     |   | \$472,500,000   | \$962,500,000   | \$1,612,500,000 |
| Capital Credits (20% x Capital Expenditures) (\$)                      | - | 350,000,000     | 350,000,000     | 350,000,000     |
| Production Tax After Credits (\$)                                      | = | \$122,500,000   | \$612,500,000   | \$1,262,500,000 |
| <b>Reduction in Taxes From Additional Expenditure</b>                  |   |                 |                 |                 |
| Before Credits                                                         |   | \$107,500,000   | \$147,500,000   | \$187,500,000   |
| Additional Credits                                                     | + | 50,000,000      | 50,000,000      | 50,000,000      |
| Total Reduction in Taxes After Credits                                 | = | \$157,500,000   | \$197,500,000   | \$237,500,000   |
| Reduction in Tax as % of Expenditure                                   |   | 63%             | 79%             | 95%             |
| Due to Change in Taxes (Buy Down Effect)                               |   | 43%             | 59%             | 75%             |
| Due to Additional Credits                                              |   | 20%             | 20%             | 20%             |

Econ One Research

23

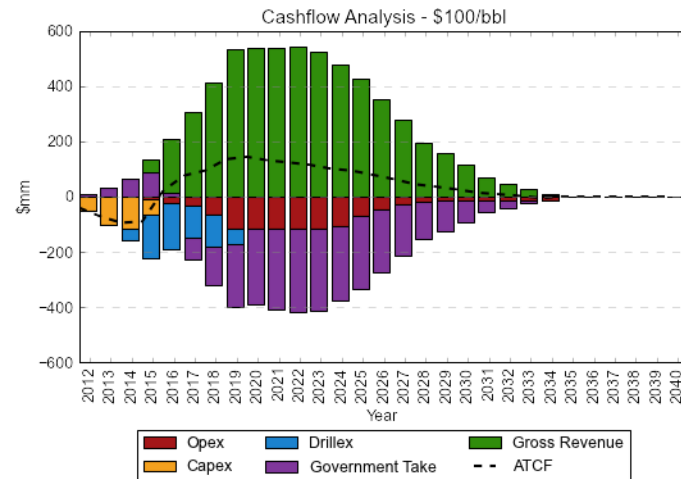
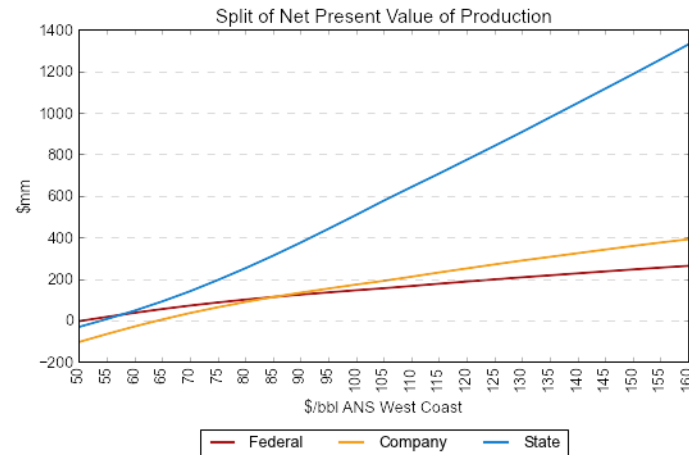
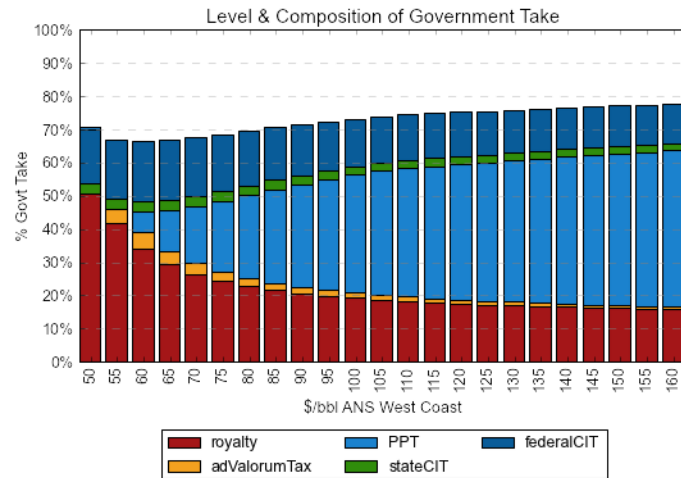
Source: Econ One Presentation, February 13 2013

## ACES – Key Issues

- High Government Take and high degree of progressivity means uncompetitive for investment at current prices
- High marginal rates mean little incentive for producer efficiency
- **“Buydown” effect means incremental and standalone economics very different – with very different impacts for incumbent vs new producer**
- Credits create significant downside exposure to state in low price environments, for high cost projects, and projects not on state lands
- Large scale gas sales would reduce taxes on oil
- Complex system, with often counter-intuitive effects

# ACES - \$18/bbl Capex New Development, Standalone

ACES, 12.5% Royalty, \$18/bbl New Development, Standalone

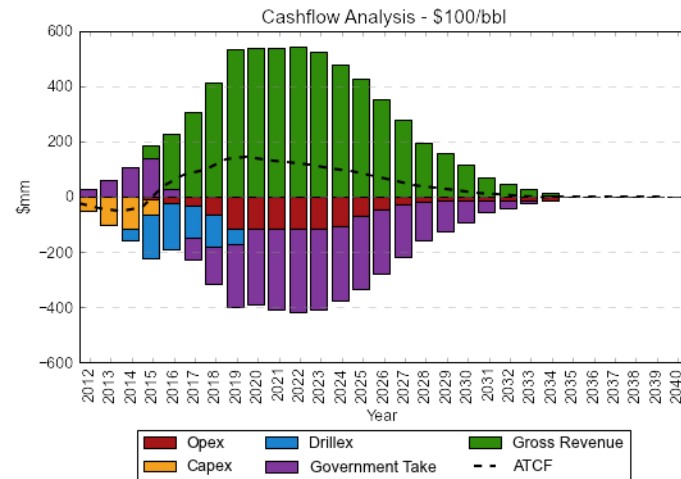
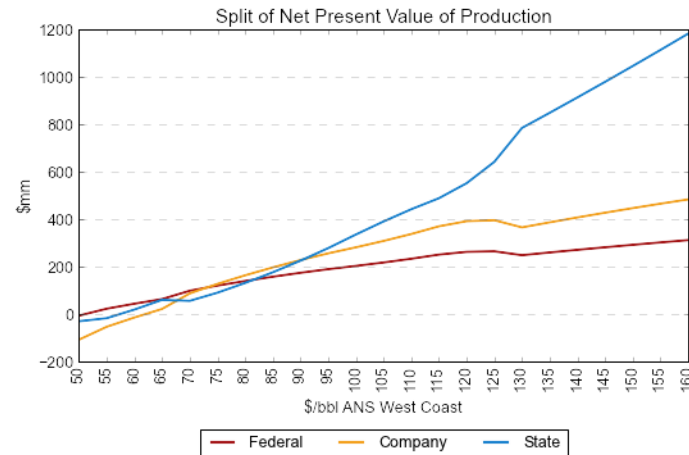
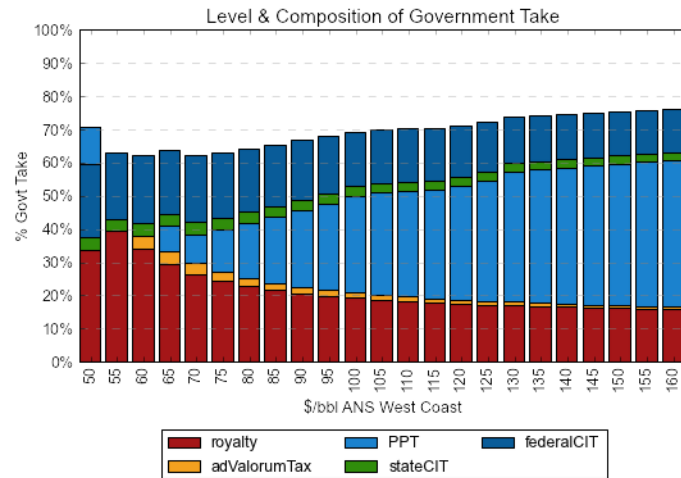


Economic Summary

|           | GT0    | NPV/boe | IRR    | Cash Margin |
|-----------|--------|---------|--------|-------------|
| \$80/bbl  | 69.59% | 1.76    | 17.21% | 21.76       |
| \$100/bbl | 73.31% | 3.44    | 21.74% | 26.81       |
| \$120/bbl | 75.25% | 4.99    | 25.54% | 30.93       |
| \$140/bbl | 76.63% | 6.46    | 28.80% | 35.16       |

# ACES - \$18/bbl Capex New Development, Incremental to Incumbent

ACES, 12.5% Royalty, \$18/bbl New Development, Standalone



Economic Summary

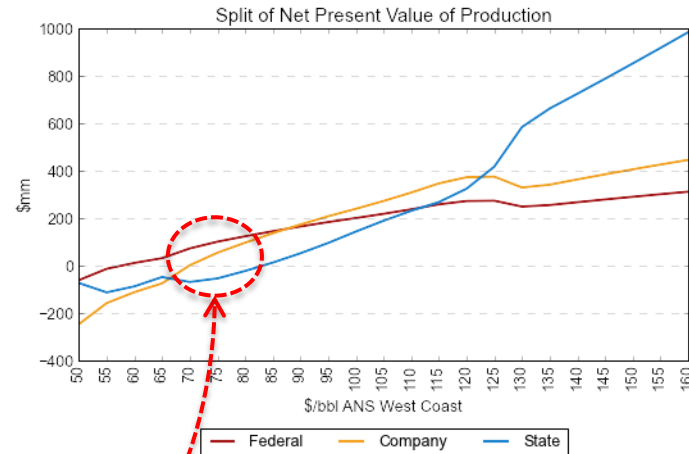
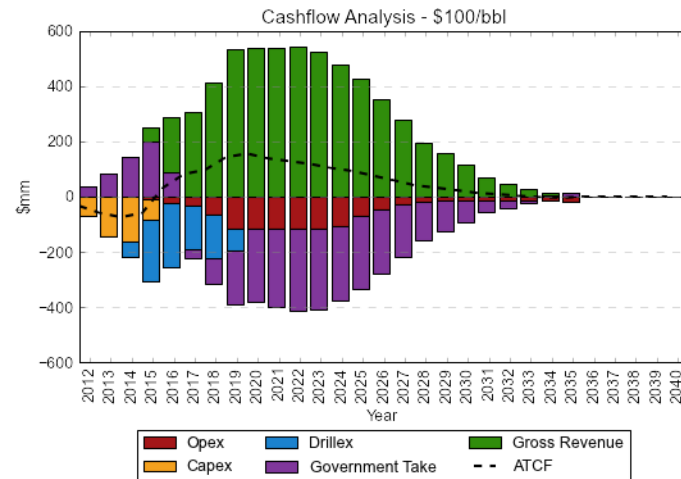
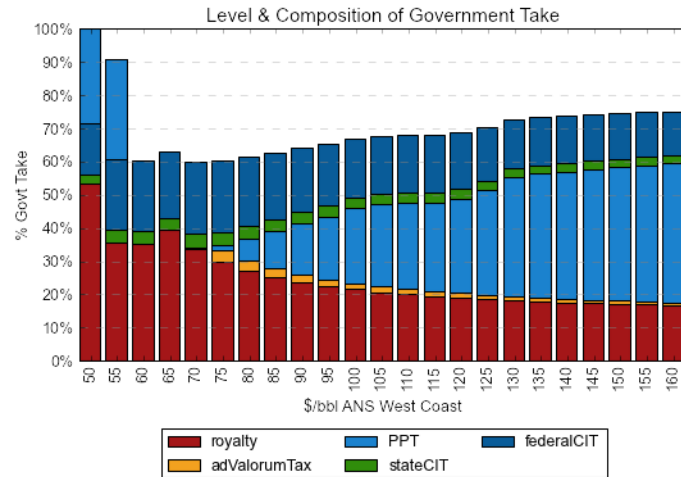
|           | GT0    | NPV/boe | IRR    | Cash Margin |
|-----------|--------|---------|--------|-------------|
| \$80/bbl  | 64.37% | 3.29    | 23.91% | 22.05       |
| \$100/bbl | 69.43% | 5.65    | 35.22% | 27.14       |
| \$120/bbl | 71.19% | 7.86    | 48.48% | 30.67       |
| \$140/bbl | 74.70% | 8.18    | 40.57% | 35.21       |

## ACES – Key Issues

- High Government Take and high degree of progressivity means uncompetitive for investment at current prices
- High marginal rates mean little incentive for producer efficiency
- “Buydown” effect means incremental and standalone economics very different – with very different impacts for incumbent vs new producer
- **Credits create significant downside exposure to state in low price environments, for high cost projects, and projects not on state lands**
- Large scale gas sales would reduce taxes on oil
- Complex system, with often counter-intuitive effects

# ACES - \$25/bbl Capex New Development, Incremental to Incumbent

ACES, 12.5% Royalty, \$18/bbl New Development, Standalone



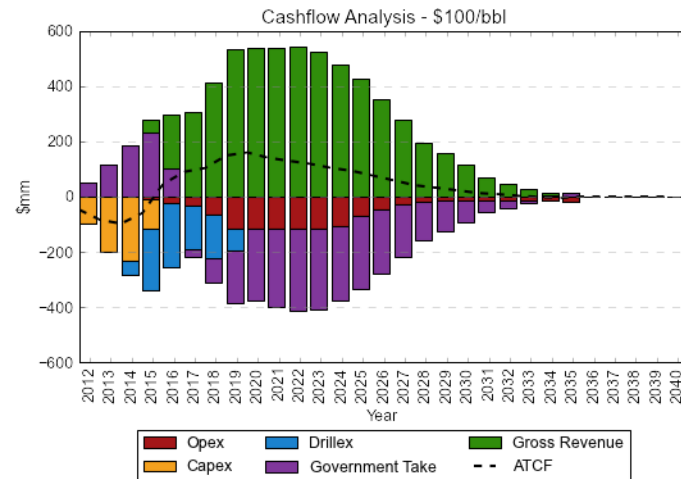
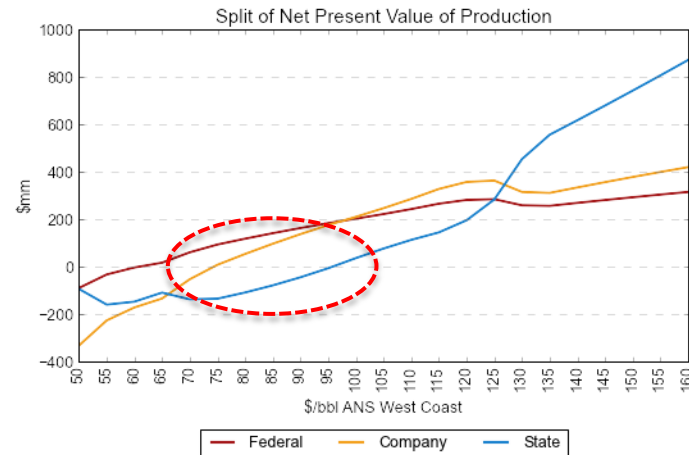
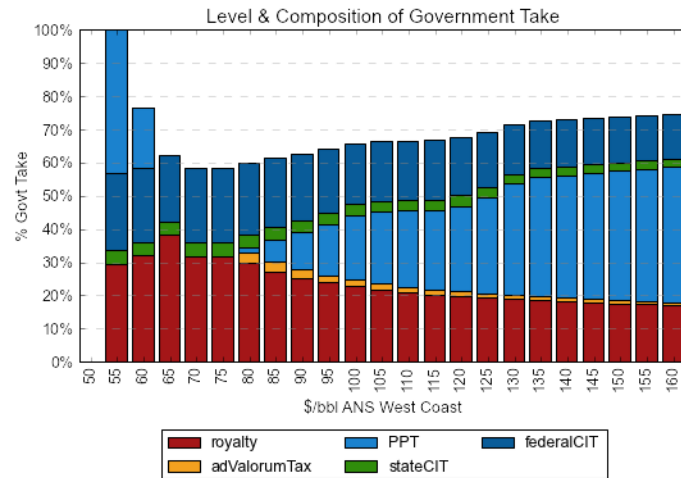
Economic Summary

|           | GT0    | NPV/boe | IRR    | Cash Margin |
|-----------|--------|---------|--------|-------------|
| \$80/bbl  | 61.48% | 1.96    | 17.63% | 22.72       |
| \$100/bbl | 67.05% | 4.82    | 27.86% | 28.29       |
| \$120/bbl | 68.82% | 7.49    | 40.27% | 32.15       |
| \$140/bbl | 73.74% | 7.3     | 32.69% | 36.25       |

At \$75/bbl oil, the NPV of state spending on credits is higher than the NPV of all state government take for the project. However, the project still generates positive NPV for the company – a major concern for liability to the state.

# ACES - \$35/bbl Capex New Development, Incremental to Incumbent

ACES, 12.5% Royalty, \$18/bbl New Development, Standalone



Economic Summary

|           | GT0    | NPV/boe | IRR    | Cash Margin |
|-----------|--------|---------|--------|-------------|
| \$80/bbl  | 59.89% | 1.09    | 14.67% | 23.79       |
| \$100/bbl | 65.84% | 4.23    | 23.81% | 29.36       |
| \$120/bbl | 67.62% | 7.17    | 34.96% | 33.22       |
| \$140/bbl | 73.28% | 6.71    | 28.24% | 37.32       |

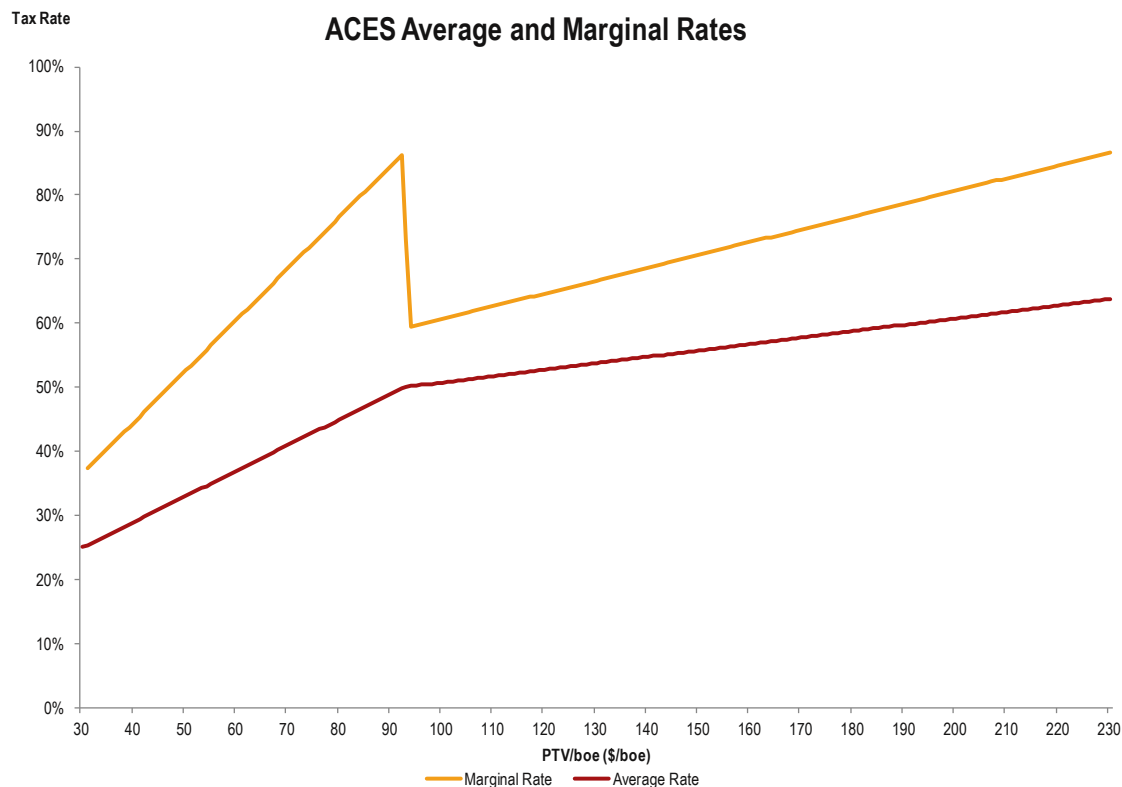
## ACES – Key Issues

- High Government Take and high degree of progressivity means uncompetitive for investment at current prices
- High marginal rates mean little incentive for producer efficiency
- “Buydown” effect means incremental and standalone economics very different – with very different impacts for incumbent vs new producer
- Credits create significant downside exposure to state in low price environments, for high cost projects, and projects not on state lands
- **Large scale gas sales would reduce taxes on oil**
- Complex system, with often counter-intuitive effects



# Impact of Large-Scale Gas Sales on Tax Rates

- Under ACES, production tax value is assessed on a combined BTU-equivalent basis for both oil and gas production
  - So long as no major gas export project is under development, this has no impact
  - In the event of the development of a major gas export project, however, when gas prices are significantly lower than oil prices, this could lead to significant reductions in Government Take



## ACES – Key Issues

- High Government Take and high degree of progressivity means uncompetitive for investment at current prices
- High marginal rates mean little incentive for producer efficiency
- “Buydown” effect means incremental and standalone economics very different – with very different impacts for incumbent vs new producer
- Credits create significant downside exposure to state in low price environments, for high cost projects, and projects not on state lands
- Large scale gas sales would reduce taxes on oil
- **Complex system, with often counter-intuitive effects**

# ACES and SB21: Issues and Aims

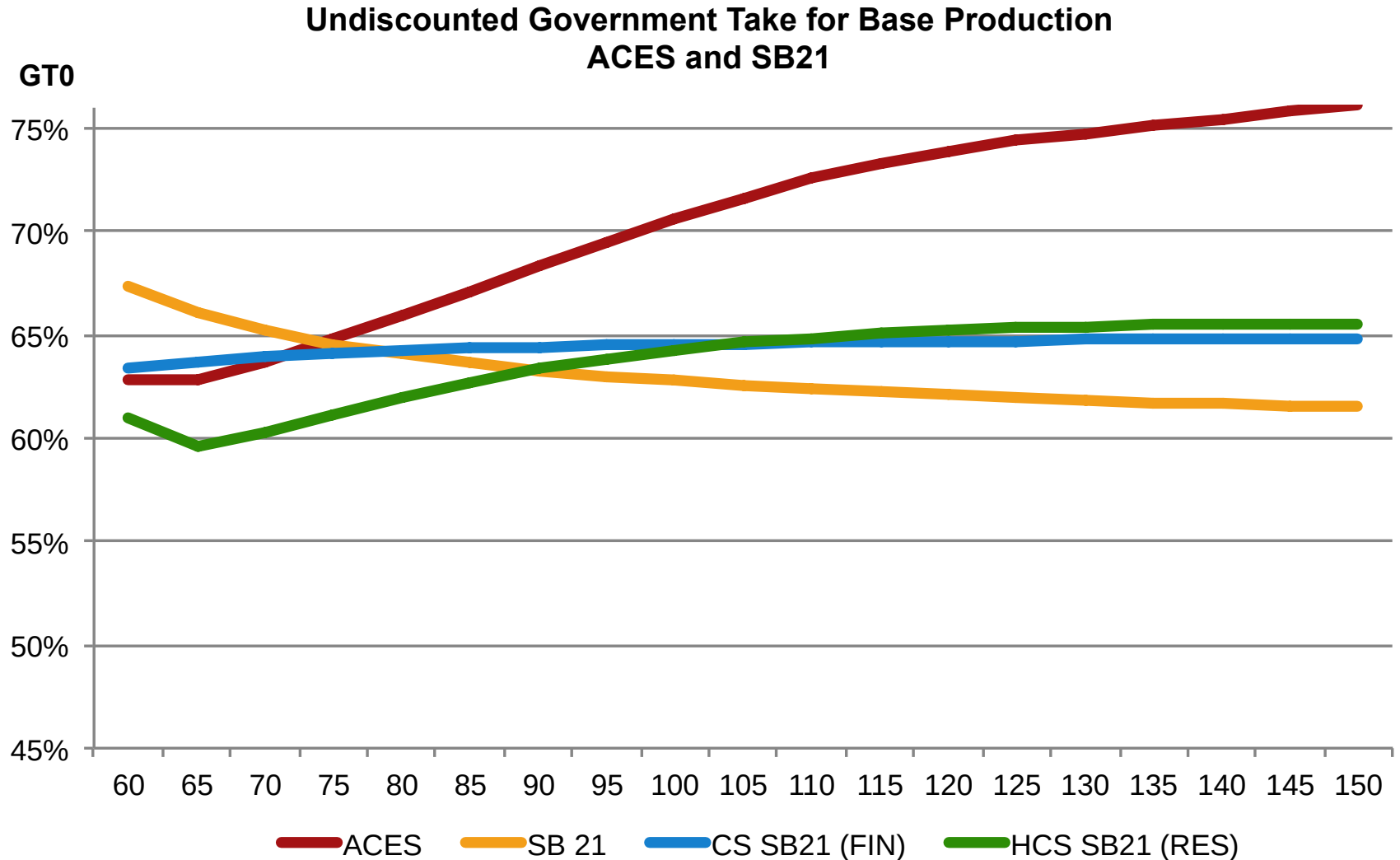
| ACES - Issues                                                                                                                                                                              | SB21 - Aims                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• High Government Take and high degree of progressivity means uncompetitive for investment at current prices</li></ul>                               | <ul style="list-style-type: none"><li>• Relatively neutral at a competitive level of Government Take, while further improving competitiveness for new projects</li></ul> |
| <ul style="list-style-type: none"><li>• Credits create significant downside exposure to state in low price environments, for high cost projects, and projects not on state lands</li></ul> | <ul style="list-style-type: none"><li>• Limit downside risk to state from credits</li></ul>                                                                              |
| <ul style="list-style-type: none"><li>• “Buydown” effect means incremental and standalone economics very different – with very different impacts for incumbent vs new producer</li></ul>   | <ul style="list-style-type: none"><li>• Balance system with even impacts for incumbent vs new producer</li></ul>                                                         |
| <ul style="list-style-type: none"><li>• High marginal rates mean little incentive for producer efficiency</li></ul>                                                                        | <ul style="list-style-type: none"><li>• More neutral regime creates low, constant marginal rates – strong incentive for producer efficiency</li></ul>                    |
| <ul style="list-style-type: none"><li>• Complex system, with often counter-intuitive effects</li></ul>                                                                                     | <ul style="list-style-type: none"><li>• Simplify the fiscal system</li></ul>                                                                                             |

# ACES and SB21: Key Changes

|                               | ACES                                                                                                     | HCS SB21 (RES)                                                                                                                                                                                             |
|-------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Base Tax Rate                 | 25%                                                                                                      | 33%                                                                                                                                                                                                        |
| Progressivity                 | 0.4 % per dollar of per barrel-PTV from \$30 to \$92.50; 0.1% per dollar of per barrel-PTV above \$92.50 | None – although \$/bbl credit creates an implicit ‘reverse’ progressivity that counteracts regressive nature of royalty, leading to overall neutrality – or slight progressivity in case of varying credit |
| Maximum Tax Rate              | 75%                                                                                                      | 33%                                                                                                                                                                                                        |
| Incentives for New Production | None                                                                                                     | Gross Revenue Exclusion (GRE): In calculating the PTV, a producer’s 20% of gross revenues from eligible production are excluded. Oil is from new unit, new PA, PA expansions.                              |
| \$/bbl Credit                 | None                                                                                                     | \$5 if eligible for GRE, else variable from \$8 to \$0 depending on price                                                                                                                                  |
| Capital Credit                | 20% of all qualified capital expenditures                                                                | Eliminated after Dec 31 for North Slope                                                                                                                                                                    |
| NOL Credit                    | 25% for Carry-Forward Annual Loss Credit, monetizable for small producer over 2 years                    | 35% for Carry-Forward Annual Loss Credit, monetizable for small producer over one year                                                                                                                     |
| Small Producer Credit         | Expires 2016                                                                                             | Extended to 2022                                                                                                                                                                                           |
| Exploration Credit            | Expires 2016                                                                                             | Expires 2016                                                                                                                                                                                               |

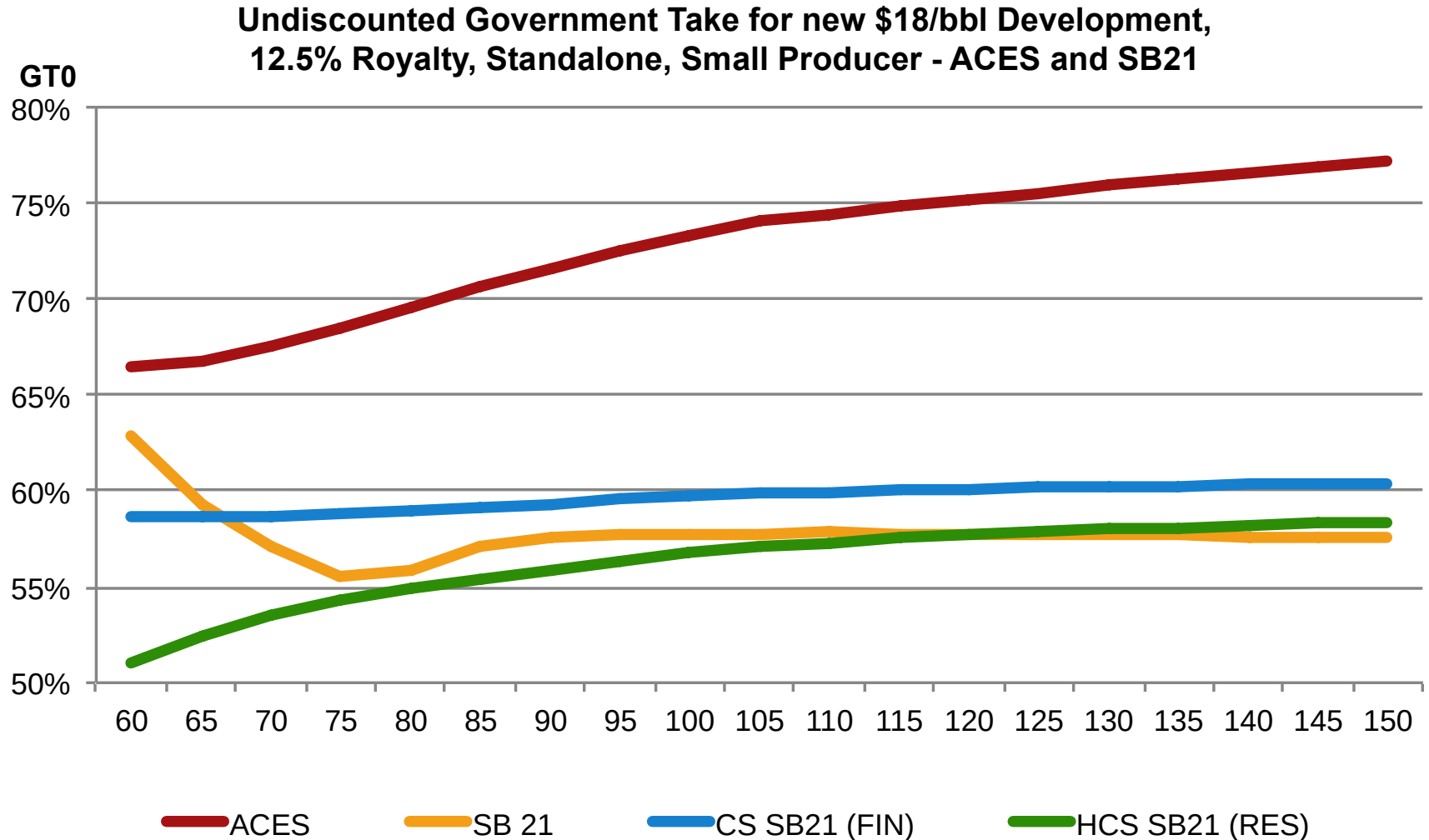
# ACES and SB21: Government Take Comparison

## Base Production



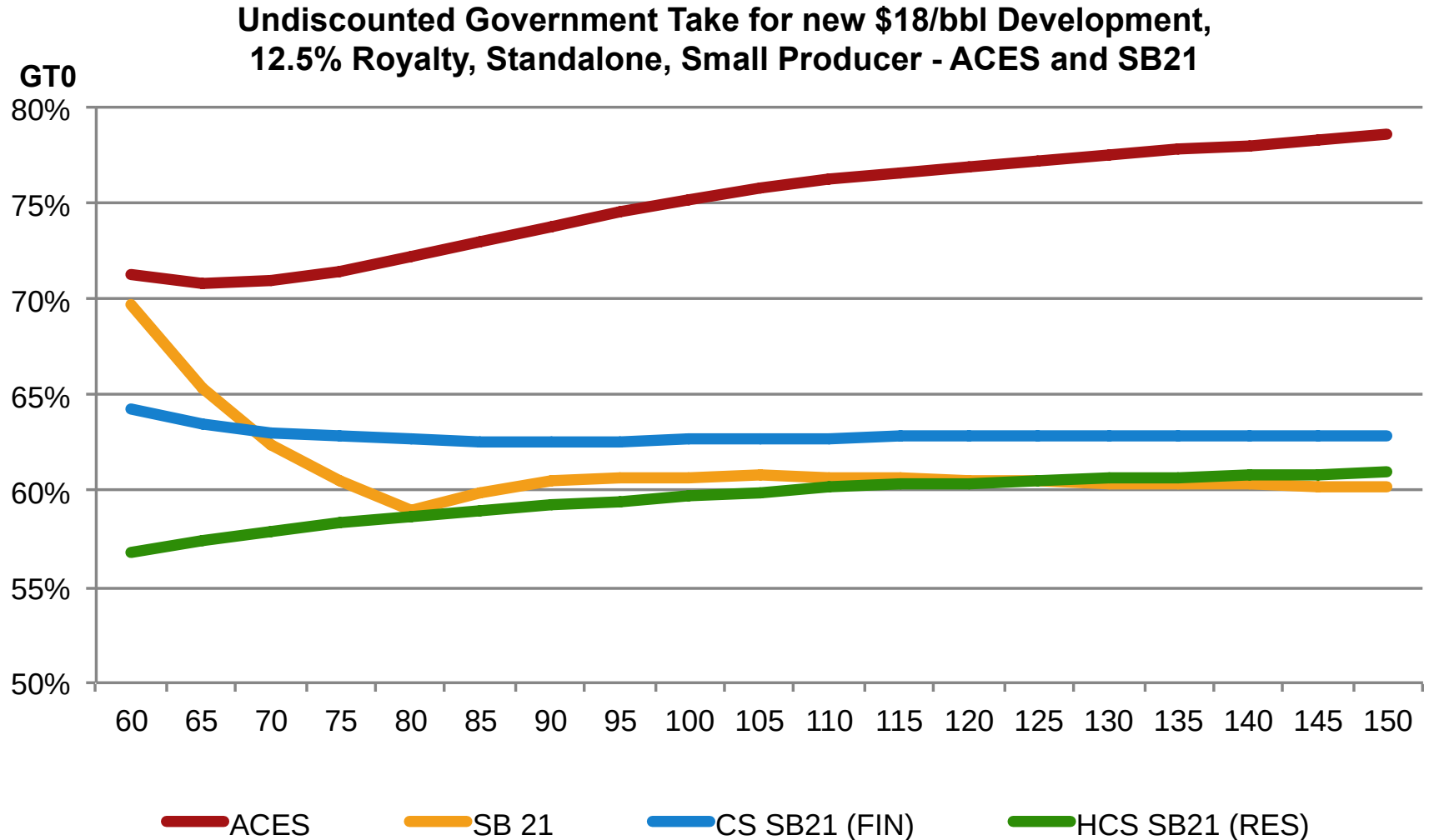
# ACES and SB21: Government Take Comparison

## \$18/bbl New Development, Standalone



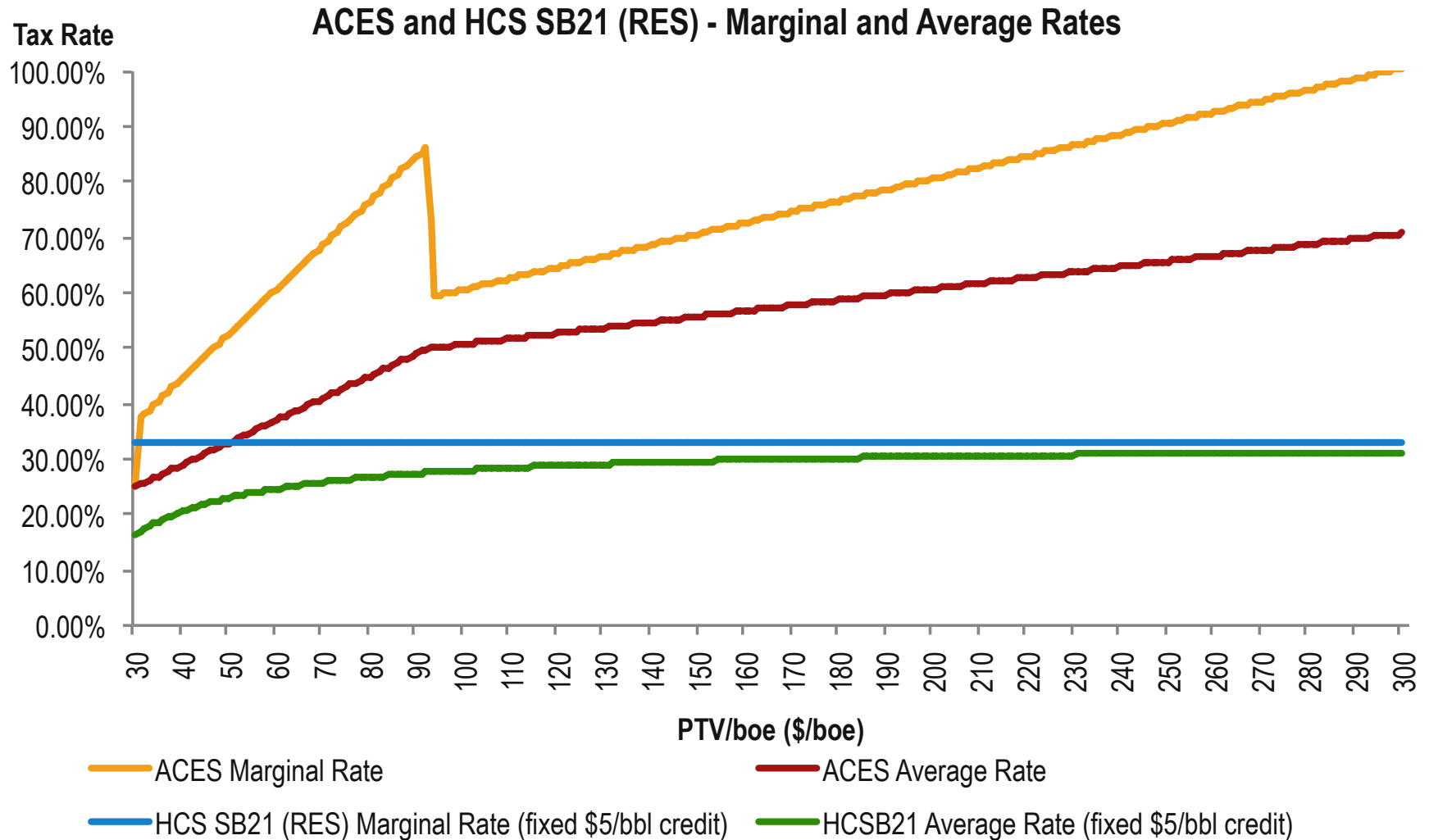
# ACES and SB21: Government Take Comparison

## \$18/bbl New Development, Standalone



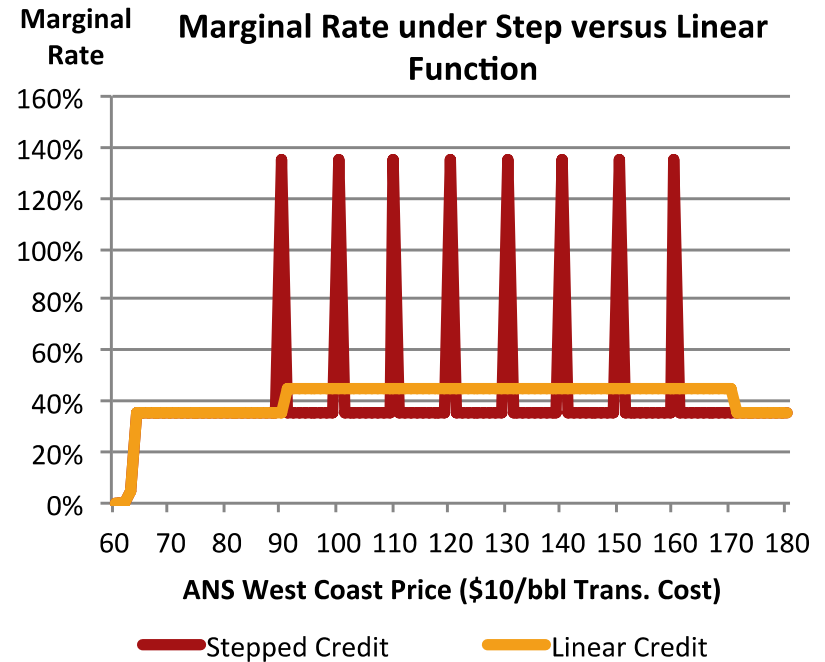
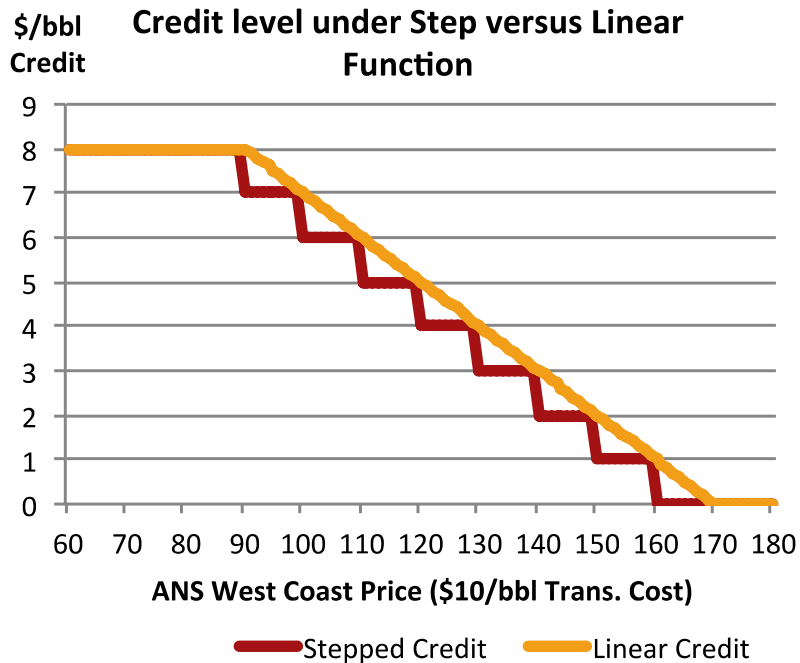
# ACES and SB21: Government Take Comparison

## \$18/bbl New Development, Standalone





# Linear Function for Credit may be preferable to Step Function



| GVPP Below | Stepped Credit |
|------------|----------------|
| \$80       | \$8            |
| \$90       | \$7            |
| \$100      | \$6            |
| \$110      | \$5            |
| \$120      | \$4            |
| \$130      | \$3            |
| \$140      | \$2            |
| \$150      | \$1            |
| \$160      | \$0            |

## Linear Credit Function

$$\text{Credit} = \text{Max}(0, \text{Min}(8, 16 - (\text{GVPP}/10)))$$

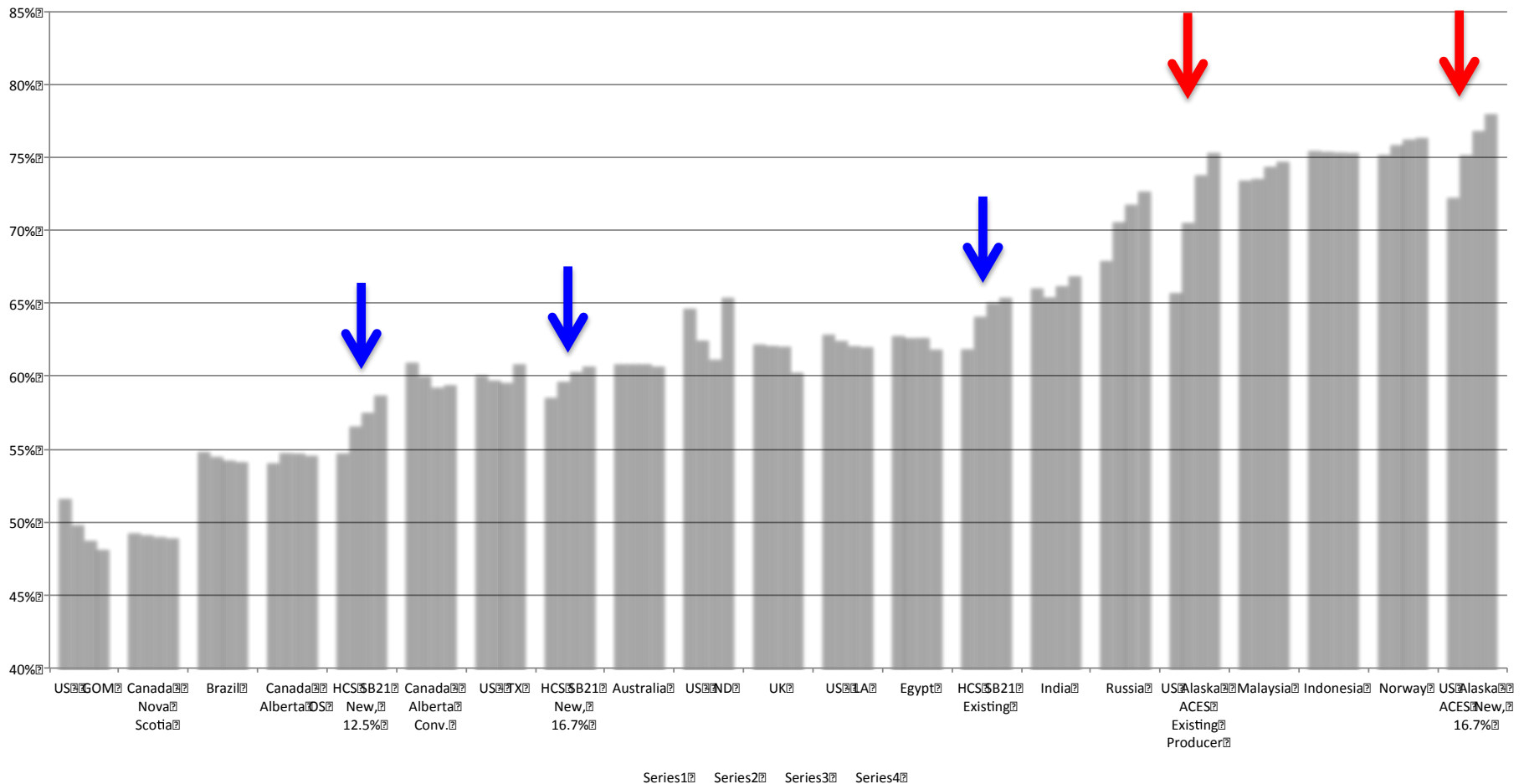
\$16 minus one tenth of the Gross Value of Production; not to exceed \$8 or be below \$0

# Credits – NOL, Exploration & Small Producer

- Impact of ACES on project economics is very different for an incumbent vs a new producer
  - At current prices, incumbent experiences impact of ‘buydown’ effect, with new spending reducing tax rate from levels above 25% (plus also impact of capital credit)
  - New producer receives only impact of 25% NOL credit (plus capital credit)
- Fully monetizable NOL credit for small producers evens this playing field
  - All producers receive effective 33% government support for spending, whether new or incumbent
    - Flat, low marginal rate maintains strong incentive for efficiencies and cost control
    - No undue exposure to the state from higher cost projects at low prices
- Aim is to even the playing field and limit the level of support for exploration as well as other forms of spending
  - Allowing the Exploration credit to sunset, but having the fully monetizable 33% NOL credit means 33% government support for exploration spending
  - Again, even impact between incumbent vs new producer
- When the impacts of the system are even between incumbent vs new producer, strong argument that extending ‘small producer’ credit is less warranted
- Overall impact is to significantly simplify the system

# Government Take Competitiveness

Alaska Government Take Competitiveness Compared to Comparable Regimes



# Notice

This material is protected by United States copyright law and applicable international treaties including, but not limited to, the Berne Convention and the Universal Copyright Convention. Except as indicated, the entire content of this publication, including images, text, data, and look and feel attributes, is copyrighted by PFC Energy. PFC Energy strictly prohibits the copying, display, publication, distribution, or modification of any PFC Energy materials without the prior written consent of PFC Energy.

These materials are provided for the exclusive use of PFC Energy clients (and/or registered users), and may not under any circumstances be transmitted to third parties without PFC Energy approval.

PFC Energy has prepared the materials utilizing reasonable care and skill in applying methods of analysis consistent with normal industry practice, based on information available at the time such materials were created. To the extent these materials contain forecasts or forward looking statements, such statements are inherently uncertain because of events or combinations of events that cannot reasonably be foreseen, including the actions of governments, individuals, third parties and market competitors. **ACCORDINGLY, THESE MATERIALS AND THE INFORMATION CONTAINED THEREIN ARE PROVIDED “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY, ACCURACY, OR FITNESS FOR A PARTICULAR PURPOSE.** Conclusions presented herein are intended for information purposes only and are not intended to represent recommendations on financial transactions such as the purchase or sale of shares in the companies profiled in this report.

PFC Energy has adjusted data where necessary in order to render it comparable among companies and countries, and used estimates where data may be unavailable and or where company or national source reporting methodology does not fit PFC Energy methodology. This has been done in order to render data comparable across all companies and all countries.

This report reflects information available to PFC Energy as of the date of publication. Clients are invited to check our web site periodically for new updates.

© PFC Energy, Inc. License restrictions apply. Distribution to third parties requires prior written consent from PFC Energy.

# PFC Energy Locations and Contact Information

## NORTH AMERICA

### **PFC Energy, Washington**

1300 Connecticut Avenue, NW  
Suite 800  
Washington, DC 20036, USA  
Tel +1 202 872 1199  
Fax +1 202 872 1219

### **PFC Energy, Houston**

2727 Allen Parkway, Suite 1300  
Houston, Texas 77019, USA  
Tel +1 713 622 4447  
Fax +1 713 622 4448

## EUROPE

### **PFC Energy, France**

19 rue du Général Foy  
75008 Paris, France  
Tel +33 1 4770 2900  
Fax +33 1 4770 5905

## RUSSIA

### **PFC Energy, Moscow**

10 Vozdvizhenka Street  
Voentorg building, Suite 341  
Moscow, 125009  
Russian Federation  
Tel +7 (495) 797 3733

## ASIA

### **PFC Energy, Kuala Lumpur**

Level 27, UBN Tower #21  
10 Jalan P. Ramlee  
50250 Kuala Lumpur, Malaysia  
Tel +60 3 2172 3400  
Fax +60 3 2072 3599

### **PFC Energy, China**

89 Jianguo Road  
China Central Place # 4-1602  
Chaoyang District, Beijing 100025, China  
Tel +86 10 6530 7010  
Fax +86 10 6530 5093

### **PFC Energy, Singapore**

15 Scotts Road  
Thong Teck Building, #08-04  
Singapore 228218  
Tel +65 6736 4317

[www.pfcenergy.com](http://www.pfcenergy.com) | [info@pfcenergy.com](mailto:info@pfcenergy.com)