Requested Analysis:

Letter of Intent recommendation for evaluation point 3 – impact of continuing capital credits for well expenditures

Impact of combining well credits with bracketed progressivity

Impact of instead using a 35% base rate tax, combined with a production-based credit of $5/taxable bbl, claimable only in year of production
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/bbl, however for capital intensive new developments in existing units, the neutrality point can be as high as ~$110/bbl.

- For assets in development (and in existing units) with CAPEX as high as $25/bbl*, the 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.

* 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)
Fiscal Regime Competitiveness - Government Take

- OECD Average
- Royalty Regime Average
- PSC Regime Average
- ACES
- SB21
Assumptions

- **Well Credit**
  - 50% of capex qualifies, credit level 25%

- **Bracketed progressivity**
  - Thresholds and rates as under HB110:
    - Base tax 25%
    - <$30 PTV/bbl, 0% progressivity
    - $30-$42.5, 2.5% progressivity
    - $42.5-$55 – 7.5% progressivity
    - $55-$67.5 – 12.5% progressivity
    - $67.5-$80 – 17.5% progressivity
    - $80-$92.50 – 22.5% progressivity
    - >$92.50 PTV/bbl – 25% progressivity
Government Take Comparison
$16/bbl New Development, Standalone

Undiscounted Government Take comparison - New Development, Standalone, $16/bbl Capex

Discounted Government Take 12% comparison - New Development, Standalone, $16/bbl Capex

ANS West Coast Price

ACES
SB21
SB21 With 25% Well Credit
SB21 With Bracketed Progressivity and 25% Well Credit
SB21 With Bracketed Progressivity and No Credits
SB21 with 35% Base and $5/bbl Production Credit
Government Take Comparison
$25/bbl New Development (with GRE), Standalone

Undiscounted Government Take comparison -
New Development, Standalone, $25/bbl Capex

Discounted Government Take 12% comparison -
New Development, Standalone, $25/bbl Capex

ANS West Coast Price

GT0
85%
80%
75%
70%
65%
60%
55%
50%

70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150

GT12
100%
90%
80%
70%
60%
50%

70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150

ACES
SB21
SB21 With 25% Well Credit
SB21 With Bracketed Progressivity and 25% Well Credit
SB21 With Bracketed Progressivity and No Credits
SB21 with 35% Base and $5/bbl Production Credit
Government Take Comparison
$16/bbl New Development, Incumbent Producer Incremental Analysis

Undiscounted Government Take comparison - New Development, Incumbent Incremental Analysis, $16/bbl Capex

Discounted Government Take 12% comparison - New Development, Incumbent Incremental Analysis, $16/bbl Capex

ANS West Coast Price

GT0 80%
GT12 100%

ACES
SB21
SB21 With 25% Well Credit
SB21 With Bracketed Progressivity and 25% Well Credit
SB21 With Bracketed Progressivity and No Credits
SB21 with 35% Base and $5/bbl Production Credit
Government Take Comparison
$25/bbl New Development, Incumbent Producer Incremental Analysis

Undiscounted Government Take comparison - New Development, Incumbent Incremental Analysis, $25/bbl Capex

Discounted Government Take 12% comparison - New Development, Incumbent Incremental Analysis, $25/bbl Capex

ANSA West Coast Price

GT0 80%

GT12 100%

60%

70%

75%

80%

70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150

ACES
SB21
SB21 With 25% Well Credit
SB21 With Bracketed Progressivity and 25% Well Credit
SB21 With Bracketed Progressivity and No Credits
SB21 with 35% Base and $5/bbl Production Credit
NPV12/bbl & Cash Margin Comparison
Incumbent, Base Production

NPV12 / boe comparison - Incumbent - Base Production

Cash Margin (2017 - 2022) comparison - Incumbent - Base Production

ACS
SB21
SB21 With 25% Well Credit
SB21 With Bracketed Progressivity and 25% Well Credit
SB21 With Bracketed Progressivity and No Credits
SB21 with 35% Base and $5/bbl Production Credit
NPV12/bbl & Cash Margin Comparison
$16/bbl New Development, Standalone

NPV12 / boe comparison - New Development, Standalone, $16/bbl Capex

Cash Margin (2017 - 2022) comparison - New Development, Standalone, $16/bbl Capex

ACES
SB21
SB21 With 25% Well Credit
SB21 With Bracketed Progressivity and 25% Well Credit
SB21 With Bracketed Progressivity and No Credits
SB21 with 35% Base and $5/bbl Production Credit

ANS West Coast Price

NPV12 / boe

Cash Margin

$12.00
$10.00
$8.00
$6.00
$4.00
$2.00
$-

$60.00
$50.00
$40.00
$30.00
$20.00
$10.00

70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150

ANS West Coast Price
NPV12/bbl & Cash Margin Comparison
$25/bbl New Development, Standalone

NPV12 / boe comparison - New Development, Standalone, $25/bbl Capex

Cash Margin (2017 - 2022) comparison - New Development, Standalone, $25/bbl Capex

- ACES
- SB21
- SB21 With 25% Well Credit
- SB21 With Bracketed Progressivity and 25% Well Credit
- SB21 With Bracketed Progressivity and No Credits
- SB21 with 35% Base and $5/bbl Production Credit
NPV12/bbl & Cash Margin Comparison
$16/bbl New Development, Incumbent Producer Incremental Analysis

NPV12 / boe comparison - New Development, Incumbent Incremental Analysis, $16/bbl Capex

Cash Margin (2017 - 2022) comparison - New Development, Incumbent Incremental Analysis, $16/bbl Capex
NPV12/bbl & Cash Margin Comparison
$25/bbl New Development, Incumbent Producer Incremental Analysis

NPV12 / boe comparison - New Development, Incumbent Incremental Analysis, $25/bbl Capex

Cash Margin (2017 - 2022) comparison - New Development, Incumbent Incremental Analysis, $25/bbl Capex

Alaska Hydrocarbons Fiscal System Analysis | © PFC Energy 2013 | February 2013
IRR Comparison
$16/bbl New Development, Standalone

IRR comparison - New Development, Standalone, $16/bbl Capex

ANS West Coast Price

- ACES
- SB21
- SB21 With 25% Well Credit
- SB21 With Bracketed Progressivity and 25% Well Credit
- SB21 With Bracketed Progressivity and No Credits
- SB21 with 35% Base and $5/bbl Production Credit
IRR Comparison
$16/bbl New Development, Incumbent Producer Incremental Analysis

IRR comparison - New Development, Incumbent Incremental Analysis, $16/bbl Capex

ANS West Coast Price

- ACES
- SB21
- SB21 With 25% Well Credit
- SB21 With Bracketed Progressivity and 25% Well Credit
- SB21 With Bracketed Progressivity and No Credits
- SB21 with 35% Base and $5/bbl Production Credit
IRR Comparison
$16/bbl New Development, Incumbent Producer Incremental Analysis

IRR comparison - New Development, Incumbent Incremental Analysis, $25/bbl Capex

- **ACES**
- **SB21**
- **SB21 With 25% Well Credit**
- **SB21 With Bracketed Progressivity and 25% Well Credit**
- **SB21 With Bracketed Progressivity and No Credits**
- **SB21 with 35% Base and $5/bbl Production Credit**
Conclusions

- Elimination of credit has a significant negative impact on project economics at low prices, or high development costs – though for new developments outside existing areas, this is more than offset by the GRE.
- Partial reinstatement of credits (for instance more targeted well expenditure credit) can partially mitigate this, but not fully.
- Bracketed progressivity a feasible approach to balancing revenue impact of partial or full reinstatement of credits.
- Higher base tax and production-based credit an interesting approach, and may help question of tax increase for base production at low prices. Since credit does not contribute when costs are incurred, does not address impact on higher-cost development.
Requested Analysis:

Impact of 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.
Main Regional Offices

**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, Singapore
15 Scotts Road
Thong Teck Building, #08-04
Singapore 228218
Tel no: +65 6736 4317

**Europe**
PFC Energy, France
19 rue du Général Foy
75008 Paris, France
Tel (33 1) 4770-2900
Fax (33 1) 4770-5905

**North America**
PFC Energy, Washington D.C.
1300 Connecticut Avenue, N.W.
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

PFC Energy, China
79 Jianguo Road
China Central Place Tower II, 9/F, Suite J
Chaoyang District
Beijing 100025, China
Tel (86 10) 5920-4448
Fax (86 10) 6530-5093

www.pfcenergy.com | info@pfcenergy.com
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