

Response to Request from Rep. Tuck

# COMPARISON OF REVENUE FROM PPT (DE-COUPLED) VERSUS STATUS QUO

April 13, 2010

Alaska Department of Revenue

# Description of the Analysis

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- Compared the Overall State tax revenue generated by the status quo combined tax (ACES) versus the PPT tax system as if it had been de-coupled.
- Primary difference between the two:
  - ▣ PPT progressivity calculation kicks off at \$40 profit per barrel, and has a slope of .25% per dollar; compared to status quo of a \$30 kick off, and .4% slope;
  - ▣ PPT base tax rate was 22.5% compared to 25% status quo.

# Example Cases

## State Production Tax Revenue

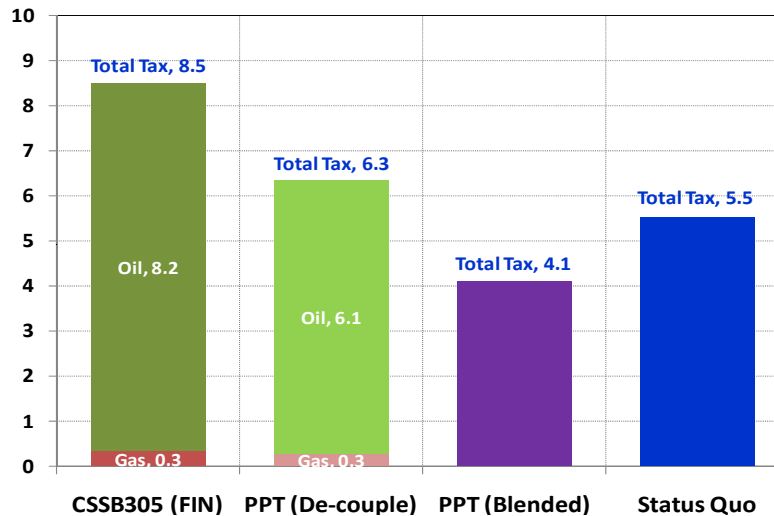
Oil: 500 Mbbl/d and Gas: 4.5 Bcf/d

Capex: \$2.2Bn and Opex: \$2.2Bn

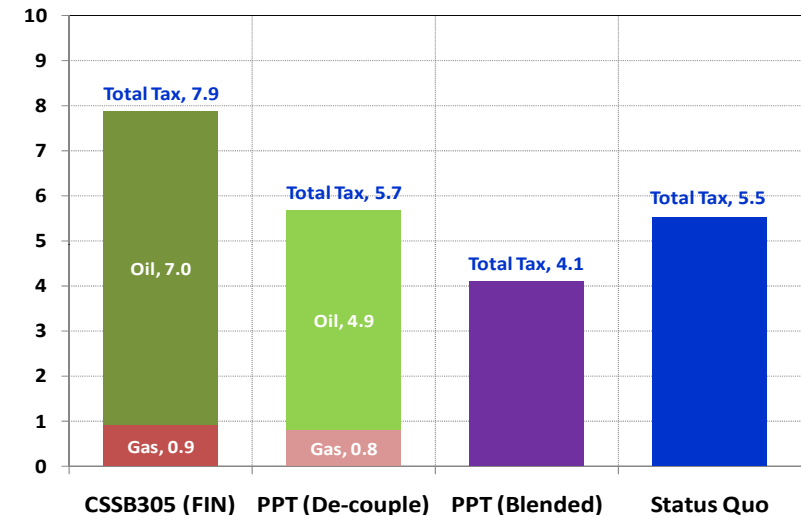
3

\$120/\$8  
(15:1)

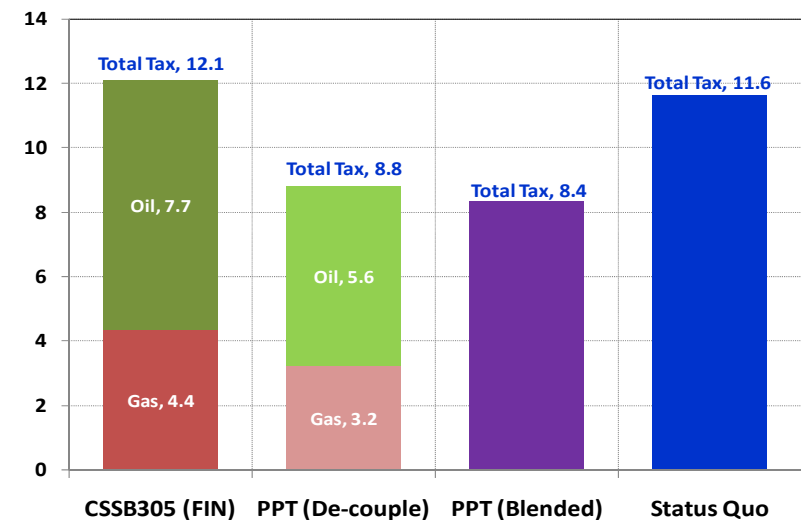
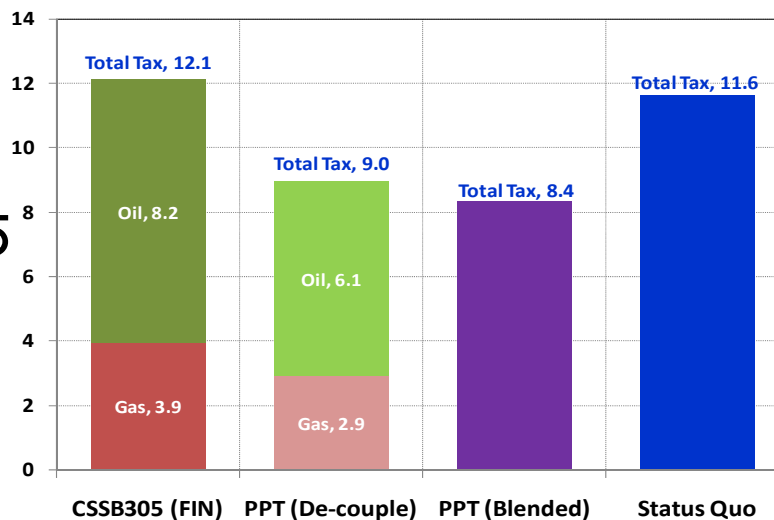
BOE



PoP



\$120/\$15  
(8:1)



# Total Tax Take Comparison

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- Model Assumptions:
  - ▣ One year snapshot
  - ▣ 4.5 Bcf/d and either 500 Mbbl/d or 200 Mbbl/d
  - ▣ Total Opex = \$2.2 Bn and Total Capex = \$2.2 Bn
- Ran multiple cases varying oil price from 40 to 200 \$/bbl and gas price parity from 6 to 26
- Ran the above cases for each of BOE, PoP and Fixed cost allocation methodology

# Total Tax PPT (“de-coupled”) less Status Quo

## Cost Allocation: BOE Basis

5

Oil: 500 Mbbbl/d and Gas: 4.5 Bcf/d  
Capex: \$2.2Bn and Opex: \$2.2Bn

Gas Price Parity

Oil Price (\$/bbl)

	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200
6	(0.1)	(0.2)	(0.3)	(0.8)	(1.5)	(2.2)	(3.0)	(3.9)	(4.9)	(5.2)	(5.1)	(4.8)	(4.6)	(4.7)	(5.0)	(5.9)	(7.0)
8	0.4	(0.1)	(0.2)	(0.0)	(0.3)	(0.8)	(1.4)	(2.0)	(2.7)	(3.4)	(4.2)	(4.5)	(4.5)	(4.9)	(5.2)	(5.6)	(5.9)
10	0.4	0.4	(0.0)	0.1	0.2	0.0	(0.3)	(0.6)	(1.1)	(1.7)	(2.3)	(2.9)	(3.7)	(4.2)	(4.6)	(5.1)	(5.5)
12	0.4	0.7	0.4	0.2	0.3	0.4	0.3	0.2	(0.1)	(0.4)	(0.8)	(1.3)	(1.9)	(3.0)	(3.8)	(4.3)	(4.8)
14	0.4	0.7	0.6	0.5	0.5	0.7	0.7	0.7	0.6	0.4	0.2	(0.0)	(0.5)	(1.5)	(2.7)	(3.6)	(4.0)
16	0.4	0.7	0.8	0.8	0.8	0.9	1.0	1.0	1.0	1.0	0.9	0.8	0.5	(0.3)	(1.3)	(2.4)	(3.3)
18	0.4	0.7	1.0	1.0	1.0	1.1	1.3	1.3	1.3	1.4	1.4	1.4	1.2	0.5	(0.3)	(1.2)	(2.3)
20	0.4	0.7	1.1	1.1	1.2	1.3	1.5	1.7	1.6	1.7	1.8	1.8	1.7	1.1	0.4	(0.4)	(1.3)
22	0.4	0.7	1.1	1.3	1.3	1.5	1.7	1.9	2.0	2.0	2.0	2.2	2.2	1.6	1.0	0.3	(0.5)
24	0.4	0.7	1.1	1.4	1.5	1.6	1.9	2.2	2.3	2.4	2.4	2.5	2.5	2.0	1.5	0.8	0.1
26	0.4	0.7	1.1	1.5	1.6	1.7	2.0	2.3	2.5	2.6	2.8	2.9	2.8	2.4	1.9	1.2	0.6



PPT > STATUS QUO



PPT = STATUS QUO



PPT < STATUS QUO

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# Total Tax PPT (“de-coupled”) less Status Quo

## Cost Allocation: Point of Production (PoP) Basis

6

Oil: 500 Mbbbl/d and Gas: 4.5 Bcf/d  
Capex: \$2.2Bn and Opex: \$2.2Bn

Gas Price Parity

Oil Price (\$/bbl)

	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200
6	(0.1)	(0.2)	(0.3)	(0.9)	(1.5)	(2.2)	(3.0)	(3.9)	(5.0)	(5.2)	(5.1)	(4.8)	(4.5)	(4.7)	(5.0)	(5.9)	(7.0)
8	0.0	(0.1)	(0.2)	(0.2)	(0.5)	(1.0)	(1.6)	(2.2)	(2.8)	(3.5)	(4.4)	(4.7)	(4.5)	(4.8)	(5.2)	(5.5)	(5.8)
10	0.0	(0.1)	(0.2)	(0.2)	(0.1)	(0.3)	(0.6)	(1.0)	(1.5)	(2.1)	(2.6)	(3.2)	(3.9)	(4.2)	(4.6)	(5.0)	(5.5)
12	0.0	0.1	(0.1)	(0.2)	(0.0)	0.1	(0.1)	(0.3)	(0.6)	(1.0)	(1.4)	(1.9)	(2.3)	(3.1)	(3.9)	(4.4)	(4.8)
14	0.0	0.1	(0.0)	(0.2)	(0.0)	0.2	0.2	0.1	(0.0)	(0.2)	(0.5)	(0.8)	(1.2)	(1.8)	(2.9)	(3.7)	(4.1)
16	0.0	0.1	0.2	(0.1)	(0.1)	0.2	0.4	0.4	0.3	0.2	0.1	(0.1)	(0.3)	(0.7)	(1.7)	(2.7)	(3.6)
18	0.0	0.1	0.4	0.1	(0.1)	0.2	0.5	0.5	0.6	0.5	0.5	0.4	0.3	0.1	(0.7)	(1.6)	(2.7)
20	0.0	0.1	0.5	0.3	0.1	0.1	0.4	0.6	0.7	0.8	0.8	0.8	0.8	0.7	(0.0)	(0.8)	(1.7)
22	0.0	0.1	0.5	0.4	0.3	0.3	0.4	0.7	0.8	0.9	1.0	1.1	1.1	1.1	0.5	(0.2)	(1.0)
24	0.0	0.1	0.5	0.5	0.4	0.4	0.6	0.8	0.9	1.1	1.2	1.3	1.4	1.5	1.0	0.3	(0.4)
26	0.0	0.1	0.5	0.6	0.5	0.6	0.7	0.9	1.0	1.1	1.3	1.5	1.6	1.7	1.3	0.7	0.0



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# Total Tax PPT (“de-coupled”) less Status Quo

## Cost Allocation: BOE Basis


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6	0.0	(0.1)	(0.2)	(0.3)	(0.8)	(1.3)	(1.8)	(2.5)	(3.2)	(4.0)	(3.9)	(3.8)	(3.6)	(3.5)	(3.4)	(4.0)	(4.7)
8	0.0	0.0	(0.1)	(0.1)	(0.0)	(0.2)	(0.5)	(1.0)	(1.4)	(1.8)	(2.3)	(2.9)	(3.5)	(3.7)	(3.9)	(4.0)	(4.1)
10	0.0	0.0	0.1	(0.0)	0.0	0.1	0.2	0.0	(0.2)	(0.6)	(0.9)	(1.2)	(1.6)	(2.2)	(2.9)	(3.6)	(3.9)
12	0.0	0.0	0.1	0.3	0.2	0.2	0.3	0.5	0.4	0.3	0.1	(0.1)	(0.4)	(0.9)	(1.4)	(2.0)	(2.6)
14	0.0	0.0	0.1	0.3	0.5	0.4	0.4	0.6	0.7	0.8	0.7	0.7	0.5	0.2	(0.3)	(0.8)	(1.3)
16	0.0	0.0	0.1	0.3	0.6	0.7	0.6	0.6	0.8	1.0	1.1	1.1	1.1	0.9	0.6	0.2	(0.3)
18	0.0	0.0	0.1	0.3	0.6	0.9	0.9	0.8	0.9	1.0	1.3	1.4	1.5	1.3	1.1	0.8	0.5
20	0.0	0.0	0.1	0.3	0.6	0.9	1.1	1.1	1.1	1.2	1.3	1.6	1.8	1.7	1.5	1.3	1.0
22	0.0	0.0	0.1	0.3	0.6	0.9	1.2	1.2	1.3	1.4	1.5	1.7	1.9	1.9	1.8	1.6	1.4
24	0.0	0.0	0.1	0.3	0.6	0.9	1.2	1.4	1.5	1.6	1.7	1.9	2.1	2.1	2.0	1.9	1.7
26	0.0	0.0	0.1	0.3	0.6	0.9	1.2	1.5	1.6	1.7	1.9	2.0	2.2	2.3	2.1	2.1	2.0

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Oil Price (\$/bbl)

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6	0.0	(0.1)	(0.2)	(0.3)	(0.9)	(1.3)	(1.9)	(2.5)	(3.2)	(4.0)	(4.0)	(3.8)	(3.6)	(3.5)	(3.4)	(4.0)	(4.7)
8	0.0	0.0	(0.1)	(0.1)	(0.1)	(0.3)	(0.7)	(1.1)	(1.5)	(1.9)	(2.4)	(3.0)	(3.6)	(3.7)	(3.9)	(4.0)	(4.1)
10	0.0	0.0	0.0	(0.1)	(0.1)	(0.1)	(0.0)	(0.2)	(0.5)	(0.9)	(1.2)	(1.5)	(1.9)	(2.3)	(2.9)	(3.6)	(3.8)
12	0.0	0.0	0.0	0.0	(0.1)	(0.1)	(0.0)	0.1	0.0	(0.1)	(0.4)	(0.6)	(0.9)	(1.1)	(1.5)	(2.0)	(2.7)
14	0.0	0.0	0.0	0.0	(0.1)	(0.1)	(0.0)	0.1	0.2	0.2	0.1	0.0	(0.1)	(0.3)	(0.6)	(1.0)	(1.5)
16	0.0	0.0	0.0	0.0	0.0	(0.1)	(0.1)	0.0	0.2	0.3	0.4	0.4	0.3	0.2	0.1	(0.2)	(0.6)
18	0.0	0.0	0.0	0.0	0.0	0.0	(0.1)	(0.0)	0.1	0.3	0.5	0.6	0.6	0.6	0.6	0.4	0.1
20	0.0	0.0	0.0	0.0	0.0	0.0	(0.1)	(0.0)	0.1	0.2	0.4	0.6	0.7	0.8	0.8	0.9	0.6
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(0.1)	0.0	0.2	0.4	0.6	0.8	0.9	1.0	1.1	1.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(0.1)	(0.0)	0.1	0.3	0.5	0.8	1.0	1.1	1.2	1.2
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	(0.0)	0.1	0.3	0.5	0.7	1.0	1.2	1.3	1.4

 PPT > STATUS QUO

 PPT = STATUS QUO

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# Observations

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- In many of the instances, the status quo combined tax would result in more overall tax revenue than PPT decoupled.
- Provides insight into the perception of the “appropriate” state share of oil and gas revenues once a major gas sale occurs.
- Results are an interesting reflection on whether the state is “losing” revenue under a combined tax system.