"Decoupling" of Oil and Gas for Production Tax Purposes

Presentation to the
Senate Finance Committee
January 27, 2012
Alaska Department of Revenue

Overview

- **How Alaska's production tax works**
- **What is "decoupling"**
- **Why decouple?**
- **Decoupling Issues**
- **History: SB 305 in 2010**

How Alaska's Production Tax Works

- Company specific tax
- Based on Production Tax Value (PTV)
  - Market price – Transportation Costs = Gross Value at Point of Production (GVPP)
  - GVPP – Lease Expenditures = Production Tax Value (PTV)
- Tax Rate
  - Base tax rate of 25% of "production tax value"
  - Progressivity applies when PTV is over $30 / BOE, and increases rate by 0.4% for each $1 of PTV over $30 / BOE
  - Example: At $50 / BOE PTV, tax rate is 33% *(25% + 0.4% * $20)*
  - At $92.50 / BOE progressivity changes to 0.1% per $1 of PTV

FY 11 Production Tax Calculation

	Per Barrel	Barrels	Value ($ million)
Avg ANS Oil Price ($/bbl) & Daily Production (bbls)	$94.49	602,723	$56.9 / day
Annual Production (bbl)			
Total Annual Production/Value		**219,993,895**	**$20,786.7**
Royalty and Federal barrels		(29,505,505)	($2,787.9)
Taxable barrels		**190,488,390**	**$17,998.8**
Downstream (Transportation) Costs ($/bbl)			
ANS Marine Transportation	($2.45)		
TAPS Tariff	($4.02)		
Other	($0.70)		
Total Transportation Costs	**($7.17)**	**190,488,390**	**($1,365.8)**
Lease Expenditures			
Deductible Operating Expenditures	($13.22)		($2,517.4)
Deductible Capital Expenditures	($8.52)		($1,622.9)
Total Lease Expenditures	**($21.74)**	**190,488,390**	**($4,140.3)**
Production Tax Value (PTV)			**$12,492.6**
Production Tax			
Base Tax (25%*PTV)			$3,123.3
Production Tax Value per barrel	$65.58		
Progressive Tax = (14.2% * PTV)			$1,778.1
Total Tax Due before credits			**$4,901.2**
Credits Applied Against Taxes			($400.0)
Total Tax after credits			**$4,501.28**

Source: Department of Revenue Fall 2011 Revenue Sources Book, Appendix D
This simple model assumes constant production, price, and expenditures for the entire year; results will differ from our larger model and forecast.
The per-barrel expenditures shown are per taxable barrel and do not reflect expenditures per all barrels produced.

What is “decoupling”

- **Under current law, gas production from major gas sales would be converted to “barrel of oil equivalent” and taxed in the same calculation as oil***
- **“Decoupling” would calculate oil and gas tax for major gas sales separately.**

***special provisions exist currently that extend special tax rates to Cook Inlet Gas, and gas for in-state use, until 2022. However these types of production are still included in the statewide “progressivity” calculation**

Conceptually, decoupling is simple…

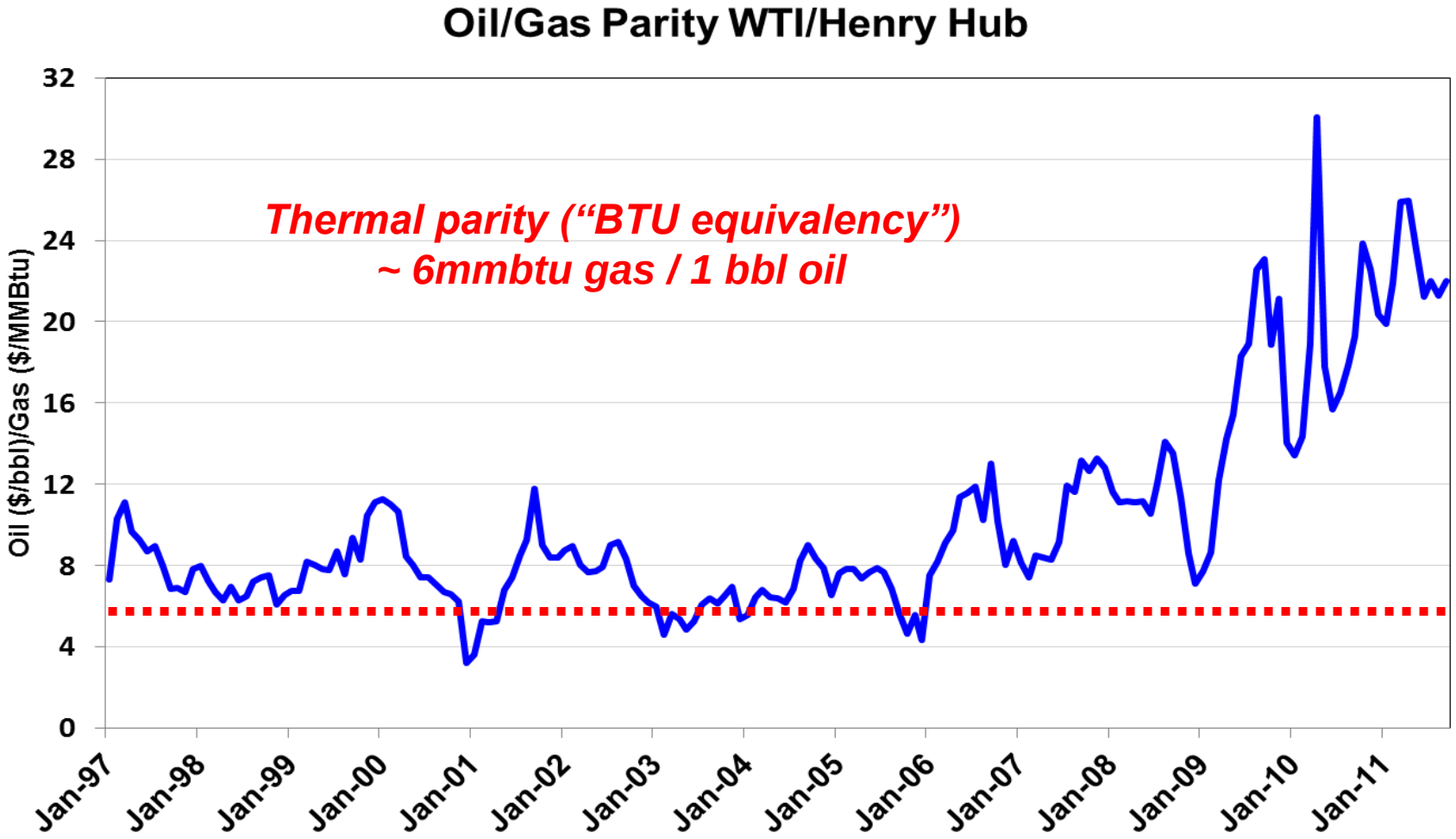
Coupled
Oil & Gas Destination Value
- Oil & Gas transportation costs
= Oil & Gas GVPP
- Oil & Gas Upstream Expenditures
= Oil & Gas Production Tax Value
X Tax Rate
= Oil & Gas Tax Liability

Decoupled	
Oil Destination Value	Gas Destination Value
- Oil transportation costs	- Gas transportation costs
= Oil GVPP	= Gas GVPP
- Oil Upstream Expenditures	- Gas Upstream Expenditures
= Oil Production Tax Value	= Gas Production Tax Value
X Tax Rate	X Tax Rate
= Oil Tax Liability	**= Gas Tax Liability**

Why decouple?

- **Oil is different than gas (different uses, different resource endowments, different substitutes)**
- **Decoupling allows tax policy to be crafted specific to oil or gas production**
- **Oil is currently worth more than gas (per unit of energy)**
- **Gas value relative to oil varies greatly over time**

Oil price ≠ 6 * gas price



Why decouple?

- **Including lower value gas in the same tax calculation as higher value oil reduces the average value per BOE and therefore reduces the progressive tax rate on oil**
- **By taxing oil and gas together, gas production reduces oil taxes even though oil operations are unaffected**
- **This has been called the "flip the switch" problem… as soon as major gas sales begin, state tax revenue could drop significantly, under certain price scenarios (including current prices!)**

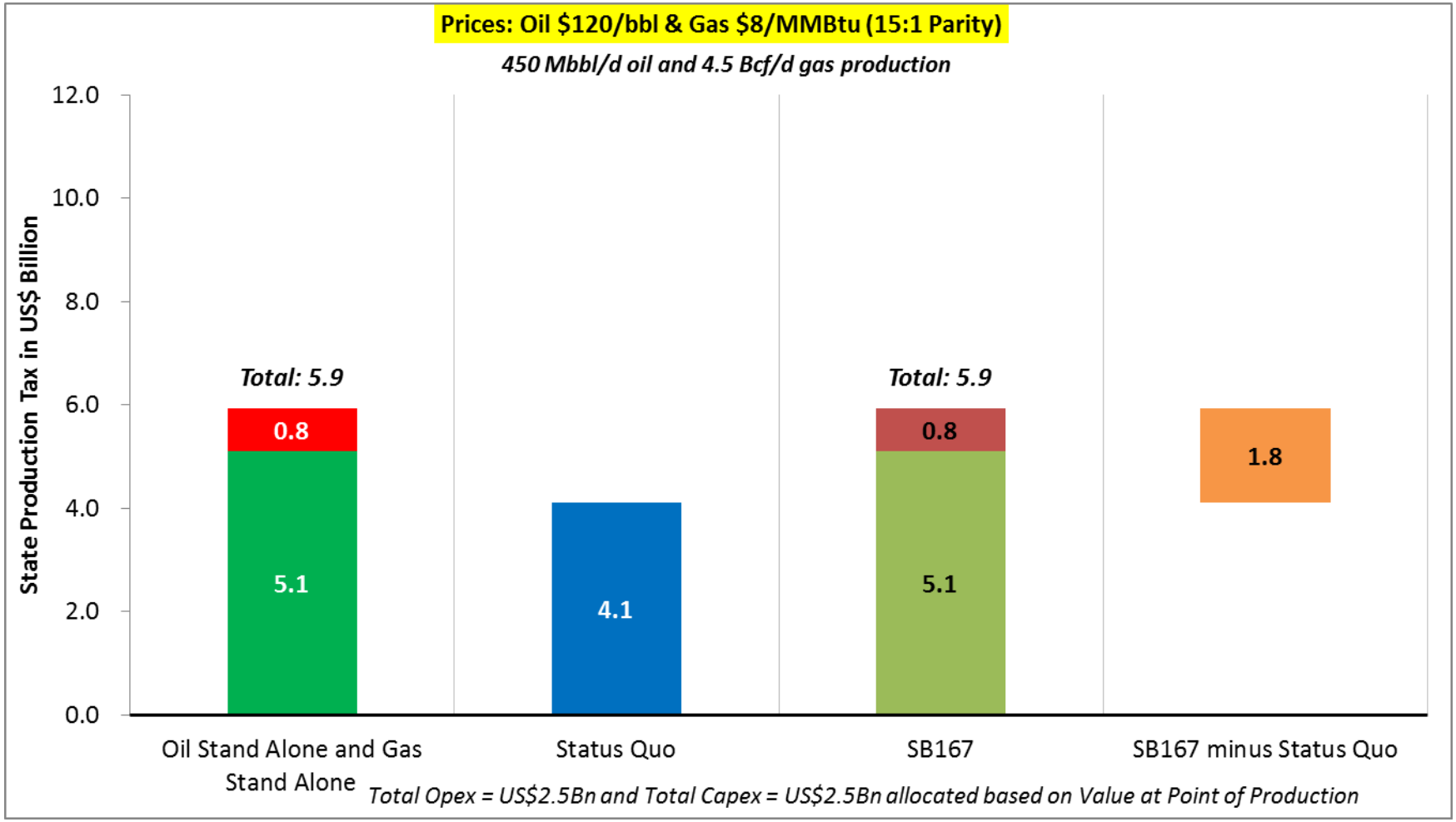
Numerical Examples : Assumptions

- **One Year "Income Statement" model**
- **DOR 2012 Profiles**
  - **Oil: 450 Mbbl/d**
  - **Gas: 4.5 Bcf/d**
- **Conversion**
  6 Mcf = 1 boe

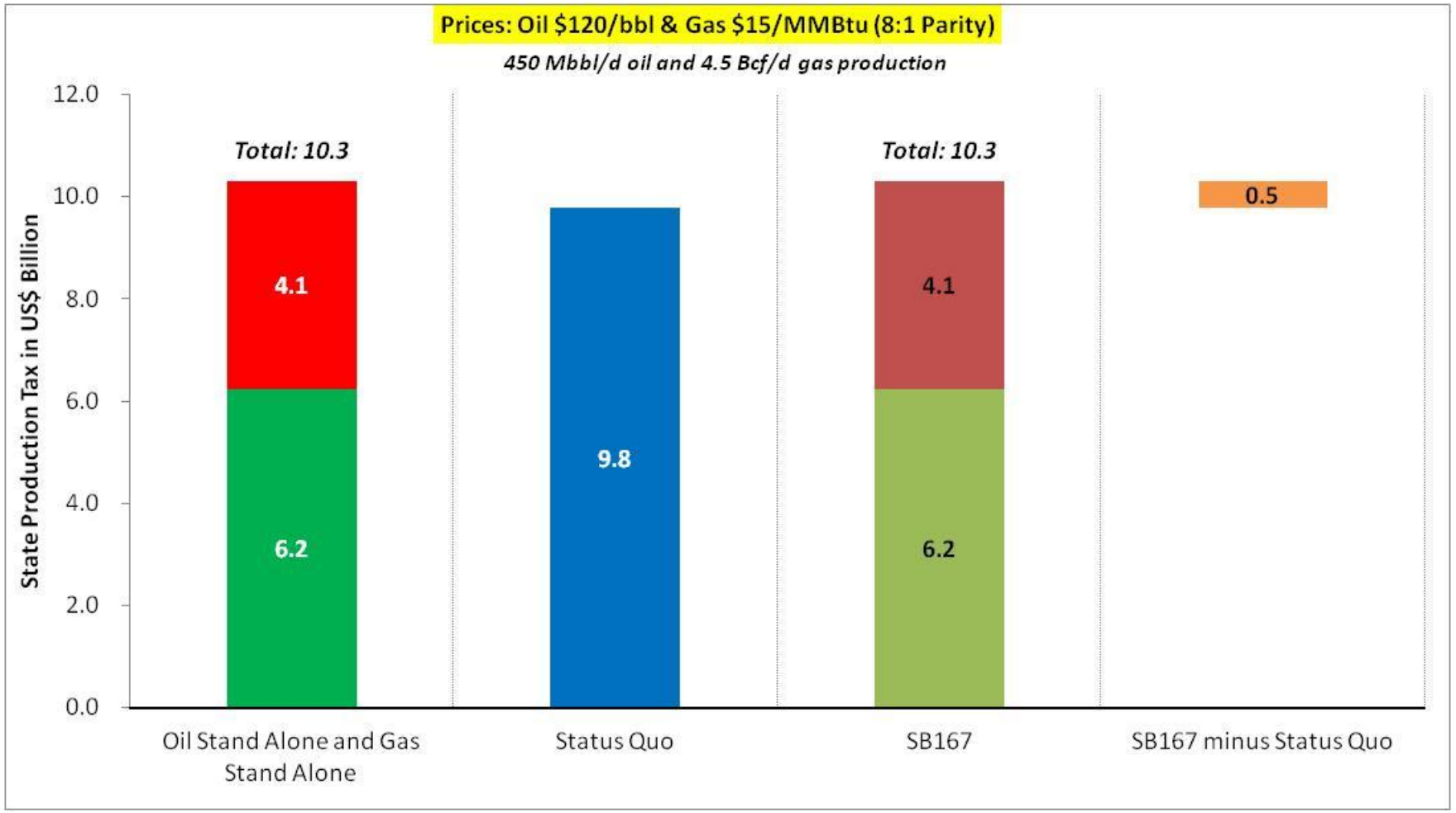
bbl/d: Barrels of oil per day
Mbbl/d: Thousand barrels of oil per day
boe: Barrel of oil equivalent
Bcf/d: Billion cubic feet per day
Mcf: Thousand cubic feet
MMBtu: Million British thermal units

- **Costs allocation**
  - **Opex: $2,500,000,000**
  - **Capex: $2,500,000,000**
  - **Costs split on the basis of gross value at the Point of Production (PoP)**
- **Transportation**
  - **Oil: $11.00/bbl**
  - **Gas: $4.5/MMBtu**

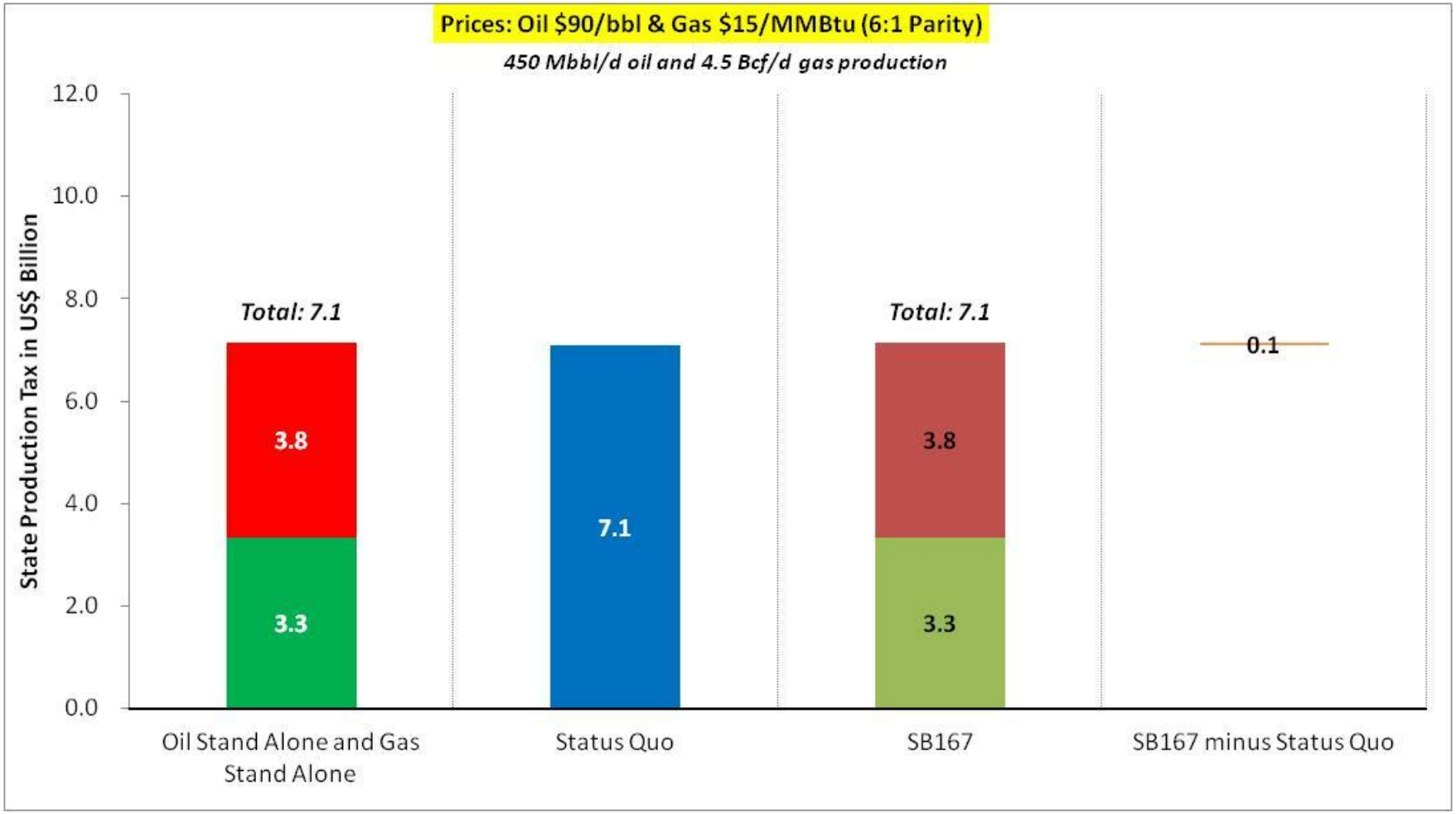
At high parity, SB 167 > Status Quo



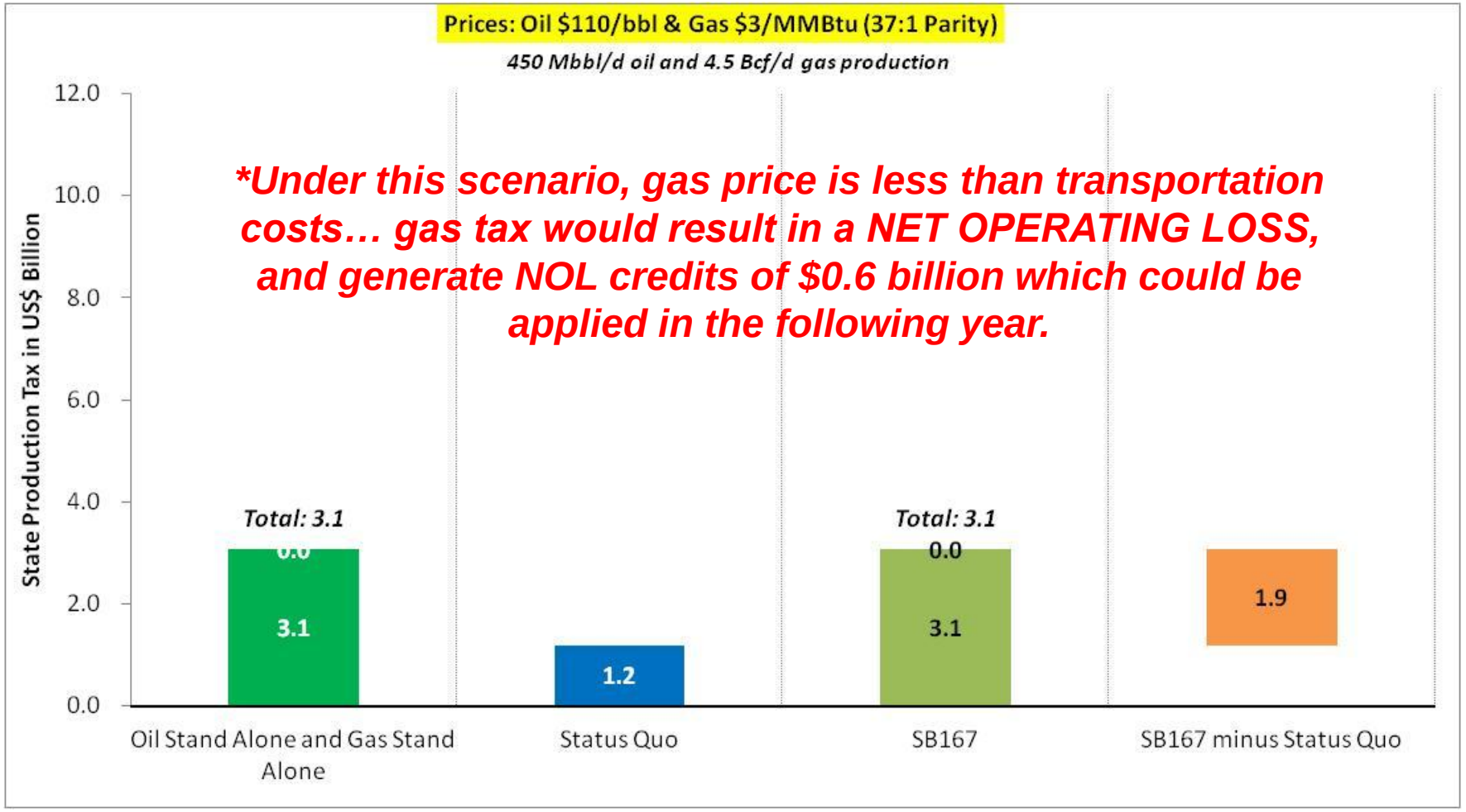
At lower parity, SB 167 > Status Quo



At 6:1 parity, SB 167 ≈ Status Quo



At today's prices…



Observations

- **SB167 provides for a state share similar to the status quo when gas prices are relatively high (less dilution of progressivity under status quo).**
- **SB167 imposes a higher state share compared to the status quo when gas prices are relatively low.**
- **SB167 generates revenue equal to or greater than "oil stand alone" revenue in all cases**
  - **But at very low gas prices NOL credits are generated which can be applied against oil tax liabilities in the following year…**

Decoupling Issues: Cost Allocation

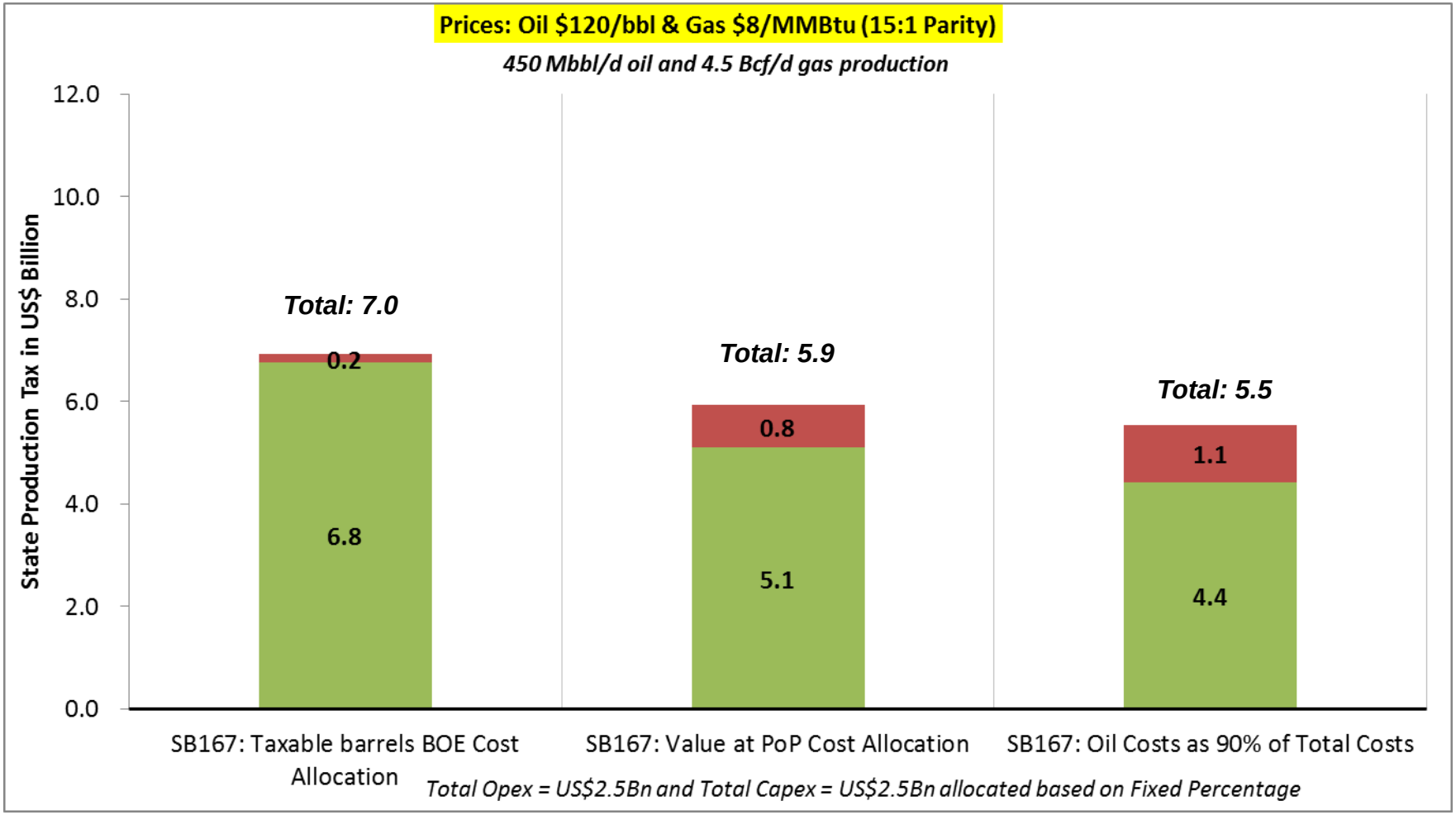
- How costs are allocated between oil and gas has a significant impact on overall taxes owed
- Because oil and gas are generally produced together, it is not easy or straight forward to determine the costs “applicable to the gas [or oil] produced”
- The cost allocation method could result in uncertainty, disputes, and delays
- Cost allocation should be specified in the statute, and is a very important policy decision

Cost Allocation Examples

	Oil	Gas	Total
Production (Mmboe)	164	274	438
Gross Value at PoP (US$MM) - $120 and 15:1	17,903	5,749	23,652
Split Based on BOE (%)	38%	63%	100%
Cost Allocation (US$MM)	1,875	3,125	5,000
Split Based on Gross Value at Pop (%)	76%	24%	100%
Costs Allocation (US$MM)	3,785	1,215	5,000
Split Based on assumed "Actual" (%)	90%	10%	100%
Cost Allocation (US$MM)	4,500	500	5,000

- Assumes $120 / Bbl oil and $8 / MMBtu gas

Impact of Allocation Methods on SB167 Revenue



Some Other Decoupling Issues to Consider

- **"Lock in" for gas committed at first open season**
- **Potential impact on current gas production**
  - **Cook Inlet gas**
  - **Gas used in state**
  - **Small quantities of other gas production (OCS)**
- **Complexity of administration for state, taxpayers**
- **Specify gas tax now or save for another session?**
- **Balance between desire for revenue and making a major gas project attractive**
- **Treatment of Net Operating Loss for gas**

History: SB 305 in 2010

- Decoupled oil and gas for purposes of a major gas sale (solving the “flip the switch” problem)
- Held harmless most current gas production
- Provided one tax calculation for oil, Cook Inlet gas, and gas used in-state
- Provided a separate tax calculation for non-Cook Inlet gas that is exported out of state
- Specified GVPP cost allocation “to the extend possible”

- Extensive analysis by Legislature, administration, consultants
- Numerous technical issues raised and addressed
- Final bill is the basis of this year’s SB 167

History: SB 305 in 2010

- **Passed Senate and House, vetoed by Governor**
- **3 reasons cited in veto message:**
  1. **Decoupling, on its own, represents an overall tax increase**
  2. **Changing the tax during the pipeline open seasons (AGIA, Denali) creates uncertainty**
  3. **Change not needed at this time because Legislature retains ability to make changes to tax laws… any tax locked in for firm commitments at the first AGIA open season only applies to gas, not oil.**

- **2 years later…**
  - **The AGIA first open season is complete, the Denali project has been suspended**
  - **Decoupling has now been "on the table" for two years**
  - **Opportunity to reconsider decoupling in context of the broader discussion of increasing oil and gas production**