

Petroleum Fiscal System Design

**House Resources Committee
February 11, 2011**

TECHNICAL AND MANAGEMENT ADVISORS TO THE INTERNATIONAL PETROLEUM INDUSTRY

Fiscal System Design

- **2 Parts *Art* to every 1 Part *Science***
- **What works well for one state/country does not necessarily work for another**
 - ↳ Over time it may actually no longer work optimally where it once did
- **Influencing factors include (but not limited to):**
 - GDP & GDP/Capita
 - Energy as % of GDP
 - Infrastructure Availability
 - Infrastructure Capacity
 - Competition from elsewhere
 - Hydrocarbon Basin Maturity
 - Skilled Local Labor Force
 - H S & E
 - Institutional Capacity

The “Pressure” to Change

- Fiscal system change occurs generally because:
 - a) Governments want their perceived fair share; or
 - b) Attract Investment/Industry

★ *The two are not always the same or even near the same*

- Request for change justified by:
 - ‘Objective’ Calculations – model results based on a large number of assumptions
 - ‘Subjective’ Calculations – experts assessing major changes in direction or behavior

Producer's View of Fiscal Systems

Never met a tax they liked!

<p>Less Tax Means More Inve\$tment</p> <p>Illinois Low Gov't Take Limited E&P Inve\$tment by Big Oil</p>	<p>More Tax Means Less Inve\$tment</p> <p>Iraq Highest Gov't Take Huge Inve\$tment by Big Oil</p>
--	---

Always making comparisons to Lower 48 as best place to invest

"More taxes....push investment....abroad"

API 2011 in response to possible new US taxes on energy activities.

Ranking Fiscal Systems

Materiality, NPV, Rate of Return

Which is better?	A PSC	B PSC	C Concession
Average Govt Take	30%	50%	60%
Marginal Govt Take (highest)	45%	65%	90%
Capex Recovery Period (minimum)	7yr	5yr	1yr
Investment Credit	0%	0%	20%
Cost Oil Cap	60%	100%	100%
Unrecovered Cost Uplift	0%	5% annum	0%
Ringfenced by Field	Yes	Yes	No

Where is Alaska today?

1. Production declining despite unprecedented prices
2. Looming issue of TAPS mortality
 - Could be either physical limit or economic limit
3. New resources viewed by some as “Stranded”
 - Access to infrastructure
4. Long lead times to bring on new fields
5. Which path are we on?
 - If **Harvest**, then need to get fair share
 - If **Growth**, then need to encourage investment

Same Item- Different Perceptions

Level of Producer Profit	Loss	Break Even	Small	Moderate	Large
Gov't	Gov't Needs Minimum Cash Flow		About Right	More than Fair	Greedy & Outrageous
Producers	To be avoided Downside Protection	Nice but not why we exist	Only if I have more \$ & people than projects	The Target	Quid Pro Quo for taking downside (loss) risk

Many times it is not the numbers or reality that drive decisions, but perceptions, “matters of principle” or fear of precedents

Future Scenarios for Alaska

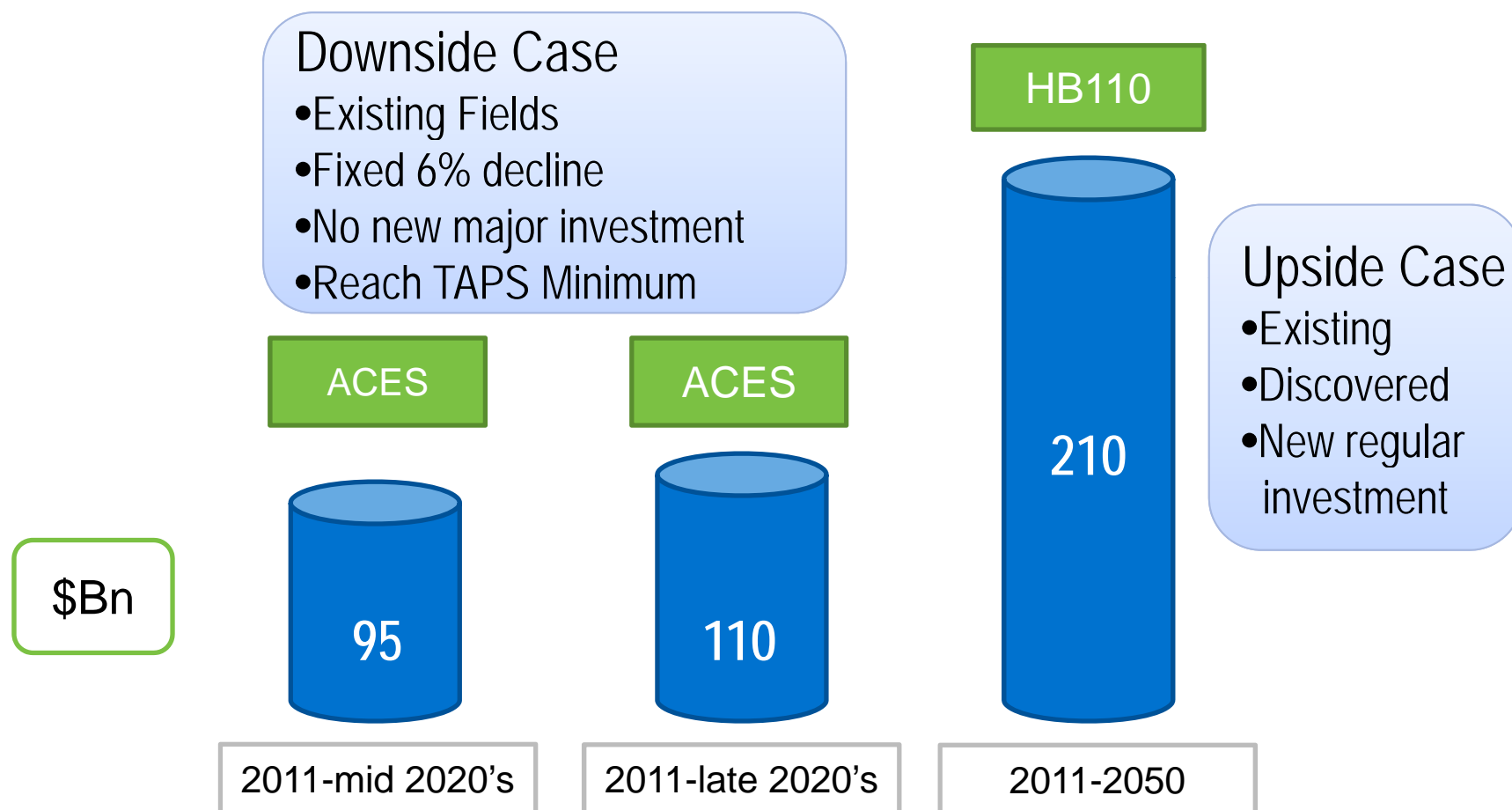
Hard to predict the future in a nice tidy narrow range

- Requires many assumptions that leads to ‘noise’ and time and focus taken away from discussing and understanding root causes and the real issues
- Lack of data transparency, that many other regimes have

What are the possible upside/downside scenarios to consider in looking to change ACES?

- Upside – Reduced taxes leads to investment in new resources that keeps TAPS flowing through 2050
- Downside – Reduced taxes, still no new fields brought on line, TAPS reaches limit in the 2020’s

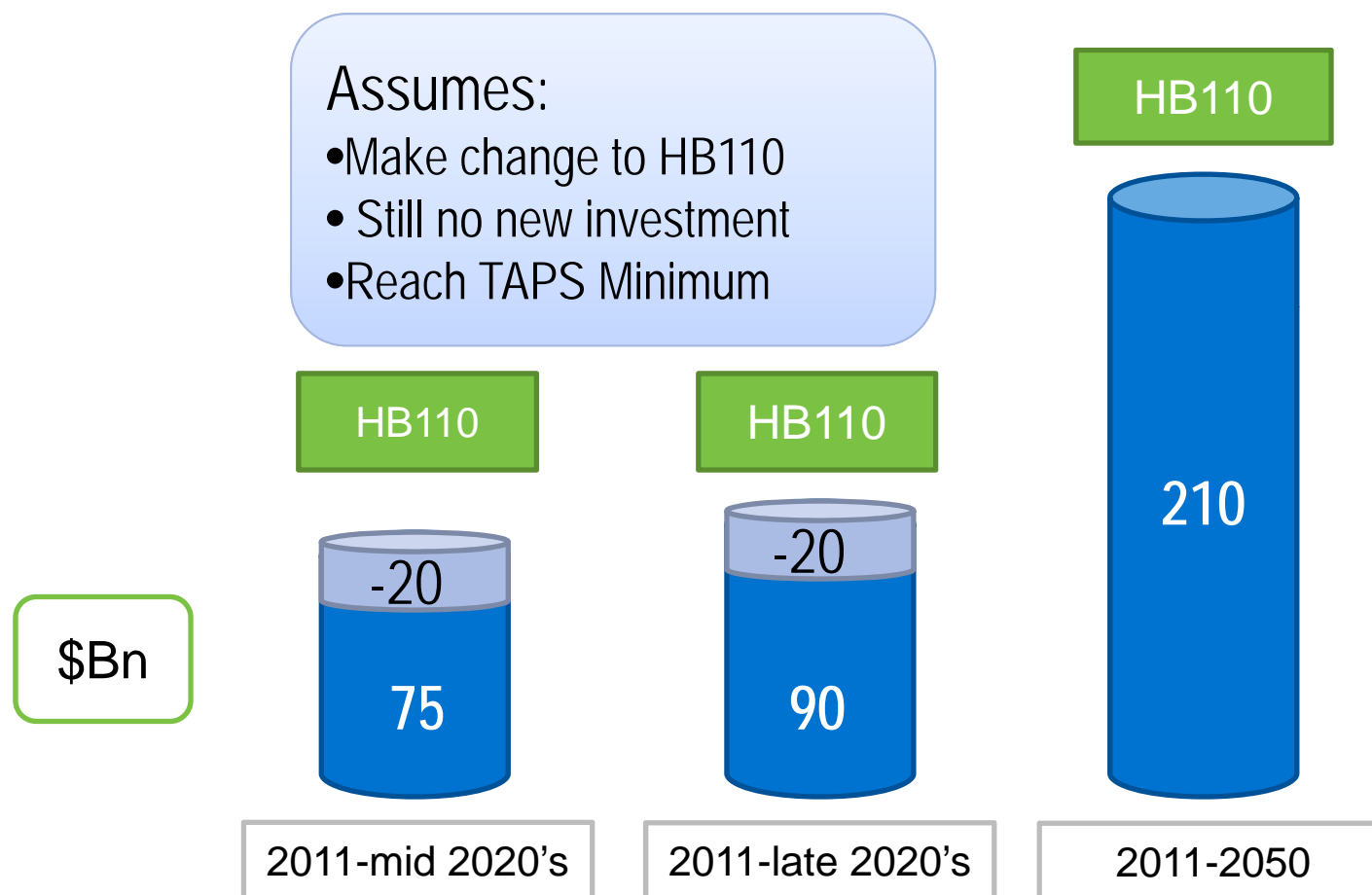
State Undiscounted Cash Flow



* DOR price & cost forecasts

TECHNICAL AND MANAGEMENT ADVISORS TO THE INTERNATIONAL PETROLEUM INDUSTRY

State Undiscounted Cash Flow



* DOR price & cost forecasts

TECHNICAL AND MANAGEMENT ADVISORS TO THE INTERNATIONAL PETROLEUM INDUSTRY

ACES vs HB110 - Risk vs Reward

- Analyze the State's decision in similar way to Producer decision-making in looking at the probability and cost of a dry hole versus probability and value of a developed discovery

\$Bn

Viewed Conservatively:

75% downside outcome
25% upside outcome

$$\begin{array}{r} -20 * 0.75 = -15 \\ 120 * 0.25 = \underline{30} \\ \$+15 \end{array}$$

Viewed More Optimistically:

25% downside outcome
75% upside outcome

$$\begin{array}{r} -20 * 0.25 = -5 \\ 120 * 0.75 = \underline{90} \\ \$+85 \end{array}$$

Outsiders' View of Alaska

	Rank*	Economic Impact
Immediate Deduction of Capex	Top 1-3	High
Investment Credits	Top ¼	Moderate-High
Amount (up to 40%)	Top 10	High
Credits to Cash	Top 1 or 2	Moderate, Big, Huge Ind.
No ringfence (Exploration/Appraisal)	Top 10	Huge
87% Marginal Rate	Bottom 5-10	Moderate (Huge Optically)
Cost per bbl	Bottom ¼	High
Environmental Costs	Bottom 10	High

* Where Top is best Bottom is worst from Producer viewpoint

Data Transparency

- **Relative to other regimes Alaska is handicapped in its decision making by the small amount of either confidential or reliable public data on energy operations**

- **Consequently, the producers are the only ones that can provide the legislators with the true picture**
 - Where is the money being spent?
 - What is the upside potential?
 - Why isn't more investment occurring?
 - With HB 110, will they now be investing for the upside ?