PROJECT STRUCTURE, FINANCE, CASH FLOWS AND MIDSTREAM

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Before co-founding enalytica, Janak led the Upstream Analytics team at PFC Energy, focusing on fiscal terms analysis and project economic and financial evaluation, data management and data visualization.

Janak has modeled upstream fiscal terms in all of the world's major hydrocarbon regions, and has built economic and financial models to value prospective acquisition targets and develop strategic portfolio options for a wide range of international and national oil company clients. He has advised Alaska State Legislature for multiple years on reform of oil and gas taxation, providing many hours of expert testimony to Alaska's Senate and House Finance and Resources Committees.

Prior to his work as an energy consultant, Janak advised major minerals industry clients on a range of controversial environmental and social risk issues, from uranium mining through to human rights and climate change. He has advised bankers at Citigroup and policy-makers at the US Treasury Department on the management and mitigation of environmental and social impacts in major projects around the world, and has undertaken macroeconomic research with senior development economists at the World Bank and the Peterson Institute for International Economics.

Janak holds an MA with distinction in international relations and economics from from the Johns Hopkins School of Advanced International Studies (SAIS), and a BA with first-class honors from the University of Adelaide, Australia.

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Nikos Tsafos has a diverse background in the private, public and non-profit sectors. He is currently a founding partner at enalytica. In his 7 ½ years with PFC Energy, Nikos advised the world's largest oil and gas companies on some of their most complex and challenging projects; he also played a pivotal role in turning the firm into one of the top natural gas consultancies in the world, with responsibilities that included product design, business development, consulting oversight and research direction.

Prior to PFC Energy, Nikos was at the Center for Strategic and International Studies (CSIS) in Washington, DC where he covered political, economic, and military issues in the Gulf, focused on oil wealth, regime stability and foreign affairs. Before CSIS, he was in the Greek Air Force, and prior to his military service, Nikos worked on channeling investment from Greek ship-owners to Chinese shipyards.

Nikos has also written extensively on the domestic and international dimensions of the Greek debt crisis. His blog (Greek Default Watch) was listed as one of "Europe's Top Economic Blogs" by the Social Europe Journal, and his book "Beyond Debt: The Greek Crisis in Context" was published in March 2013.

Nikos holds a BA with distinction in international relations and economics from Boston University and an MA with distinction in international relations from the Johns Hopkins School of Advanced International Studies (SAIS).

EXECUTIVE SUMMARY

Several ways to structure an LNG project, but existing structure has lots of merit

Financing plan yet to be determined—but state has lots of options

Stress case scenario yields lower returns, but only in extreme case, negative cash flow

MOU makes sense financially if the state is assumed to be capital constrained

TransCanada tariff is expensive vis-a-vis state's cost of debt, but attractive relative to market norms

TransCanada's share of cash flows ranges from 1% to 7% of total (depending on price and 'buyback')

Finer points of MOU—related to risk allocation—worth focusing on

PROPOSED PROJECT STRUCTURE HAS LOTS OF MERIT

Possible Project Structures based on Ownership

Upstream	Gas Treatment	Pipeline	Liquefaction
Oil companies; SOA royalty and taxes	Oil companies own 100%	Oil companies own 100%	Oil companies own 100%
Oil companies; SOA becomes partner	Oil companies + SOA	Oil companies + SOA	Oil companies + SOA
No oil companies; SOA fully acquires upstream	Oil companies + SOA + 3rd party	Oil companies + SOA + 3rd party	Oil companies + SOA + 3rd party
	Oil companies + 3rd party	Oil companies + 3rd party	Oil companies + 3rd party
	SOA 100%	SOA 100%	SOA 100%
	SOA + 3rd party	SOA + 3rd party	SOA + 3rd party
	3rd party 100%	3rd party 100%	3rd party 100%

in dark grey boxes: project structure as envisioned by the HOA and MOU

VARIOUS FINANCING OPTIONS OPEN TO LNG PROJECTS

Balance Sheet Finance

Project sponsors provide funds

Funds can combine debt and cash flow

Guaranteed by project sponsor (recourse)

Rate depends on sponsor's balance sheet

Easier if all parties have strong balance sheets

Project Finance

Third parties lend to project directly, not to sponsors

Sponsors put up some equity (e.g. 30%)

Guaranteed by projected revenues (non-recourse)

Rate depends on project risk

Easier to accommodate riskier sponsors

Key Questions for State of Alaska

What mix of debt and equity?

Will debt be specific to LNG project, or broader state balance sheet liability?

Will equity come from recurrent revenues, or other sources?

What role does the permanent fund play and how does this affect restricted / unrestricted revenue?

PROJECT FINANCE WELL ESTABLISHED IN LNG

IHS estimates that LNG projects raised over $97 billion in third-party financing since 2000

Financing from project sponsors, export credit agencies, multilateral banks and commercial banks

Commercial loans can also secure sovereign guarantees as insurance

The Japan Bank of International Cooperation (JBIC) is the largest single provider of funds

Examples		
Australia Pacific LNG	$5.8 billion	US EXIM, China EXIM, banks
Ichthys	$20 billion	JBIC, Korea and Australia EXIM, banks, sponsors ($4 bn)
Papua New Guinea	$14 billion	Six ECAs and 17 banks, ExxonMobil
Peru	$2.25 billion	IADB, US EXIM, Korea EXIM, IFC, others
Sakhalin-2	$6.4 billion	JBIC, NEXI, banks
Tangguh	$3.5 billion	JBIC, ADB, banks

Project ownership cash flows

(+) revenue = volume x price

(-) capital expenditures

(-) operations and maintenance expenses

(-) debt service (principal and interest)

(-) tariff paid to TransCanada

Cash flows from sovereign functions

(+) state income tax

(+) property tax

Four cash flow scenarios

No debt and no TransCanada partnership

No TransCanada partnership but the state finances 70% of its share with debt

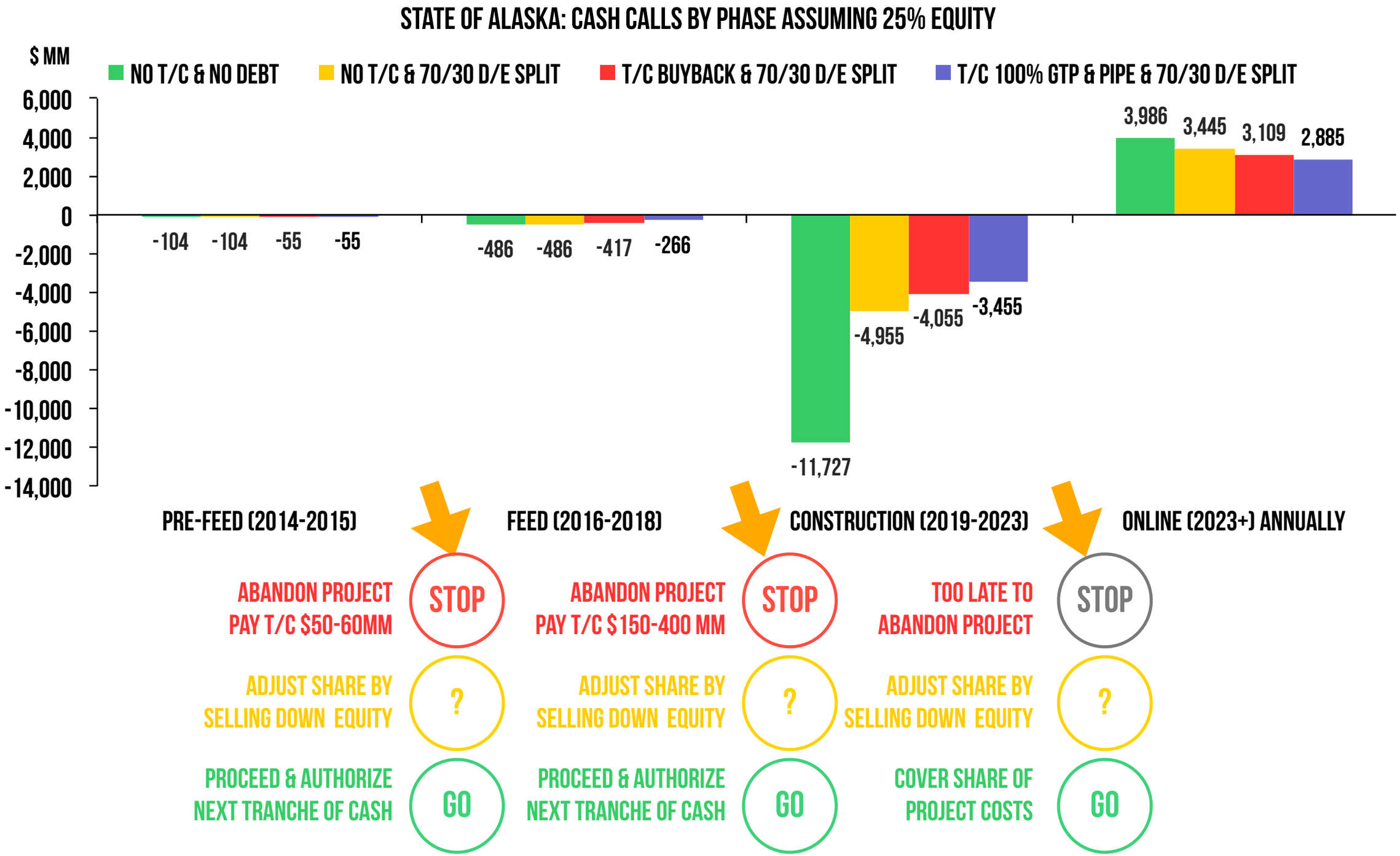
TransCanada is a partner and the state exercises its buyback option

TransCanada is a partner and the state does not exercise its buyback option

To understand unrestricted flows to the treasury, we can re-arrange the cash flows in a different way:

State unrestricted = total cash flows – permanent fund (25% of royalty) – property tax

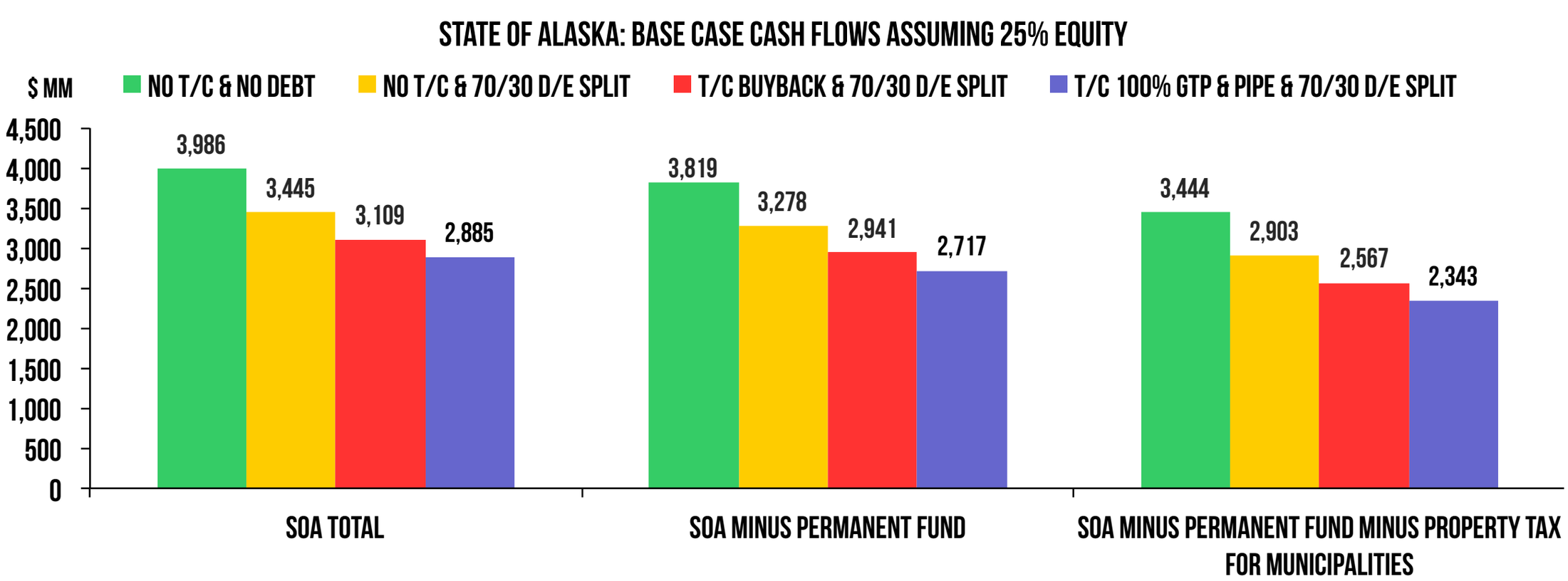
SOA'S CASH CALLS AND OFF-RAMPS



LNG INCOME INCLUDES RESTRICTED REVENUE

Revenue

- Total income
- Total income minus permanent fund (25% of royalty)
- Total income minus permanent fund and property taxes allocated to municipalities

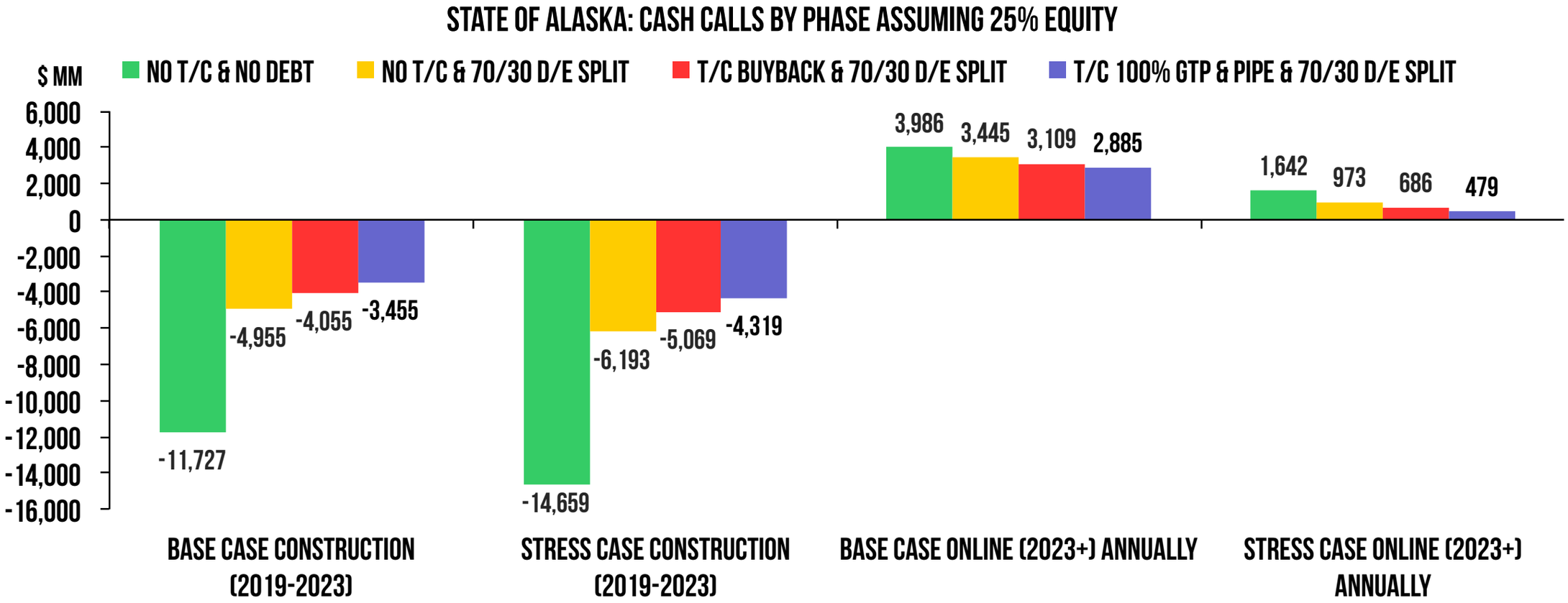


STRESS TESTING SOA'S CASH CALLS AND REVENUES

Stress Test Project CAPEX is 25% higher

\+ Sales price is $7/mmbtu vs. $15/mmbtu in base case

\+ Average utilization (output ÷ capacity) is 80% vs. 100% in base case



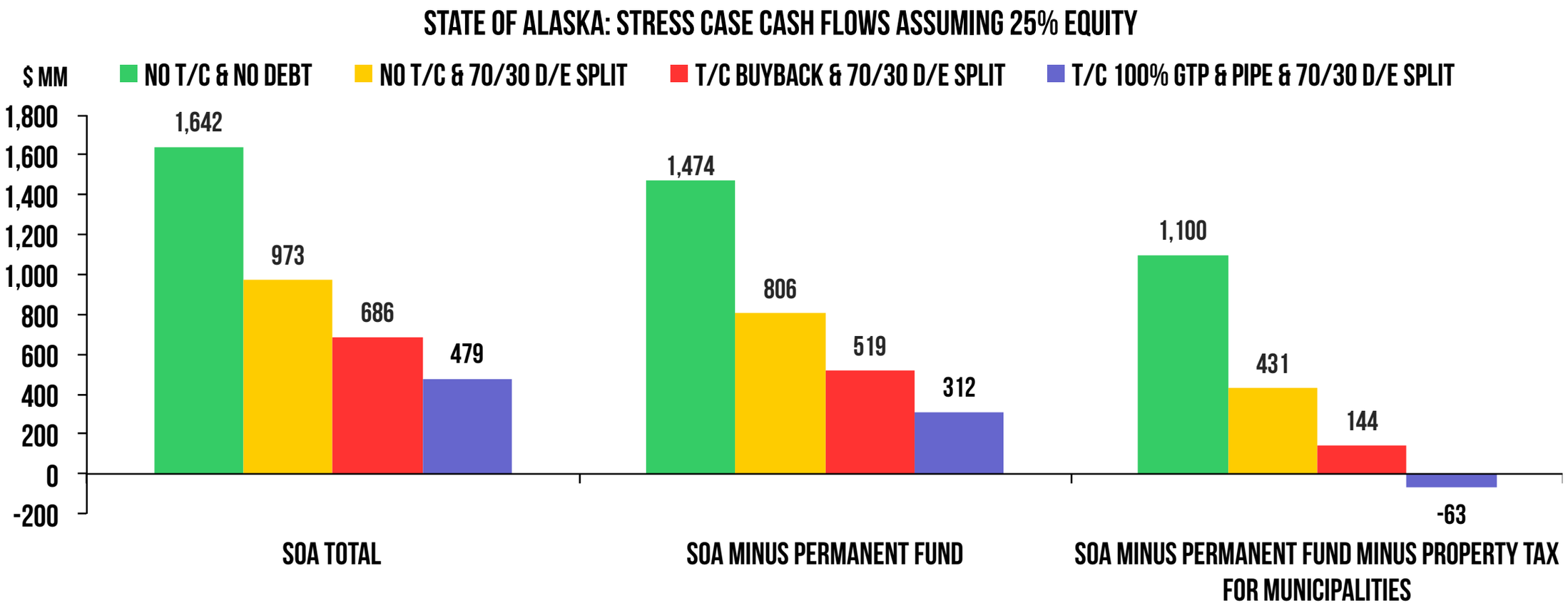
STRESS TEST: RESTRICTED VS. UNRESTRICTED REVENUES

Revenue

Total income

Total income minus permanent fund (25% of royalty)

Total income minus permanent fund and property taxes allocated to municipalities



SOA NEEDS TO CAREFULLY WEIGH KEY QUESTIONS

What compensation might the SOA have to pay and what intellectual property will Alaska LNG retain?

Will the HOA process slow down if the midstream is tied in litigation?

What are the odds that a new selection process will deliver better terms than those available today?

To what extent was the AGIA process representative of the industry's interest in an Alaskan pipeline?

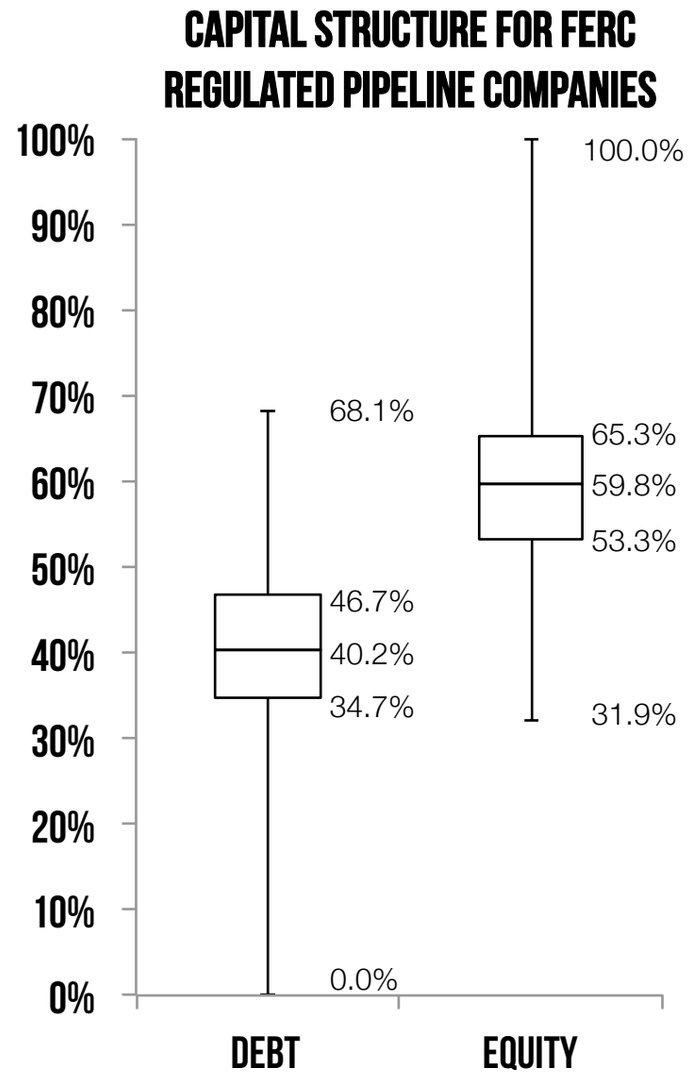
Would a new tariff offset absence from negotiating table; reduced momentum; cost to dissolve AGIA?

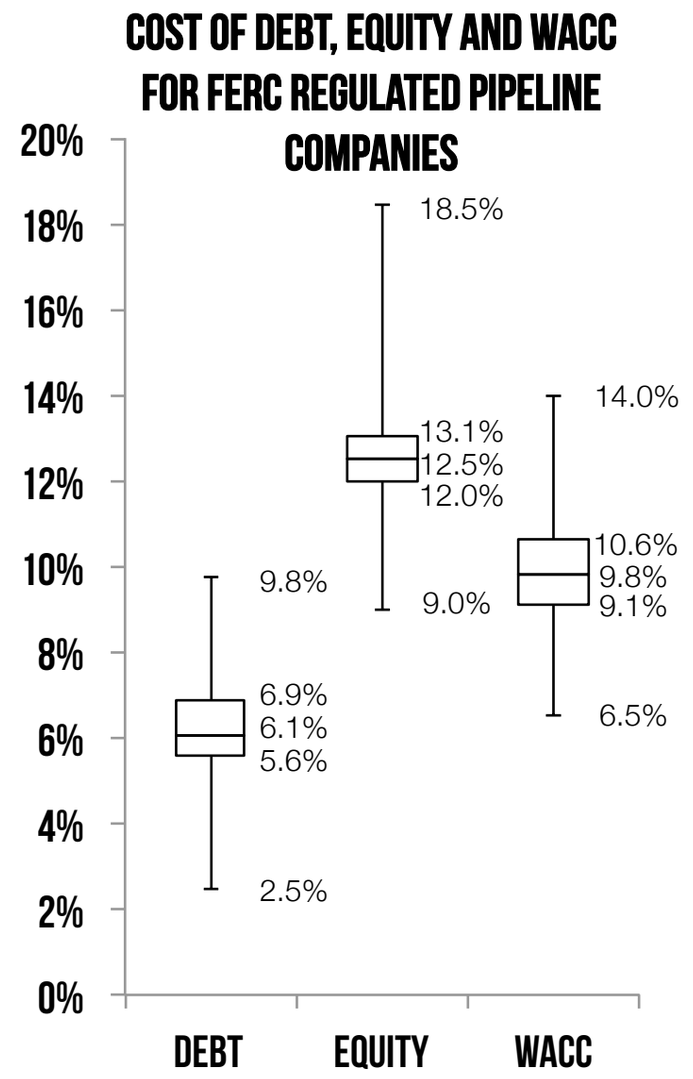
	PRODUCERS	PRODUCERS + STATE OF ALASKA	PRODUCERS + STATE OF ALASKA + TRANSCANADA	PRODUCERS + STATE OF ALASKA + 3RD PARTY
PRODUCER-SOA ALIGNMENT	✗	✓	✓	✓ / ?
THIRD-PARTY EXPANSION	✗	?	✓✓	✓
IN-STATE DELIVERIES	✗	✓	✓✓	✓✓
EXECUTION	✓	✓ / ?	✓	✓
CONTINUITY & MOMENTUM	?	?	✓	✗

TRANSCANADA TARIFF OFFER WITHIN MARKET NORMS

Capitalization structure (75:25 debt:equity) is more weighted toward debt than average FERC pipeline

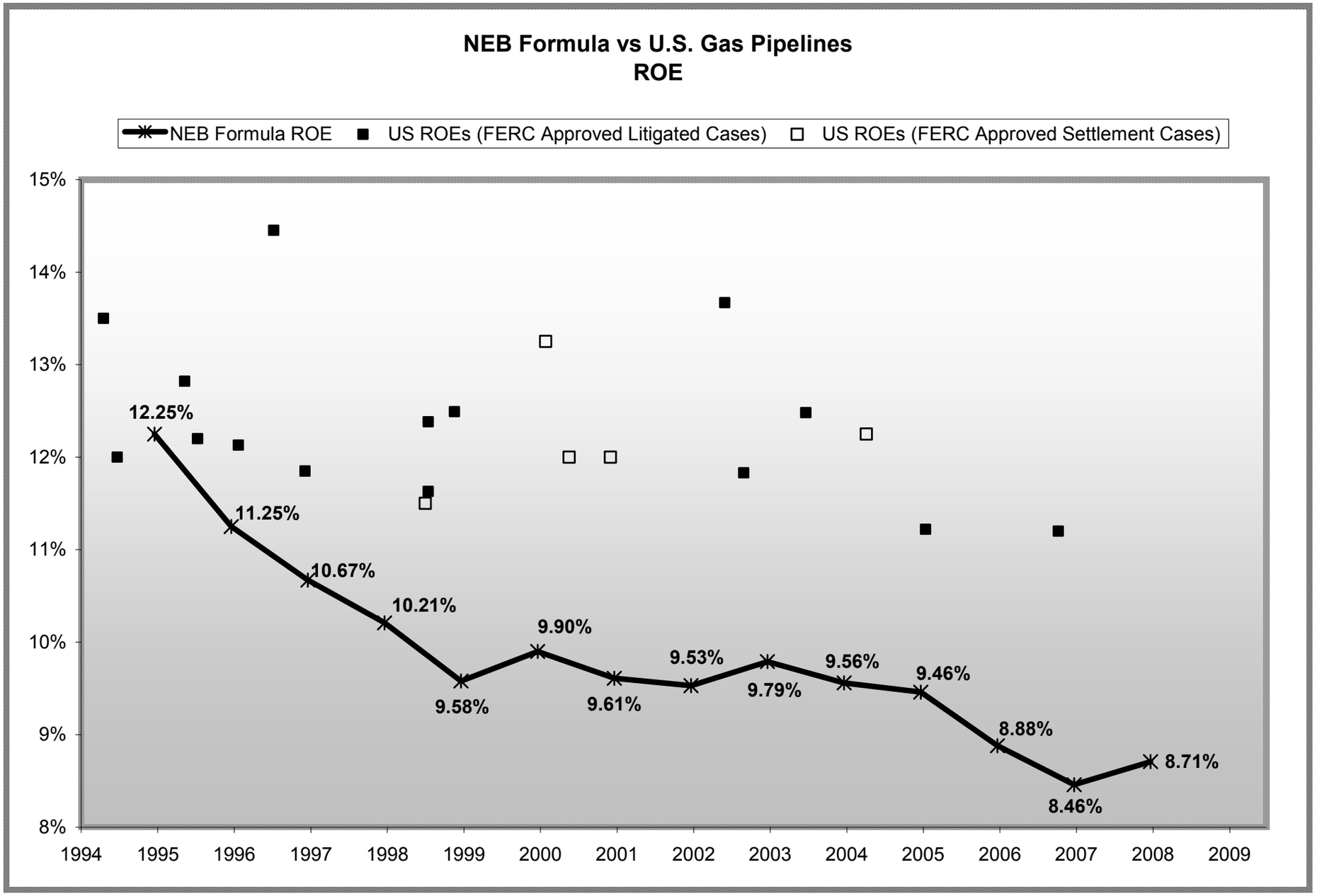
Cost of equity (12%) and debt (5%) below average; weighted cost of capital (6.75%) near bottom of group





SOURCES: ENALYTICA BASED ON "FORM 2/2A - MAJOR AND NON-MAJOR NATURAL GAS PIPELINE ANNUAL REPORT," 2012

FERC ROE HISTORICALLY EXCEED NEB (CANADA) ROE



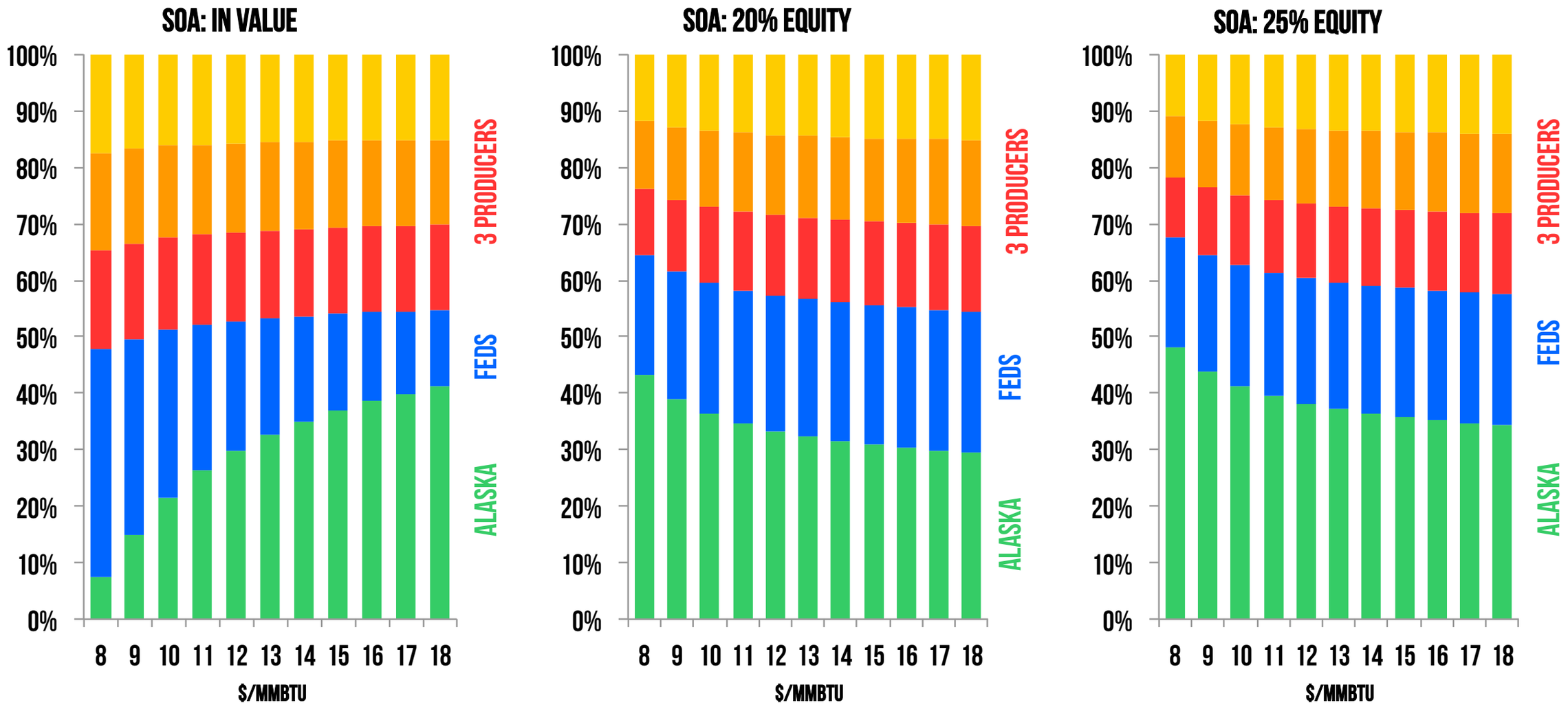
SOURCES: CANADIAN ENERGY PIPELINE ASSOCIATION (CEPA), PERSPECTIVE ON CANADIAN GAS PIPELINE ROES, FEBRUARY 2008

SOA EQUITY LEADS TO HIGHER GOV'T TAKE ON AVERAGE

'In value' entails lowest government take, especially in low prices as cash goes to producers

Split between Fed vs. SOA split depends on both 'in value' vs. 'in kind' as well as SOA equity share

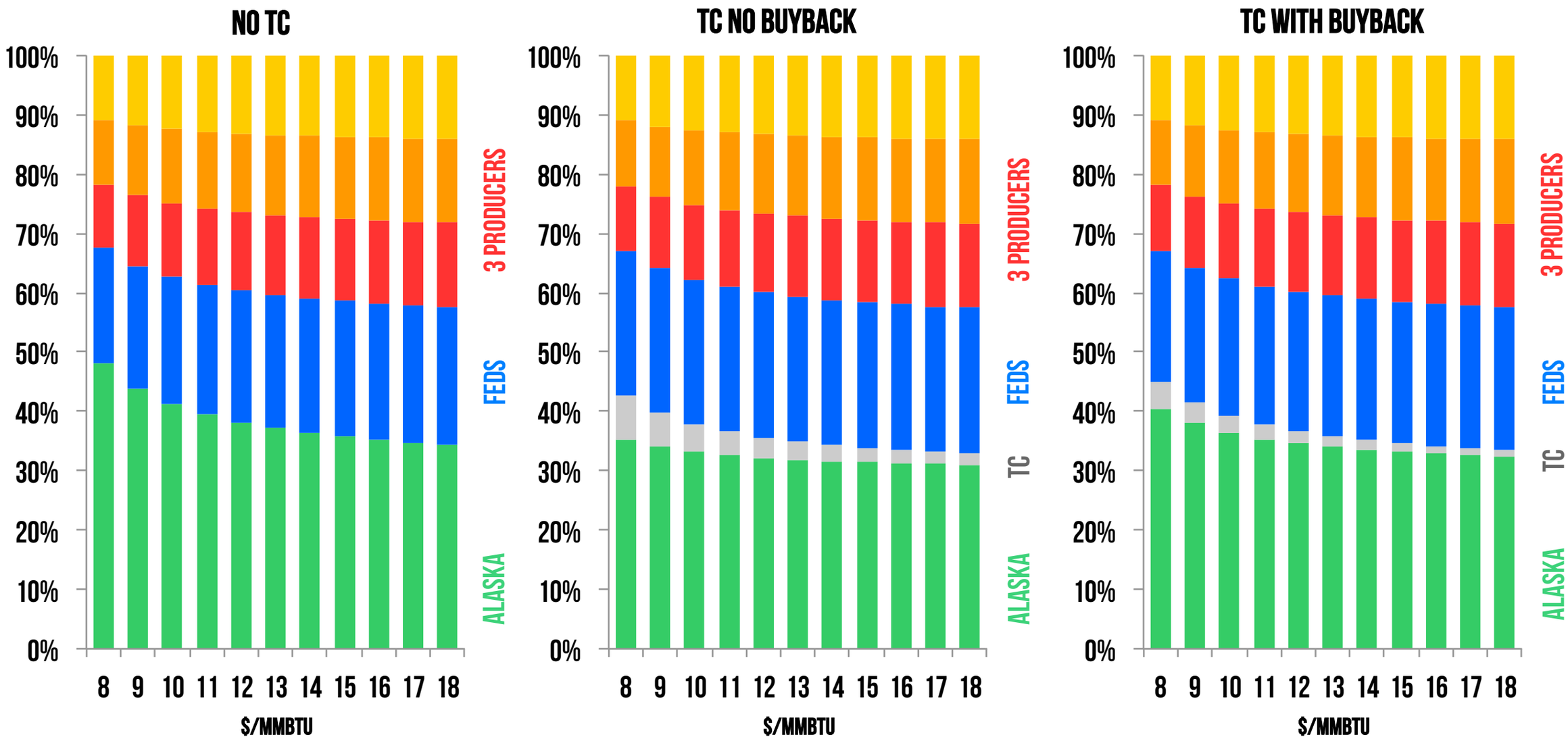
PERCENT OF CUMULATIVE CASH FLOWS OVER PROJECT LIFE



TC'S SHARE OF CASH IS HIGHEST AT LOW PRICES

TC's share ranges from 1% to 7%, depending on price levels and state's exercise of buyback

PERCENT OF CUMULATIVE CASH FLOWS OVER PROJECT LIFE, 25% EQUITY CASE

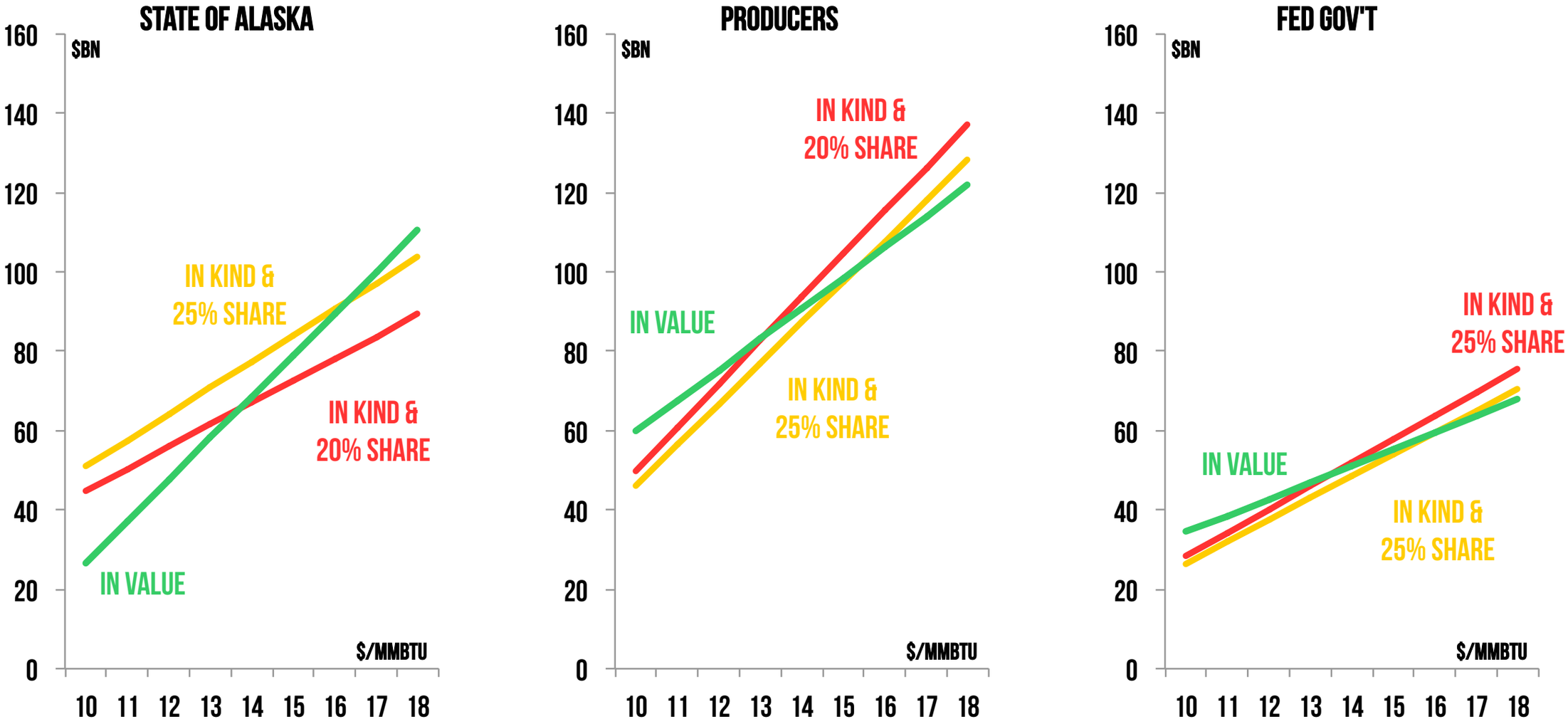


‘IN KIND’ W/ EQUITY OFFERS MORE DOWNSIDE PROTECTION

‘In value’ structure protects producers, not state, in low price environment because of tariff component

Higher SOA equity pushes up the price at which ‘in value’ is better than equity

CUMULATIVE CASH FLOWS OVER PROJECT LIFE

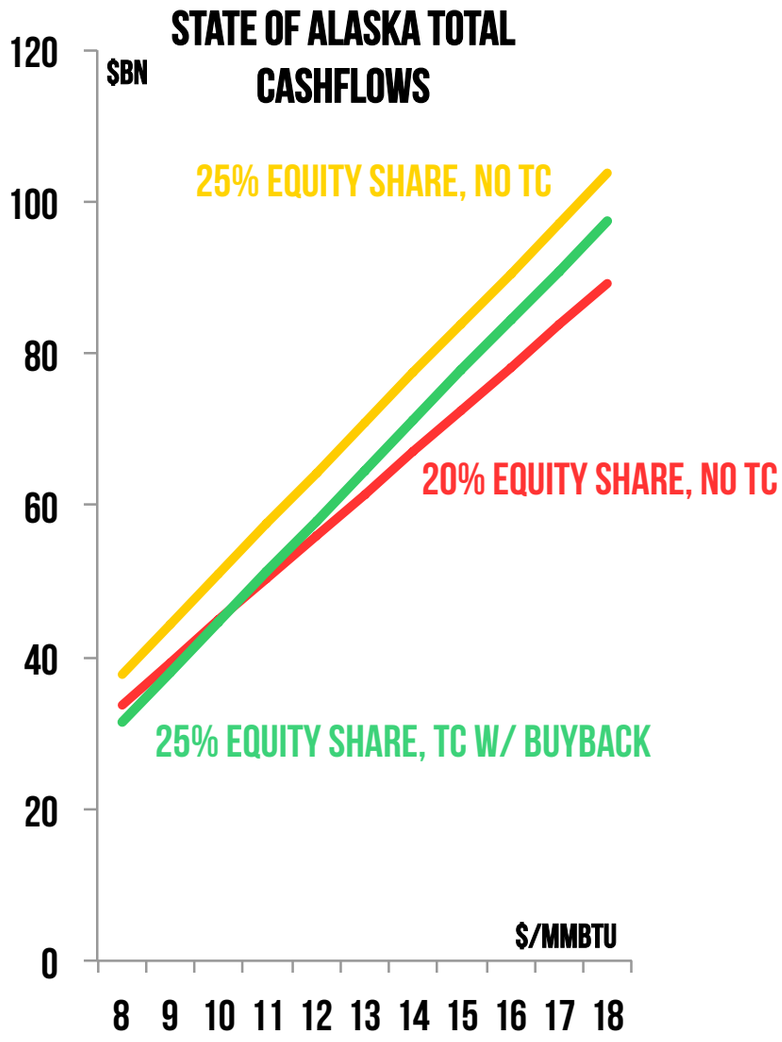


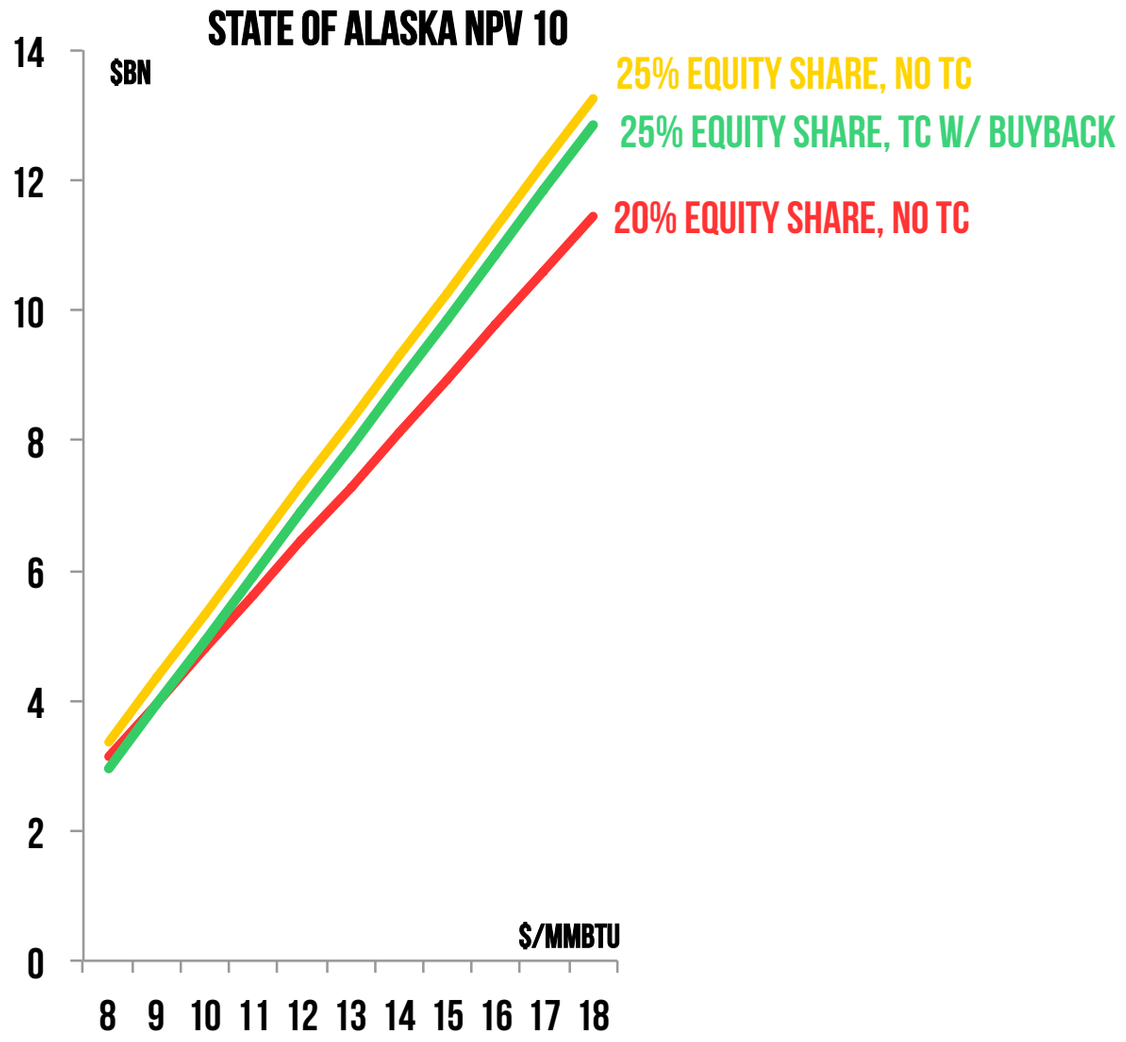
LIMITED VALUE FOREGONE UNDER TC W/ BUYBACK OPTION

Cash outlays under 25% equity share and TC w/ buyback option comparable to a 20% share without TC

Total cash flows and NPV10 are only moderately reduced compared to 25% share without TC

CUMULATIVE CASH FLOWS OVER PROJECT LIFE AND NPV TO STATE





OTHER QUESTIONS FOR THE MIDSTREAM

Should the state reimburse TransCanada's expenses under all scenarios; even if the project is no-go?

What does this imply for risk/reward split and appropriate locus of control?

How firm is 'off ramp' if state must offer TC participation if it continues with project within 5 years?

Should non-participants in an expansion benefit from lower costs if they share no risks of higher costs?

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