UNIVERSITY COLLEGE LONDON AUSTRALIA

Response to the Exploration Development Incentive Policy Proposal

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Response to the Exploration Development Incentive policy proposal

The Exploration Development Incentive (EDI) is certainly a welcome approach to increase the attractiveness of investment in mineral resource development among small scale developers with no taxable income. Our response mainly focuses on the analysis of alternative mechanisms to target junior petroleum explorers and the investors that should be considered for exploration concessions.

Though the EDI mainly refers to investment in mining, investment on petroleum resources, such as unconventional gas, should also be considered, to ensure more sustainable natural gas resource development. The shale gas revolution in the US benefitted immensely from multiple incentives, such as direct tax and favourable asset depreciation policies. In the Australian context, the development of all natural gas resources has been treated alike. Further, excessive dependency on coal reserves, declining domestic gas demand and remoteness of unconventional plays (especially shale gas) would also inhibit the developments in Australia. In comparison to conventional natural gas resources, unconventional natural gas resource needs specialized technologies, especially in the form of hydraulic fracturing. In addition, Australian shale gas resources are distinctively different from US shale gas resources in regards to geology. US shale development has also benefitted from other essential factors, such as comprehensive infrastructure, effective gas markets, common carriage policy on interstate pipelines, private mineral ownership and higher liquid content. In contrast, Australian shale gas resources are of non-marine type with higher clay content (leading to a decrease in the brittleness), higher CO_2 content and deeper formations. Hence, theses factors will mean that more technological customisation will be needed to increase the shale gas/tight gas development potential in Australia. Currently, there is a deficiency in hydraulic fracturing and auxiliary services (less than 1% of the global capacity), as well as the infrastructure necessary for unconventional gas development. As a result, the cost of development is substantially higher, which discourages small scale developers from the sector. Therefore, there are no potential economies of scale to prospective developers. Thus, the availability of fiscal policy based incentives will certainly increase the attractiveness of shale/tight gas development. Policies, such as EDI, but also favourable depreciation measures and Petroleum Resource Rent Tax (PRRT) holidays, would encourage small scale developers by improving cash flows, which will then lead to an increase the future development potential of these resources.

This response provides a comparison of the cash flows of EDI with two other potential incentive policies and the benefits to developers investing in natural gas resources. Without these, attracting small scale developers will not be straightforward, due to the high development costs and risk of high depletion rates associated with shale gas development. Development of natural gas resources by small scale Australian developers will be important to secure domestic gas supply in the future. The LNG commitments by large scale developers and the lucrative export parity pricing will increase the domestic gas price. Unless there are several small scale swing suppliers who can cater for the domestic demand, it will be challenging to maintain competitive gas prices for the domestic markets. Hence, these incentives will not only lead to the development of shale/tight gas resources, but also lead to the creation of a strategically lucrative service hub in Australia, which could offer services to other countries developing their own shale gas/tight gas resources.

How to target junior mineral/petroleum explorers

The small scale/ junior developers could be incentivised by a variety of mechanisms. Most importantly, long term sustainability of policy is vital for the industry. Though the EDI is attractive, it is important to consider other policy options as well. Changing tax credits through the EDI may not be sustainable in the long term. This response compares the single well development discounted cashflow analysis for 4 alternative policy directions based on the current Australian context. Namely;

1. 100% depreciation of exploration and development costs in the first year
2. 70% depreciation of exploration and development costs in the first year, Remaining divided equally within remaining well life (14 years)
3. PRRT holidays – First 3 years (based on prime cost depreciation)
4. PRRT holidays – First 5 years (based on prime cost depreciation)

Data Table

Drilling and Completion Costs	$9,000,000
State Royalties	10%
Well Spacing	80 acres
PRRT	40%
Income Tax	30%
Well life	15 years

Cash Flow Analysis

Year	Australian base case - Prime Cost	Australian base case – Diminishing Value	100% Depreciation (1st year)	70% Depreciation (1st year)	PRRT holidays – 3 years	PRRT holidays – 5 years
0	(9,000,000)	(9,000,000)	(9,000,000)	(9,000,000)	(9,000,000)	(9,000,000)
1	(2,821,600)	(2,638,571)	(435,186)	(1,082,819)	(2,821,600)	(2,821,600)
2	(1,770,292)	(1,465,243)	449,732	(144,418)	(1,282,061)	(1,282,061)
3	(1,139,391)	(780,048)	929,369	383,838	(386,534)	(386,534)
4	(740,454)	(381,110)	1,208,625	707,295	12,403	184,307
5	(495,259)	(135,916)	1,380,261	919,114	257,598	564,782
6	(338,031)	21,313	1,490,321	1,065,703	414,827	722,011
7	(233,711)	125,632	1,563,345	1,170,023	519,146	826,330
8	(162,529)	196,815	1,613,172	1,241,205	590,328	897,512
9	(112,806)	246,538	1,647,979	1,290,928	640,052	947,236
10	(77,374)	281,970	1,672,781	1,326,360	675,484	982,668
11	(51,690)	307,653	1,690,759	1,352,044	701,167	1,008,351
12	(32,794)	326,549	1,703,987	1,370,940	720,063	1,027,247
13	(18,710)	340,634	1,713,846	1,385,024	734,148	1,041,332
14	(8,090)	351,254	1,721,280	1,395,644	744,768	1,051,951
15	(0)	359,344	1,726,943	1,403,734	752,857	1,060,041
Fiscal costs (Total)	7,274,434	6,853,192	5,675,401	5,818,123	6,331,456	5,861,902

For shale gas/tight gas development, as evident from the US shale gas revolution, 100% depreciation of well development costs in the first year would be more attractive for junior developers. This would also be a more sustainable policy, especially since shale gas plays need rapid well replacement procedures. Thus, it will also be attractive for service companies, leading to higher economies of scale in development, leading to lower gas prices.

Which investors should receive exploration credits?

The incentives should be available to the small scale developers committed to supply natural gas for the domestic consumers. Long term contracts with local retailers and large scale consumers will need to be in place to become eligible for such incentives. The wide spread developments of shale gas/tight gas resources will contribute immensely to increased state governmental and federal government revenues in the forms of royalties, PRRT and income tax. Thus, increased development volume with more economies of scale will lead to increase investment, leading to a steady revenue stream. South Australia aspires to develop about 3500 shale gas wells by 2028; this could potentially earn more than $6 billion in revenues from state royalties alone, in addition to the PRRT and income tax contributions.