

## Refinery subsidies linked to the Keystone XL tar sands pipeline

February 7, 2012

The Keystone XL tar sands pipeline project, like all oil industry projects, benefits from substantial taxpayer subsidies. Some, like reduced property taxes, are directed at the pipeline itself. Others increase the viability of the pipeline by reducing the cost of the oil going into it or the cost of processing it at the other end.

Three refineries have embarked on more than \$10 billion in capital investment projects with a core objective of building capacity to process Canadian tar sands oil that will be delivered via the Keystone pipeline. These are Valero Port Arthur's Hydrocracker Project, Total Port Arthur's Coker project and Motiva Port Arthur's expansion project.<sup>1</sup>

The largest subsidy to these investments is through special depreciation provisions under section 179C of the tax code ("Election to Expense Certain Refineries").<sup>2</sup> The provision allows half of the investment to be written off (expensed) in the first year the facility opens. Prior rules were already generous – refineries could be written off in only ten years (and within that period at the most accelerated rate) though their service life is much longer.

### How is accelerated depreciation a subsidy?

Depreciation is an accounting process that writes off a portion of a multi-year investment from taxable income each year. If done correctly, the amount written off is equal to how much a machine or factory "wore out" in a particular year. Where write-offs are accelerated, more value is being deducted from taxable income soon after an investment is made than the value of the asset's actual degradation during the period. Higher deductions mean lower taxes paid.

Because firms can invest this savings and earn a return on it, higher deductions soon after an investment is made are valuable – even if the tax break changes only *when* the deductions can be made, not the *total amount* that can be deducted. In effect, the higher deductions act as an interest-free loan from the government to the refinery owner.

The value of the subsidy to refineries grows the more quickly the investment can be written off, the higher their tax rate (since the avoided taxes from higher deductions are bigger), and the higher their cost to borrow funds on their own (making the ability to reduce borrowing more valuable).

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<sup>1</sup> These projects are specifically intended for processing heavy sour oil such as that derived from the Canadian tar sands. Valero, Total and Shell (50% owner of Motiva Enterprises) are committed shippers on the Keystone XL pipeline and these refineries are located in Port Arthur where the pipeline would terminate. For project details see:

<http://www.valero.com/InvestorRelations/Pages/EventsPresentations.aspx> (see latest investor presentation) - <http://www.total.com/en/our-energies/oil/processing/projects-and-achievements/port-arthur-940868.html> -

[http://www.motivaenterprises.com/home/content/motiva/motiva\\_business/port\\_arthur/](http://www.motivaenterprises.com/home/content/motiva/motiva_business/port_arthur/). Also see

<http://priceofoil.org/2011/08/31/report-exporting-energy-security-keystone-xl-exposed/> and <http://priceofoil.org/?p=10719>

for further details of the connections between these projects and Keystone XL.

<sup>2</sup> [http://www.law.cornell.edu/uscode/usc\\_sec\\_26\\_0000179---C000-.html](http://www.law.cornell.edu/uscode/usc_sec_26_0000179---C000-.html)

## Subsidy value of section 179C expensing to Keystone-linked refinery investments

- **55% write-off in year 1.** Section 179C enables refineries to write off 55% of the total investment from taxable income in the year the facility opens (50% expensing, plus the first year of depreciation of the remaining expenditure). By the end of year three, more than 70% will have been deducted. In comparison, depreciating the asset over even lower-bound estimates for the actual life of the asset (20 years for example) would result in a much lower 12.5% of the investment written off by year three.
- **Subsidy value of \$1.0 to \$1.8 billion.** The rapid write-off turns out to be quite a valuable subsidy to the refineries: \$1 to \$1.8 billion on a net present value basis.<sup>3</sup> The low-end of the range uses a lower bound cost of capital and a shorter assumed asset life.
- **Subsidies as an investment source.** Another way to look at the value of the subsidy is to compare the net present value of the rapid deduction to the cost of the investment itself. Our calculations indicate that this one tax break alone is equal to between 10 and 17 percent of the *total project cost*.

Subsidy amounts per project are shown below in Table 1.

### Overview of calculation methods

To estimate the value of the section 179C subsidy, we obtained estimates for the cost of the new projects from the trade press and company publications. We then calculated the avoided taxes from depreciating them under section 179C rules versus the estimated 20 to 30 year service life of the investments. Calculating the subsidy value also depends on the tax rate and the firm's borrowing cost. These issues are discussed in turn.

*Useful life of new investments.* Based on the age of many US refineries, we expect that these new investments will last 30 years or longer. However, we include a shorter 20-year service life as well to form the lower-bound of our estimate. Existing IRS rules, allowing 10 year write-off of petroleum refinery assets (class 13.3), is itself a subsidy to capital in the sector though and was therefore not considered here.

*Tax rate and savings from higher deductions.* We looked at the marginal tax rate, or how much the firm pays in combined state and federal taxes on each extra dollar of income. The higher the marginal rate, the higher the tax savings from each dollar of taxable income reduced. The federal marginal rate for corporations is 35%. Our calculations assume a combined federal and Texas marginal rate of just under 36%. While Texas does not have a conventional corporate tax, the state's franchise tax acts similarly. We expect that the actual marginal rate for these firms is higher, and in recent years their taxes paid as a share of pretax net income has indeed been higher (in some cases above 40%). Thus, our assumptions are conservative.

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<sup>3</sup> Section 179C and other accelerated depreciation subsidies work by generating higher-than-baseline deductions in the early years of an investment, but lower-than-baseline deductions in the latter years. While the nominal sum of these figures is zero (regardless of time, the total deduction is capped at the amount invested), the front-loading of the tax savings generates a large financial benefit on a net present value basis due to the time-value of money. For this reason, the refinery subsidies have been evaluated on a net present value basis.

*Cost of borrowing.* Accelerated depreciation acts like an interest-free loan from taxpayers to firm owners. And, like any loan, the cost of capital matters. The higher the refinery's own cost to borrow, the more beneficial being able to "borrow" from taxpayers at no cost becomes. While data on the cost of debt is often reported in company annual reports, the cost of capital -- including equity, and related to a specific project rather than a firm-wide average -- is not. We've used a range of 5 to 9 percent here to bound our subsidy estimates. Valero's average debt costs for 2010 were 6.9%,<sup>4</sup> and cost of equity financing, such as from shareholders, are higher than those for debt. Thus, we expect the real cost of capital for these large projects to be towards the upper-end of our estimate range, or even higher.

As the useful life, the marginal tax rate, or the cost of capital increase, the subsidies these refineries will receive from the Title 179C will grow.

<b>Table 1: Subsidies resulting from highly accelerated write-off of refinery assets for projects linked to the Keystone XL pipeline</b>		
	<b>Asset life-20 yr Service Life</b>	<b>Asset life-30yr Service Life</b>
<b>Front-loaded write-off of investments from taxable income (% of total asset value)</b>		
<b>1 year</b>	<b>2.50%</b>	<b>1.70%</b>
<b>3 years</b>	<b>12.50%</b>	<b>8.30%</b>
<b>5 years</b>	<b>22.50%</b>	<b>15.00%</b>
<b>Net Present Value of 50% expensing:</b>	<b>vs. 20 yr SL</b>	<b>vs. 30 yr SL</b>
	<b>\$millions</b>	<b>\$millions</b>
<b>Valero</b>		
<b>Low cost of capital (5%)</b>	<b>156</b>	<b>218</b>
<b>High cost of capital (9%)</b>	<b>211</b>	<b>273</b>
<b>Motiva</b>		
<b>Low cost of capital</b>	<b>680</b>	<b>950</b>
<b>High cost of capital</b>	<b>919</b>	<b>1,192</b>
<b>Total SA</b>		
<b>Low cost of capital</b>	<b>214</b>	<b>299</b>
<b>High cost of capital</b>	<b>289</b>	<b>375</b>
<b>NPV of subsidies to all three projects</b>		
<b>Low cost of capital</b>	<b>1,050</b>	<b>1,467</b>
<b>High cost of capital</b>	<b>1,419</b>	<b>1,841</b>

<sup>4</sup> Valero Energy Corporation, *Form 10-K for the fiscal year ended December 31, 2010*, p. 54.