

**THE COLORADO OIL AND GAS SEVERANCE TAX BREAK:
ELIMINATING THIS SUBSIDY WILL NOT AFFECT CONSUMER ENERGY PRICES**

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Executive Summary

This economic analysis was conducted in June of 2008 to determine the effect of ending the severance tax break on oil and gas extraction in Colorado on consumer prices of gasoline and natural gas for home heating in Colorado.

The analysis finds that it would be highly unlikely that ending the severance tax break will cause gasoline prices to rise. Within the complex structure of the global oil market, crude oil prices are the largest determinant of gasoline prices; and Colorado's contribution to the global oil supply is too small to affect prices.

Similarly, the analysis finds little chance that ending the severance tax break could lead to an increase in consumer prices for natural gas. While natural gas is primarily traded at the regional and national level, rather than globally as crude oil is, Colorado's contribution to the supply is relatively small. Many factors, such as production, inventories, oil prices, weather, and distribution costs combine to determine the price that consumers must pay to heat their homes, making it unlikely that a minor change to only one of those factors would translate into higher prices.



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Introduction

For the past 30 years, oil and gas corporations have received tax breaks on their Colorado severance taxes in what amount to subsidies from the state of Colorado. At present:

- Eight out of ten of the severance tax returns filed by oil and gas companies result in refunds. The State Auditor noted in 2006 that, "...due to the ad valorem tax credit, the majority of oil and gas tax filers do not have a severance tax liability. Rather, the majority of severance tax filings result in taxpayer refunds. For example, for 2004, oil and gas taxpayers filed 8,007 severance tax returns with the Department of Revenue. More than 6,500 (81%) of these returns resulted in taxpayer refunds.¹
- 95% of all oil wells and 73% of all natural gas wells in Colorado are able to avoid paying their tax owed to the state of Colorado.
- Natural gas and oil producers can deduct 87.5% of the previous year's property tax that they owe to the state of Colorado.

Eliminating these tax breaks could potentially cost the oil companies an estimated \$200 million per year, which for comparison purposes would represent a 2.4% decrease in their estimated \$8.2 billion revenues in Colorado in 2007².

In this time of rising energy prices, some have expressed concern over whether the elimination of these tax credits and subsidies would affect the prices that consumers pay for gasoline or natural gas. Eliminating the property tax break enjoyed by the oil and gas industry in Colorado, the only state in the country to provide such a tax subsidy, would be highly unlikely to increase prices consumers pay at the pump for gasoline, or to increase natural gas prices associated with home heating or electricity rates in Colorado. While these prices are likely to continue rising for other economic reasons described in more detail below, our analysis concludes that eliminating the tax subsidy would not cause local prices to rise. This is fundamentally because oil and gas are fungible commodities in a world market and therefore local increases in production costs do not lead to increased local prices. On the following pages, we provide an analysis of why this is the case and answer questions about the potential impacts of closing the severance tax loophole.

Economic Analysis

The Effect of Ending the Severance Tax Break on Gasoline: All Gain, No Pain at the Pump

Q: Would eliminating the tax credit cause an increase in gasoline price?

A: Gasoline prices may go up in the near future for other reasons, but eliminating the tax credit will not be the reason for it.

A closer look at the structure of the gasoline market illustrates why this is so. There are many complex factors that influence gasoline prices – and Colorado's production of crude oil is a very minor one.

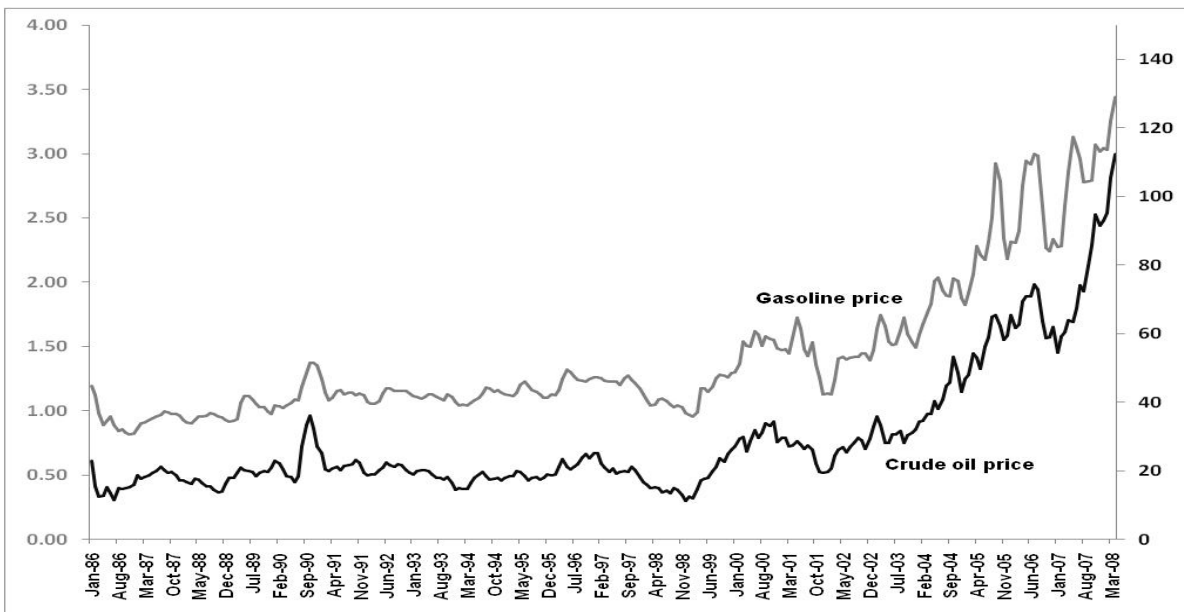
Factors that influence consumer gasoline prices include the following:

- **Crude oil prices** account for about 73% of current price at the pump. Oil is a commodity whose price is set in the global marketplace, rather than at the state or even national level, which means that minor supply changes like this are absorbed in the global price.³

As the Federal Trade Commission recently noted, “The world price of crude oil is the most important factor in the price of gasoline. Over the last 20 years, changes in crude oil prices have explained 85% of the changes in the price of gasoline in the U.S.”⁴

Figure 1 illustrates the relationship between crude oil supplies and gasoline prices.

Figure 1.



This graph was constructed using Energy Information Administration data.⁵

Gasoline price: U.S. City Average Retail Price, \$/gallon

Crude oil price: West Texas Intermediate, \$/barrel

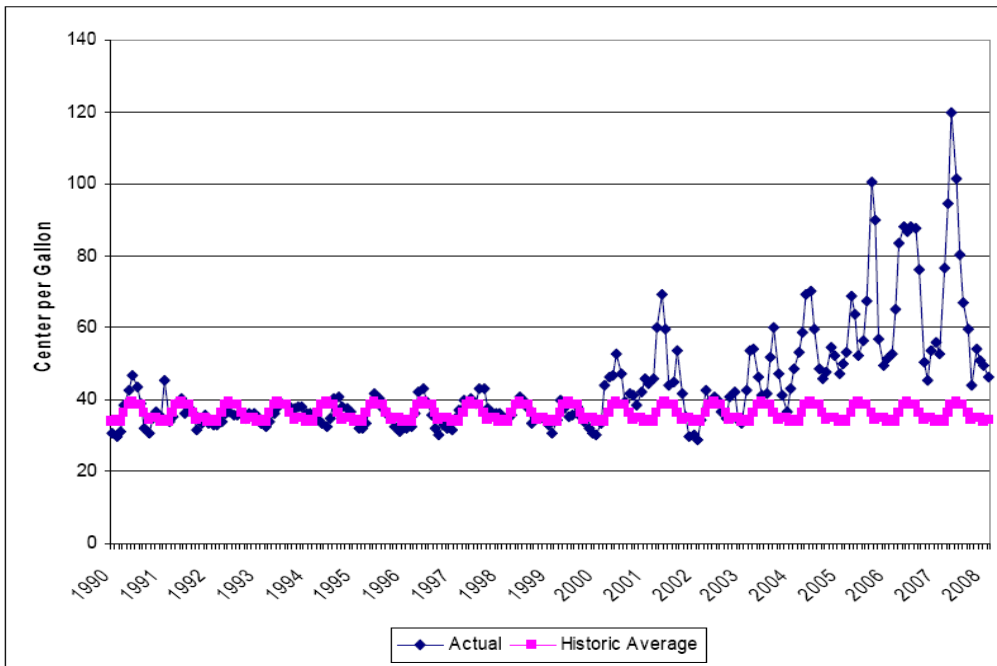
The portion of the global crude supply that comes from Colorado is far too small to influence this component of gasoline prices. The state produced about 23 million barrels of oil during all of 2007 - which is slightly more than the amount consumed in the U.S. **in one day**.⁶ Such a small fraction of supply will not affect prices.

- **Refining, distribution and marketing** account for about 16% of current price of gasoline at the pump. Known as the domestic spread, this is the basis for profits in the refining and marketing segment of the domestic petroleum industry and reflects the degree of competition in that segment.⁷

As seen in Figure 2, the domestic spread has increased dramatically since about 2002. This is partly because of greatly decreased refining capacity relative to gasoline demand and the reduced number of major refiners, which has allowed a few large companies to control the supply.⁸

Figure 2.⁹

**Domestic Spread on Gasoline
(Pump Price minus Crude and Taxes)**



Source: EIA, Data base.

- **Taxes**, which account for about 11% of current price at the pump, and include federal, state and local excise taxes.¹⁰

Q: Would a decrease in oil production in Colorado as a result of the tax credit elimination decrease supply enough to affect world oil markets, thereby increasing the crude oil price and the gasoline price?

A: Colorado produced about 23 million barrels of oil in 2007.¹¹ World oil production was about 31 billion barrels in 2006. Colorado's approximate 0.07% of the annual world supply is not enough to affect global supply nor prices.

Q: Could the energy companies simply pass the cost on to consumers in the form of higher prices at the pump?

A: No. There are several two reasons why the insignificant costs to oil companies of the severance tax reform are highly unlikely to be passed on to consumers.

- Eliminating the tax credit increases taxes on energy companies. Increasing taxes adds to the cost of production, which affects business income and profits. Costs are distinctly different from prices. Oil is a commodity whose price is determined in the global market by supply and demand. Companies selling commodities in competitive markets are not able to increase their prices; they are only able to sell at the market price. As a result, the oil companies would not simply be able to increase the price of the crude oil they sell, so the price of gasoline at the pump would be unaffected.

The Effect of Ending the Severance Tax Break on Natural Gas Markets: Diverse Supplies Mean Diffuse Effects

Q: Would eliminating the severance tax break affect natural gas prices?

A: It is extremely unlikely that natural gas prices would be affected.

The nation's natural gas supply and market are very different from the crude oil and gasoline markets. Natural gas prices vary among regions in the US depending on how close a state is to a producing area, if major transmission pipelines service the state, and how much competition there is in the state.

Most of the natural gas consumed in the U.S. is produced domestically, primarily in the Gulf Coast and Rocky Mountains. The remainder is imported, mostly from Canada. Colorado is fortunate in that it is a major producing state in a major producing region, so prices here are relatively low.¹²

The price consumers pay for natural gas is determined by two main factors: 1) the commodity cost, or natural gas market price, which accounted for 53% of the total price in the winter of 2007-08; and 2) the costs of transmission and distribution, which accounted for 47% of the cost in the winter of 2007-08.¹³

The first of these factors, the commodity cost or market price, is affected by a complex mix of factors – some of which tend to raise prices and some of which tend to lower prices:

- Domestic natural gas production, which has been rising in the U.S. since 2000, tends to lower prices as more gas is supplied to the market.
- Imports, which also increased in 2007. As supplies from imports increase, the price tends to decrease.
- Inventories – High inventories, or stored supplies of natural gas, tend to decrease prices.
- Other factors, such as demand increases, can cause prices to rise.
- Rising oil prices also tend to put upward pressure on natural gas prices as industrial consumers

and generators of electricity switch from oil to natural gas.

- Weather can either raise or lower natural gas prices. Mild winters decrease demand and put downward pressure on prices, whereas cold winters increase demand and tend to increase prices. Hurricanes in the Gulf of Mexico can cause production to shut down, thereby also increasing prices.

Removing the severance tax subsidy in Colorado would have a minor effect on production costs in one state. Given the myriad additional factors that determine the market price of natural gas, it is highly unlikely that removing the severance tax subsidy in Colorado would increase prices for Colorado consumers beyond those expected because of other factors.

Q: Could the energy companies simply pass the cost on to consumers in the form of higher prices?

A: The natural gas market is similar to the oil market in that many complex factors contribute to the price consumers pay, and regional gas production is only one factor. Increasing taxes adds to the cost of production, which affects business income and profits. But costs to gas companies are distinctly different from the prices that consumers pay. Natural gas is a commodity whose price is determined by supply and demand.¹⁴

Companies selling commodities in competitive markets such as the natural gas market are not able to increase their prices. Natural gas producers do not sell directly to consumers; instead, they sell to a local distribution company like Xcel Energy (the consumer natural gas provider for many Coloradans) based on regional gas price indexes such as the Colorado Interstate Gas index. Companies that tried to sell their gas to utilities for more than the index price would be unable to do so.

Q: Would a decrease in natural gas production in Colorado as a result of the tax credit elimination decrease supply enough to affect price?

A: Highly unlikely. Colorado produced about 1.2 million cubic feet (Tcf) in 2006.¹⁵ Total US production was 19.3 Tcf, which means that Colorado produced about 6% of total US production.¹⁶ Even if the removal of the tax subsidy caused gas companies to shut off a considerable number of Colorado's wells, it would only affect one of the factors that determine the price of natural gas, and only have a very small effect on it.

¹ In 2004, 81% of oil and gas severance tax returns resulted in tax refunds. The report cited below further notes that, "The Department of Revenue's taxpayer information system does not track ad valorem credits

taken against severance taxes. Therefore, we were unable to determine the actual amount of the ad valorem credits claimed on oil and gas severance tax returns.” REPORT OF THE STATE AUDITOR, Severance Tax, Department of Revenue, Department of Natural Resources, Performance Audit June 2006, Sally Symanski, Acting State Auditor.

² Estimated using oil and gas production and average 2007 prices from Colorado Oil and Gas Conservation Commission, “2007 Monthly Oil Produced by County 6/7/2008,” http://oil-gas.state.co.us/reports/report_pages/OilProd-2007.pdf, “2007 Monthly Coalbed and Conventional Natural Gas Produced by County- 6/6/2008,” http://oil-gas.state.co.us/reports/report_pages/GasProd-2007.pdf, <http://oil-gas.state.co.us/Library/Statistics/OilPrice2006-2007.htm>, and <http://oil-gas.state.co.us/Library/Statistics/GasPrices2006-2007.htm>.

³ Energy Information Administration, “What We Pay For In A Gallon of Regular Gasoline (May 2008)” <http://tonto.eia.doe.gov/oog/info/gdu/gasdiesel.asp>

⁴ Gasoline Price Changes: The Dynamic of Supply, Demand, and Competition, Federal Trade Commission, 2005.

⁵ Ibid Federal Trade Commission 2005.

⁶ Colorado Oil and Gas Conservation Commission, “2007 Monthly Oil Produced by County 6/7/2008,” http://oil-gas.state.co.us/reports/report_pages/OilProd-2007.pdf.

⁷ Ibid EIA Gasoline Price Primer 2006.

⁸ Rising Gasoline Prices: Why Can’t Consumers Catch a Break? Mark Cooper, Consumer Federation of America, 2008.

⁹ Ibid Cooper 2008.

¹⁰ Energy Information Administration, U.S. Department of Energy, A Primer on Gasoline Prices, DOE/EIA-X040, May 2006, http://www.eia.doe.gov/pub/oil_gas/petroleum/analysis_publications/primer_on_gasoline_prices/html/pe_tbro.html.

¹¹ Ibid Colorado Oil and Gas Conservation Commission 2007.

¹² Energy Information Administration, U.S. Department of Energy, Residential Natural Gas Prices: What Consumers Should Know, DOE/EIA-X046, November 2007, http://www.eia.doe.gov/neic/brochure/oil_gas/rngp/index.html. p.2.

¹³ Ibid EIA Natural Gas 2007.

¹⁴ Ibid EIA Natural Gas 2007.

¹⁵ Colorado Oil and Gas Conservation Commission, “2006 Monthly Coalbed and Conventional Natural Gas Produced by County- 6/6/2008,” http://oil-gas.state.co.us/reports/report_pages/GasProd-2007.pdf.

¹⁶ Energy Information Administration, U.S. Department of Energy, Natural Gas Gross Withdrawals and Production, http://tonto.eia.doe.gov/dnav/ng/ng_prod_sum_dcu_NUS_a.htm.