

# COMPRESSED NATURAL GAS SUPPLIED FROM A RESIDENCE EXEMPTION EVALUATION SUMMARY



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2019-TE17

THIS EVALUATION WILL BE INCLUDED IN COMPILATION REPORT SEPTEMBER 2019

YEAR ENACTED	2013
REPEAL/EXPIRATION DATE	None
REVENUE IMPACT	Less than \$140,000 <small>CALENDAR YEAR 2018</small>
NUMBER OF TAXPAYERS	Fewer than 1,750
AVERAGE TAXPAYER BENEFIT	\$80
IS IT MEETING ITS PURPOSE?	Yes

## WHAT DOES THIS TAX EXPENDITURE DO?

The Compressed Natural Gas Supplied from a Residence Exemption (Compressed Natural Gas Exemption) exempts, from the special fuels excise tax, compressed natural gas that is used to propel a vehicle when that gas is supplied from a residence.

## WHAT IS THE PURPOSE OF THIS TAX EXPENDITURE?

Statute does not directly state a purpose for this tax expenditure. We inferred that the purpose is to avoid the cost to the State for collecting the tax, as the administrative costs associated with collecting the tax would outweigh anticipated revenue.

## WHAT DID THE EVALUATION FIND?

We determined that the Compressed Natural Gas Exemption is meeting its purpose because it avoids the cost to the State for collecting the tax.

## WHAT POLICY CONSIDERATIONS DID THE EVALUATION IDENTIFY?

We did not identify any policy considerations related to the Compressed Natural Gas Exemption.

# COMPRESSED NATURAL GAS SUPPLIED FROM A RESIDENCE EXEMPTION

## EVALUATION RESULTS

### WHAT IS THE TAX EXPENDITURE?

The Compressed Natural Gas Supplied from a Residence Exemption (Compressed Natural Gas Exemption) exempts compressed natural gas that is “used to propel a motor vehicle on the highways of this state that is supplied to the user at a residential home...from the special fuel tax” [Section 39-27-102.5(9), C.R.S.]. This exemption went into effect beginning in Tax Year 2014 as part of House Bill 13-1110, which established that going forward, compressed natural gas and other types of special fuels used to propel vehicles on the State’s highways, other than those included in the exemption, would be subject to the special fuels excise tax. Prior to this bill, special fuels had been exempt from the excise tax.

Compressed natural gas is an alternative fuel that can be used to power a vehicle. Compressed natural gas for fueling vehicles can be purchased at natural gas fueling stations and some organizations with a large fleet of compressed natural gas vehicles will install their own natural gas fueling infrastructure. Natural gas from either of these sources that is used to fuel vehicles is subject to the special fuels excise tax. However, if someone has a natural gas supply for their home, they can use a compressed natural gas home refueling appliance to convert that natural gas into a form usable in a motor vehicle. The natural gas used to fuel vehicles would be exempt from the tax as a result of this expenditure and any used residentially is not subject to the special fuels excise tax because it is not used on the State’s highways.

Compressed natural gas that is used to propel a vehicle is currently taxed at a rate of \$0.183 per gallon. Revenue collected from this special fuels excise tax goes into the Highway Users Tax Fund, which contributes to funding for construction and repair on public roads.

Taxpayers do not have to take any action to claim the Compressed Natural Gas Exemption.

#### WHO ARE THE INTENDED BENEFICIARIES OF THE TAX EXPENDITURE?

Statute does not explicitly identify the intended beneficiaries of this expenditure. Based on the statutory language, we inferred that the intended beneficiary of the Compressed Natural Gas Exemption is the State. The exemption was enacted at the same time that compressed natural gas used to fuel vehicles became subject to the special fuels excise tax. By enacting the exemption at the same time as the tax, it appears that the General Assembly recognized the difficulty and cost involved for the State to track and measure the amount of natural gas from a residence that is used to fuel vehicles. We also inferred that the indirect beneficiaries of the expenditure are taxpayers who use a residential supply of natural gas to fuel compressed natural gas vehicles since it exempts them from paying the special fuels excise tax on the natural gas used for this purpose.

#### WHAT IS THE PURPOSE OF THE TAX EXPENDITURE?

Statute does not explicitly state a purpose for this tax expenditure. We inferred that the purpose is to avoid increased costs to the State of collecting the special fuels excise tax on compressed natural gas that is supplied from a residence and used to propel a vehicle, as the administrative costs associated with collecting the tax would outweigh anticipated revenue.

The Compressed Natural Gas Exemption was implemented at the same time that the special fuels excise tax on compressed natural gas used to propel vehicles on state highways was instituted (House Bill 13-1110). This suggests that the General Assembly was aware that it would be

difficult and costly to collect the tax when the compressed natural gas is supplied from a residence. This is further evidenced by the fact that in the same bill that created the tax and the exemption (House Bill 13-1110), the General Assembly mandated that the Departments of Transportation, Revenue, Labor and Employment (Division of Oil and Public Safety), and the Colorado Energy Office jointly prepare and submit a report to the Transportation Legislation Review Committee. This report was to include a recommendation as to whether the special fuels excise tax should be levied when the “special fuel is supplied to the user at a residential home, including compressed natural gas that is exempt from taxation under Section 39-27-102.5(9), [C.R.S.] and if so, any recommendations for how to collect this tax.” The final report prepared by the four agencies stated, “Given the enforcement and administrative costs, the [S]tate does not recommend taxing residential fuel used for transportation purposes.”

#### IS THE TAX EXPENDITURE MEETING ITS PURPOSE AND WHAT PERFORMANCE MEASURES WERE USED TO MAKE THIS DETERMINATION?

We determined that the Compressed Natural Gas Exemption is meeting its purpose because it avoids the cost the State would otherwise incur for collecting the special fuels excise tax on compressed natural gas from a residence used for transportation purposes.

Statute does not provide quantifiable performance measures for this exemption. Therefore, we created and applied the following performance measure to determine if the exemption is meeting its inferred purpose:

**PERFORMANCE MEASURE:** *To what extent does the Compressed Natural Gas Exemption avoid the cost to the State of collecting the special fuels excise tax on compressed natural gas that is supplied from a residence and used to propel a vehicle?*

**RESULT:** Through its existence, the Compressed Natural Gas Exemption saves the State the administrative costs it would otherwise incur to

collect taxes on residential fuel used for transportation purposes. Since the exemption applies automatically and taxpayers do not have to file documentation with the Department of Revenue to claim the exemption, it is effectively applied to all eligible taxpayers through its statutory operation, although we were unable to determine the extent to which natural gas from a residence is used to fuel vehicles.

In addition, we found that the exemption only applies to natural gas used for a small number of motor vehicles in the state. Specifically, based on data provided by the Division of Motor Vehicles, within the Colorado Department of Revenue, as of Calendar Year 2018, there were about 1,750 vehicles registered in Colorado that operate using some form of natural gas. These 1,750 vehicles represent 0.03 percent of the almost 6 million registered vehicles in Colorado and this percentage has remained constant since at least Calendar Year 2016. Because vehicles that are fueled by a residential gas supply represent only a portion of these 1,750 vehicles, the exemption applies to even fewer vehicles.

Although we lacked information to precisely quantify the number of vehicles that are exempt, barriers to refueling natural gas vehicles at residences further indicate that the exemption applies infrequently. Specifically, in order for a residence with a natural gas supply to convert the gas into compressed natural gas that could be used to fuel a vehicle, the homeowner would need to purchase special equipment. According to an industry representative, there is only one company that produces a home refueling appliance that converts natural gas into compressed natural gas that is certified by the federal government. The appliance costs about \$5,000, not including installation costs. The lack of widely developed technology, in combination with equipment costs, likely limits the number of residences that have or are willing to install such equipment. The industry representative estimated that it is likely that there are fewer than 5,000 home refueling appliances throughout the entire United States. Therefore, due to the small number of vehicles registered in the state that can use natural gas as fuel, as well as the limited number of home refueling appliances in the country, we would

expect the number of Colorado residences using compressed natural gas to fuel their vehicles to be very small.

### WHAT ARE THE ECONOMIC COSTS AND BENEFITS OF THE TAX EXPENDITURE?

We estimate that the amount of state revenue forgone annually due to the Compressed Natural Gas Exemption would be less than \$140,000 and taxpayers would save about \$80 per year, per vehicle in special fuels excise taxes.

According to the *House Bill 13-1110 Review Report for the Colorado Transportation Legislative Review Committee*, the average Coloradan drives 12,000 miles in a year. Since one gallon of compressed natural gas can drive about 28 miles, the average compressed natural gas vehicle owner would use 429 gallons per year. EXHIBIT 1.1 shows our estimate of the average special fuels excise tax liability per compressed natural gas vehicle, per year and the maximum amount of special fuels excise taxes that may have been exempted. Because the total number of registered vehicles using natural gas includes all natural gas vehicles, not just those that are refueled at residences, the actual revenue impact is likely less than \$140,000.

#### EXHIBIT 1.1. ESTIMATED ANNUAL AVERAGE SPECIAL FUELS EXCISE TAX LIABILITY FOR VEHICLES USING COMPRESSED NATURAL GAS CALENDAR YEAR 2018

Average miles driven annually	12,000
Compressed natural gas miles per gallon	28
Average gallons of compressed natural gas used per year	429
Compressed natural gas tax rate	\$0.183/gallon
Total registered vehicles using natural gas	1,750
Total estimated maximum annual special fuels excise tax liability <sup>1</sup>	\$140,000
Estimated annual special fuels excise tax owed per vehicle	\$80

SOURCE: Office of the State Auditor calculation based on statute, Division of Motor Vehicles data, and the *House Bill 13-1110 Review Report for the Colorado Transportation Legislative Review Committee*.

<sup>1</sup> The \$140,000 maximum assumes that all natural gas vehicles use compressed natural gas and that all of the gas is obtained through a residence.

## WHAT IMPACT WOULD ELIMINATING THE TAX EXPENDITURE HAVE ON BENEFICIARIES?

Eliminating the Compressed Natural Gas Exemption would result in the State having to implement a system for identifying and inspecting residences where natural gas is converted to use to fuel vehicles, and measuring the amount of natural gas used for this purpose if it wished to enforce the tax. According to the *House Bill 13-1110 Review Report for the Colorado Transportation Legislative Review Committee*, if residential fuel used for transportation was subject to the special fuels excise tax, the Division of Oil and Public Safety would need inspectors to visit the residences with home fueling tanks, and produce a method of measurement to identify fuel used specifically for transportation purposes, which would be costly. We were unable to estimate the cost of implementing this type of system, but would expect it to exceed the estimated maximum of \$140,000 that the State forgoes in revenue annually as a result of the exemption.

In addition, if the exemption were eliminated, it would result in higher special fuels excise taxes for vehicle owners who use residential natural gas for transportation purposes. Specifically, without this exemption, vehicle owners would have to pay special fuels excise taxes on any natural gas that they had purchased for their home, but converted and used to propel their vehicle. We estimate that these vehicle owners would incur, on average, an additional \$80 in special fuels excise taxes each year without the exemption.

## ARE THERE SIMILAR TAX EXPENDITURES IN OTHER STATES?

We did not identify any other states that currently have a similar tax expenditure. However, Florida has passed legislation imposing an excise tax on natural gas starting in 2024. At that time, Florida will also enact an exemption for compressed natural gas similar to Colorado's, where individuals will be exempt from the excise tax when using "residential refueling devices located at a person's primary residence" to fuel their vehicles.

**ARE THERE OTHER TAX EXPENDITURES OR PROGRAMS WITH A SIMILAR PURPOSE AVAILABLE IN THE STATE?**

We did not identify any similar tax expenditures or programs in Colorado.

**WHAT DATA CONSTRAINTS IMPACTED OUR ABILITY TO EVALUATE THE TAX EXPENDITURE?**

We did not identify any data constraints related to the Compressed Natural Gas Exemption.

**WHAT POLICY CONSIDERATIONS DID THE EVALUATION IDENTIFY?**

We did not identify any policy considerations related to the Compressed Natural Gas Exemption.