

The *Refinance Water Pollution Control Program* is a bill that addresses the funding shortfalls associated with Colorado's Water Quality Control Division. The following is an economic analysis of the Bill. Currently the water quality program in Colorado is funded by a combination of the fees charged to the sources of water pollution, along with general fund money. This bill, HB17-1285, increases the fees that are charged to the pollution source sectors. These fees will be put into a cash fund that will be available to contribute to the water quality management in Colorado. The Bill also adjusts the ratio at which this cash fund and the general fund is responsible for funding the water quality management in the corresponding sector.

There are six source sectors that produce pollution and different ratios proposed for each. The commerce and industry sector with a 50/50 split in cash fund versus general funds respectively; the construction sector with a 20/80 split in general funds and cash funds; the municipal separate storm sewer with a 50/50 split of funds; the pesticides sector with 94/6 split of general funds and cash funds; the public and private utilities sector with a 50/50 split of funds; and water quality certifications sector with a 5/95 split of general funds and cash funds. The last two sections of the Bill appropriate additional money from the general fund to these six sectors and to the Water Quality Control Division(WQCD) to maintain water quality management due to current deficits.

These sectors are being assessed fees by the government for a long list of activities. These activities have the negative effect of polluting the water in Colorado. Water pollution is something that everyone must deal with regardless of who produces it because everyone needs clean drinking water. Since it was created by the Colorado General Assembly in 1981, the

Colorado Water Quality Division has been charged with keeping our streams and reservoirs safe and clean. They are given a certain amount of regulatory power and funding to carry out the job of reducing and cleaning up water pollution.

Pollution is a negative externality. A negative externality is defined as a cost incurred by an entity outside of the market for a certain good or service. The cost at issue here is the water pollution that must be cleaned up and regulated. The pollution producing markets would not have these pollution costs factored into their equilibrium prices without the instalment of fees or financial responsibility of cleaning up the pollution they produce. Therefore, an inefficiently high level of pollution producing activities would result.

In the face of negative externalities, the government can adjust the equilibrium output to a more efficient level by implementing taxes or fees. These fees attempt to internalize the negative externalities. By imposing fees on pollution producing firms, the cost of production increases, so less output and less pollution will result. The government intervention is a critical step in ensuring socially optimal levels of clean and safe water.

The fees charged to the different pollution producing sectors are a way to have the polluters bear the cost of the pollution. While taxes are mainly used to increase revenues, fees are usually used to offset certain costs to the government. These costs include both damage to the environment and the administrative costs incurred by the regulators of the pollution. These are fees levied on each unit of pollution.

The fee system was authorized in 1981, according to the Colorado Department of Public Health and Environment's (CDPHE) website, and has undergone several increases. The fees have been increasing due to growth in the division as more regulation has been implemented in

the different sectors. Due to rising prices and an ever-increasing workload, the Division is running a deficit and is unable to maintain the current level of operation.

The WQCD is in charge of collecting these fees. They oversee maintaining clean and safe water in the state of Colorado while adhering to the federally approved water regulations. At the level of current fees and payment ratios, the clean water fee structure website (<https://www.colorado.gov/pacific/cdphe/clean-water-fee-structure-discussion>) estimates a deficit average of over \$2,000,000 per year until 2022. The deficits reduce the Divisions ability to regulate and almost certainly increase necessary appropriations from the State's General Fund to account for the deficit.

Also, contributing to the deficit is the fact that Colorado is the second fastest growing state in the U.S. According to the data from the Bureau of Economic Analysis, between 2010 and 2015 the Colorado economy grew in real terms by 13.97% with an annual growth rate of 2.65% per year. That correlates to a sharp climb in the volume of work for the WQDC. Increased work leads to wider deficits as the current level of fees are inadequate to maintain even the present level of regulation and oversight.

Inflation is a problem that surfaces after some time with set fees. Due to steady inflation, if the fees are not adjusted for changes in the price level each year, then in real terms, the cost incurred to the certain sectors falls overtime. When this occurs the cost of producing pollution is diminished and too much pollution will result. Even more important than the costs facing the sectors falling, is the increased costs of the WQCD. As prices rise so does the administrative costs associated with regulating and maintaining safe pollution levels. Increased fees are an answer to inflationary pressures facing the WQCD.

Since 2007 the average annual inflation has been about 1.7% according to the consumer price index. Over the ten-year period since the fees were last adjusted that equals 17% cumulative inflation that these fees are correcting for. The average increase proposed by HB17-1285 to fees is 19.5% overall. This increase is just above the necessary fee hikes needed to correct for inflation.

The implementation and enforcement of the fees are going to result in increased administrative spending by the Division. The WQCD's stakeholders process presentation in 2016 outlines in detail the reasons behind restructuring the current fees schedules. The reasons include; "targeting enforcement towards operators that show chronic violations, significant violations, or recalcitrant response actions", "Increasing inspections of the construction sector to meet compliance objectives identified by the federal environmental protection agency", and "Implementing a compliance strategy that relies on increased assistance and follow-up to obtain an overall increase in compliance instead of increased reliance on enforcement". This is three out of the seven presented reasons for fee increases. Increasing the fees by the amount suggested by the Bill does not seem to be enough of an increase in funds to offset the Divisions rising costs.

The Bill also outlines the ratios at which these cash funds, which are created from the higher fees, will be combined with the State's General Fund to cover the costs of cleaning up and regulating water pollution in Colorado. For example, there is a 50/50 split between the State's General fund and the cash fund for the Municipal Separate Storm Sewer. Meaning the incidence or actual cost will be split evenly between the private entities who cause the pollution and the tax payers. The Bill is assigning incidence to the costs associated with the market externalities. The efficient level to assign is very difficult to determine.

The Coase Theorem in economics states that an efficient solution to an externality problem is achieved if someone is assigned property rights, regardless of who that is. So, an efficient outcome to the water pollution problem would be to assign the property rights to the private entities that are producing the water pollution in Colorado. If these sectors were ultimately responsible for cleaning up all the pollution they produced, then their higher costs would be factored into the market prices of whatever it is they produce. This would be passed on to the consumers of the goods produced, and a new efficient market equilibrium would be negotiated. This would also lead the private entities within the six sectors to seek alternative solutions to producing goods that will expel less pollution.

As we concluded earlier, the government has a very important role in the oversight of these market externalities. They must implement these fees or taxes to control for the overproduction of pollution. Analysis of the inflation rate problem alone since the last fee increase, we see the fee increases barely cover the rising prices. Increasing the fees is not enough to efficiently deal with the water pollution problem. Shifting the total costs of pollution cleanup to the private entities in each sector that produce the pollution, is a very straightforward and efficient solution.

The management of Colorado's water quality is crucial to the continued development of the state and to the quality of life the state offers to its citizens. The Division plays an important role in the protection and restoration of the state's streams, lakes and reservoirs and in assuring that the citizens of Colorado have safe water to drink. HB17-1285 does not adequately address the negative externalities that arise from these six pollution producing sectors. While increasing the current level of fees seems like a temporary solution, the ratio of the cash funds

to the General Fund reorganization will lead to an inefficient allocation of the costs associated with pollution.

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