



# NEW PLASTIC RECYCLING TECHNOLOGY INVESTMENT TAX CREDIT

EVALUATION SUMMARY | APRIL 2021 | 2021-TE12

TAX TYPE	Individual income	REVENUE IMPACT	Less than \$5,000 annually
YEAR ENACTED	1989		(TAX YEARS 2016-2018)
REPEAL/EXPIRATION DATE	None	NUMBER OF TAXPAYERS	16
			(TAX YEARS 2016-2018)

**KEY CONCLUSION:** The credit has not likely encouraged the development of new plastic recycling technology because of the small average size of the credit claimed relative to claimants' total expenditures; the eligibility requirements, which prevent corporations and pass-through entities from claiming the credit; and the limited number of taxpayers claiming the credit from Tax Years 2016 to 2018.

## WHAT DOES THIS TAX EXPENDITURE DO?

The New Plastic Recycling Technology Investment Tax Credit allows individuals, including sole proprietorships and single-member limited liability companies (LLCs), to claim an income tax credit for their investment in new plastic recycling technology. The tax credit amount is claimed against income related to taxpayers' expenditures.

## WHAT IS THE PURPOSE OF THIS TAX EXPENDITURE?

According to the legislative declaration in the enacting legislation for the credit [House Bill 89-1300], its purpose is "to encourage the development of the recycling industry and the development of markets for recycled plastic materials."

## WHAT POLICY CONSIDERATIONS DID THE EVALUATION IDENTIFY?

The General Assembly may want to consider reviewing the effectiveness of the credit and repealing it if it is not having the intended impact; or alternatively, amending the credit to increase its usage and potential impact.



# NEW PLASTIC RECYCLING TECHNOLOGY INVESTMENT TAX CREDIT

## EVALUATION RESULTS

### WHAT IS THE TAX EXPENDITURE?

The New Plastic Recycling Technology Investment Tax Credit (Plastic Recycling Technology Credit) [Section 39-22-114.5, C.R.S.] allows taxpayers who file income tax returns as individuals, including sole proprietorships and single-member limited liability companies (LLCs), to claim an income tax credit for their investment in new plastic recycling technology. The credit is available for up to 20 percent of the taxpayer's expenditures to third parties on qualified expenses related to recycling technology, such as rent, wages, supplies, consumable tools, equipment, and utilities. The maximum credit amount is \$2,000, which can only be claimed against income tax levied on income generated from activities related to qualifying expenses. The credit is nonrefundable, but unused portions may be carried forward for 5 years.

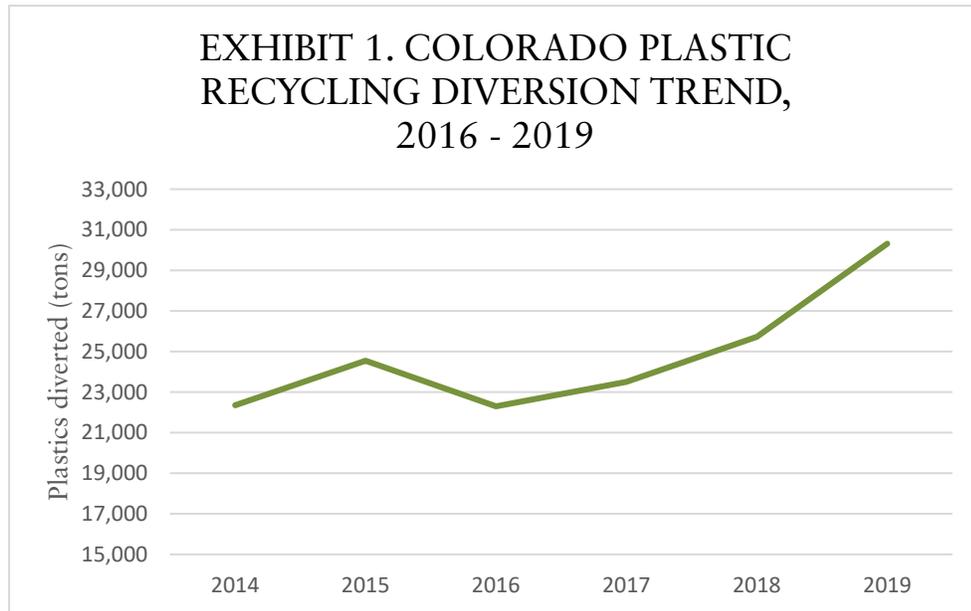
House Bill 89-1300 created the Plastic Recycling Technology Credit in 1989. Originally, the tax credit was available to individuals and corporations; however, the corporate credit expired January 1, 1994. Therefore, the Plastic Recycling Technology Credit is not currently available for C-corporations; it is also not available for pass-through entities, such as S-corporations, partnerships, and other pass-through entities, such as multi-member LLCs. The credit for individuals has remained unchanged since its enactment.

Taxpayers claim the credit on Line 17 of their Individual Credit Schedule (Form DR 0104CR), which is filed as part of their individual state income tax return. Additionally, taxpayers are required to report their total plastic recycling net expenditures and attach copies of receipts, bills, or other documentation of eligible expenses to the tax return.

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

Statute does not explicitly state the intended beneficiaries of the Plastic Recycling Technology Credit. Based on statute and legislative history, we inferred that the intended beneficiaries of the credit are individuals domiciled in the state who invest in new technology for recycling plastic. In recent years, the plastic recycling technology industry has primarily focused on creating plastics that are more recyclable, as well as developing new technologies to more efficiently recycle the plastics that already exist, with the goal of reducing costs and increasing the amount of material recovered. According to stakeholders and our review of the recycling industry, although larger companies, which would likely be ineligible for the credit because they are corporations, tend to account for most recycling, there are also smaller start-up businesses in the state that focus on developing new recycling technology and could potentially claim the credit.

According to Colorado Department of Public Health and Environment data on municipal solid waste (MSW) and recycling, about 30,300 tons of plastic were recycled in 2019, making up about 3.6 percent of all materials recycled. EXHIBIT 1 shows the amount of plastics, in tons, diverted from landfills for recycling, which increased from 2016 to 2019.



SOURCE: Office of the State Auditor analysis of Colorado Department of Public Health and Environment data.

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

According to the legislative declaration in the enacting legislation for the credit [House Bill 89-1300], its purpose was “to encourage the development of the recycling industry and the development of markets for recycled plastic materials.” In 1989, when House Bill 89-1300 was passed, state governments, the Environmental Protection Agency, and the recycling industry were engaged in significant efforts to develop technology necessary to recycle and use the increasing amount of plastic materials being consumed by the public.

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

We found that the Plastic Recycling Technology Credit is likely meeting its purpose to only a limited extent because it provides a relatively small benefit in comparison to taxpayers’ typical qualifying expenses and has been used by few taxpayers in recent years.

Statute does not explicitly provide performance measures for the credit. Therefore, we created and applied the following performance measure to determine if the expenditure is meeting its purpose:

**PERFORMANCE MEASURE:** *To what extent does the Plastic Recycling Technology Tax Credit encourage investments related to developing new plastic recycling technology?*

**RESULT:** To assess the potential for the credit to incentivize individuals' investment decisions, we compared the average credit amount claimed by taxpayers with the average investment each made on an annual basis during Tax Years 2016 through 2018. During this time period, 16 taxpayers claimed the credit and reported less than \$500,000 in qualifying expenses related to developing recycling technology. On average, the credit provided taxpayers with a tax benefit of about 1.6 percent of the qualifying expenses. As discussed, although taxpayers can claim credits for up to 20 percent of qualifying expenses, the credit amount is capped at \$2,000 and can only be claimed against a tax liability that arises from income related to qualifying plastic recycling activities. This can cause taxpayers who make larger investments or who do not generate income from activities related to their qualifying expenses to receive credits well below 20 percent of their expenses.

Our review of the plastic recycling industry, legislative audio, and interviews with stakeholders indicated that the \$2,000 maximum credit amount is not large enough to significantly offset the costs typically associated with development of plastic recycling technologies. For example, analytical instruments used for plastic recycling development or equipment for processing recycled material can cost up to \$30,000. Therefore, although the credit provides some financial support to individuals with qualifying expenses, it appears that the credit may have had a relatively small impact on most individuals' investment decisions.

Further, with only 16 individual taxpayers receiving a total tax benefit of less than \$10,000 from Tax Years 2016 through 2018, averaging less

than \$625 per taxpayer during those 3 years, it appears that the overall usage and benefit provided by the credit is insufficient to have a significant impact on the plastic recycling industry in the state. Specifically, in addition to the tax benefit being much smaller than taxpayers' typical costs, because the credit is limited to taxpayers who file as individuals, stakeholders indicated that most of the businesses that would be likely to make larger investments in recycling technology, which are typically C- or S-corporations or multi-member LLCs, are excluded. In addition, this benefit is much smaller than other state programs that have the purpose of advancing the State's recycling industry. For example, the Recycling Resources Economic Opportunity Grant Program administered by the Colorado Department of Public Health and Environment provides \$2 million in grants to support recycling, composting, anaerobic digestion, waste reduction, and beneficial use/reuse.

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

According to Department of Revenue data, the Plastic Recycling Technology Credit resulted in an average annual revenue impact to the State of less than \$5,000 from Tax Years 2016 through 2018. However, because few taxpayers claimed the credit, under Section 39-21-113(4)(a) and (5), C.R.S. which protects the confidentiality of tax information, we could not provide precise annualized revenue impact totals. Further, due to its limited usage, the credit appears unlikely to have had a significant impact on the recycling industry in the state.

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

The average value of the Plastic Recycling Technology Credit claimed from Tax Years 2016 through 2018 was less than \$625, though taxpayers can claim up to \$2,000. If the credit was eliminated, individuals who have qualifying expenses related to the development of plastic recycling technology and would otherwise claim it, would likely

see their state income tax liability increase by similar amounts. As discussed, the credit appears too small to have a substantial impact on large-scale investment decisions; however, there could be some businesses, especially smaller sole proprietorships and those that operate on small margins, for which eliminating the credit would be more impactful. According to stakeholders, there are smaller businesses and start-ups focused on recycling technology in the state. For these businesses, a credit of up to \$2,000 could be a more significant financial support.

#### ARE THERE SIMILAR TAX EXPENDITURES IN OTHER STATES?

We identified at least nine states that provide a credit for purchases or investments related to recycling and recycling technology, though not all of them are limited to just plastic recycling. Of these states, seven states make individuals and corporations eligible for the credit while the other two limit it to corporations. Other than Colorado, we did not identify any states that limit recycling credits to individuals. EXHIBIT 2 provides examples of recycling-related credits in four other states, which all make the credit available for both individuals and corporations:

EXHIBIT 2. OTHER STATES' RECYCLING TAX CREDITS		
STATE	RECYCLING TAX CREDIT	OPERATION OF CREDIT
Utah	Recycling Market Development Zones Tax Credit	Provides the lesser of a 20 percent or \$2,000 credit for expenditures to third parties for the purpose of establishing or operating recycling technology, as well as a 5 percent credit for the purchase price of recycling equipment.
Montana	Recycling Credit	Provides a tax credit for 25 percent of the cost of property for the first \$250,000 (15 percent for the next \$250,000 and 5 percent for the next \$500,000) invested in property purchased to collect, process, or manufacture products from reclaimed material.
Louisiana	Qualified New Recycling Manufacturing Process Equipment and Service Contracts Credit	Provides a credit equal to 14 percent of a taxpayer's cost of purchasing new recycling manufacturing or processing equipment and qualified service contracts.
Idaho	Postconsumer Waste Credit	Provides a credit equal to 20 percent of the cost of investments limited to \$30,000 annually for taxpayers that invest in machinery and equipment used to manufacture products composed of postconsumer waste.

SOURCE: Office of the State Auditor analysis of Bloomberg Law resources and other states' statutory provisions, accessed in February 2021.

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

We identified the following similar tax expenditure and a variety of programs that may also support businesses engaged in the development of recycling technology:

**MANUFACTURING MACHINERY SALES TAX EXEMPTION** [Section 39-26-709(1)(a)(II) AND (2), C.R.S.]—This provision allows an exemption from state sales and use taxes for machinery, machine tools, or parts that are used in Colorado. To qualify for the exemption, the property

must be used in Colorado, purchased for more than \$500, be depreciable and have a useful life of at least a year, and be used in manufacturing tangible personal property. Purchases of equipment that qualify for this sales tax exemption could also be claimed as an eligible expense with the Plastic Recycling Technology Credit if plastic recycling technology developers meet the eligibility requirements.

**RECYCLING RESOURCES ECONOMIC OPPORTUNITY (RREO) PROGRAM—**This grant program is administered by the Colorado Department of Public Health and Environment (CDPHE) and promotes economic development through the management of materials that would otherwise be landfilled. Specifically, under the program, the Pollution Prevention Advisory Board is allowed to provide private and public sector entities up to \$2 million in grants in Fiscal Year 2021 to support recycling, composting, anaerobic digestion, source reduction, and beneficial use/reuse. The RREO Program also supports Colorado NextCycle, a program designed to promote end markets for recovered or diverted materials, by providing funding from existing RREO grant dollars. Passed in 2020, Senate Bill 20-055 also aimed to promote recycling and develop recycling end markets by directing CDPHE to convene stakeholders about a recycling market development center and to administer a recycling education campaign. The bill also allows the Pollution Prevention Advisory Board to use RREO funds to reimburse eligible recycling businesses for property taxes, appropriating almost \$1 million from RREO funds to implement the bill.

**ADVANCED INDUSTRIES EXPORT GRANT AND EARLY-STAGE CAPITAL AND RETENTION GRANT—**These grants are administered by the Global Business Division within the Office of Economic Development and International Trade. The Export Grant reimburses small and medium-sized advanced industry businesses for international export marketing costs and business development. Businesses can apply for up to \$15,000 and up to 50 percent of approved expenses. The Early-Stage Capital and Retention Grant helps Colorado advanced industry technology businesses develop and commercialize technologies that will be manufactured in Colorado. Grantees can receive up to \$250,000 if they

have headquarters in Colorado or have at least 50 percent of their employees based in Colorado, have annual revenues of less than \$10 million and received less than \$20 million in grants and from third-party investors since inception, and are registered with the Colorado Secretary of State. Recycling technology businesses eligible for the Plastic Recycling Credit may also be eligible for these grant programs.

**SMALL BUSINESS INNOVATION RESEARCH PROGRAM**—The U.S. Environmental Protection Agency (EPA) offers yearly awards for small businesses developing innovative environmental technologies. The EPA often provides up to \$100,000 for the first phase of funding and up to \$400,000 for the second phase for projects focused on clean and safe water, air quality, land revitalization, sustainable materials management, and safer chemicals.

**U.S. DEPARTMENT OF ENERGY'S (DOE) PLASTIC INNOVATION CHALLENGE**—The U.S. DOE's innovation challenge provides funding and coordinates programs to encourage the development of new highly recyclable plastics, and establish the United States as a global leader in plastic recycling technologies. As part of the innovation challenge, the U.S. DOE provided \$27 million towards 12 projects that are developing innovative plastic recycling technologies or creating new plastics that are recyclable-by-design.

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

The Department of Revenue was able to provide data related to the credit. However, data for the credit has not been releasable in recent years due to taxpayer confidentiality requirements. Statutes [Sections 39-21-113(4)(a) and (5), and 305(2)(b), C.R.S.] prohibit the Department of Revenue from publishing any information that would allow the identification of any particular tax return and require our office to follow the same requirement for our tax expenditure evaluations. As a result of this data constraint, we were unable to use

Department of Revenue data to report precise annualized totals for the credit's revenue impact and the number of claimants.

### WHAT POLICY CONSIDERATIONS DID THE EVALUATION IDENTIFY?

THE GENERAL ASSEMBLY MAY WANT TO REVIEW THE EFFECTIVENESS OF THE PLASTIC RECYCLING TECHNOLOGY CREDIT. As discussed, we found that due to its size and limited usage, the credit likely has a limited impact on encouraging the development of new recycling technology in the state. Specifically, the average credit taxpayers claimed during Tax Years 2016 through 2018, was only about 1.6 percent of the qualifying expenses reported by the 16 taxpayers who claimed it during those years, with some taxpayers' credits significantly limited by the credit's \$2,000 annual cap. Further, although the credit could provide financial support to some individuals and small businesses that have qualifying expenses, the combined tax benefit it provided to all taxpayers averaged less than \$5,000 per year for Tax Years 2016 through 2018, which was unlikely large enough to have had a significant impact on the recycling industry in the state. Therefore, the General Assembly may want to review the credit to determine whether it is meeting its purpose and could consider repealing it if it is not having the intended impact.

Alternatively, the General Assembly could consider amending the credit to increase its usage and potential impact. Specifically, we identified the following issues:

- THE CREDIT, CAPPED AT A MAXIMUM OF \$2,000, MAY NOT BE SUFFICIENT TO ENCOURAGE THE DEVELOPMENT OF PLASTIC RECYCLING TECHNOLOGY. This cap has remained unchanged since the credit was established in 1989 and, based on our discussions with stakeholders, this amount is relatively small in comparison to the cost of equipment typically used to develop recycling technology. We found that other states with incentives designed to encourage recycling technology investment provide a larger credit amount. For example, Idaho provides an annual credit for 20 percent of the costs

of investments in equipment up to \$30,000; Utah provides a credit similar to Colorado, but also includes a credit for 5 percent of the purchase price paid for machinery or equipment with no cap; and Montana provides one of the largest credits, in comparison, by allowing up to 25 percent of a property's cost up to \$250,000 invested, 15 percent for the next \$250,000, and 5 percent of the property's cost on the next \$500,000.

- BECAUSE THE CREDIT IS LIMITED TO TAXPAYERS WHO FILE AS INDIVIDUALS, BUSINESSES SUCH AS C- AND S-CORPORATIONS, AND MULTI-MEMBER LLCs CANNOT PARTICIPATE. As discussed, the credit was originally available to corporate taxpayers, but their eligibility expired in 1994.

Although expanding the amount of the credit or the businesses eligible for the credit could increase its impact, doing so would also increase the revenue impact and we lacked data necessary to estimate this.