Joint Legislative Budget Committee
Staff Memorandum

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DATE: December 14, 2016

TO: Members, Joint Legislative Income Tax Credit Review Committee

FROM: Hans Olofsson, Chief Economist

SUBJECT: 2016 INCOME TAX CREDIT REVIEW

It is our understanding that the Joint Legislative Income Tax Credit Review Committee will not meet this year. This memo transmits background materials prepared by JLBC Staff that would have been presented if the Committee had met. In addition to the memo, we are also including a copy of the PowerPoint presentation that was prepared for the committee hearing.

Background

Laws 2002, Chapter 238 established the Joint Legislative Income Tax Credit Review Committee, and specified a schedule for review of corporate and individual income tax credits. The credits scheduled for review in 2016 include:

The Joint Legislative Income Tax Credit Review Committee is charged with determining the original purpose of each of the existing income tax credits and establishing a standard for evaluating the success or failure of the credit. Pursuant to statute (A.R.S. § 43-221), the standard for evaluation of the credits may include: (1) the history, rationale and revenue impact, (2) the benefit to the state in various economic terms, and (3) the complexity in the use and administration of the credit.

(Continued)

The Committee has not previously reviewed the credits for Renewable Energy Production and Solar Liquid Fuel Research and Development. However, the credits for Angel Investment, Contributions to School Tuition Organizations and Residential Solar Energy Devices were reviewed by the Committee in 2011.

Pursuant to Laws 2010, Chapter 225, the Department of Revenue (DOR) is authorized to disclose confidential statistical information to this Committee and the JLBC Staff. The non-disclosure of credit information prior to Chapter 225 was intended to protect taxpayer confidentiality. DOR considers tax credit information to be confidential if: (1) 3 or fewer taxpayers claimed the credit, or (2) 90% or more of the total credit used to offset tax liability was taken by 1 taxpayer.

The only tax credit that includes confidential statistical information on the 2016 review list is the Renewable Energy Production Credit. Specifically, DOR's confidentiality rules affect individual tax credit data released for tax year 2015 and corporate tax credit data released for tax years 2011 and 2012. Credit data for other tax years was unaffected.

After reviewing the statistical confidential tax credit data and consulting with DOR, the JLBC Staff has concluded that this information does not materially change the underlying evaluation of the credits. For this reason, the confidential credit data will not be included in general presentation to the Committee. As a result, the Committee will be able to remain in open session.

We have provided a separate memo to the Committee that contains the confidential credit data furnished by DOR. Any discussions regarding this memo must be held in Executive Session.

Limitations

There are certain limitations affecting the evaluation of income tax credits. The lack of performance measures for tax credits is one such example. While a few credits have stated performance measures or goals, all other credits have no such objectives included in statute. Laws 2002, Chapter 238, requires any new credit to include a clause that explains the rationale and objective of the credit (A.R.S. § 43-223).

Moreover, the evaluation of tax credits in terms of their economic benefits to the state is often difficult to conduct since the data required to do so is rarely available. For example, while the amount of certified angel investments is reported, there is no data reported on the number of new jobs associated with these investments.

2016 Review

The following information is provided (where applicable) for each of the credit categories:

Description - The definition of the tax credit, including how the credit is calculated.

Refundable - Whether the credit is refundable or nonrefundable. A nonrefundable credit can never exceed the taxpayer's tax liability. Instead, any amounts not used to offset the taxpayer's liability in a taxable year either can be carried forward to future tax years or must be forfeited in the same tax year. By contrast, a refundable credit is allowed to exceed the taxpayer's tax liability and any excess amounts are refunded to the taxpayer.

Transferable - Whether or not any unused portion of the credit can be sold or otherwise transferred to other taxpayers. None of the credits included in the current review is transferable.

Carry Forward - Whether or not any unused nonrefundable credit may be carried forward into subsequent tax years, and if so, for how many years.

History and Rationale - The year the tax credit was implemented, revisions to the credit since its enactment, and relevant information regarding the intended purpose of the credit.

(Continued)

Revenue Impact - Based on data reported by DOR, information for each tax year on the number of claimants, the amount of total available credit, credit used, and credit carried forward to a subsequent tax year.

Economic Benefits - A summary of information available related to any economic benefits associated with each tax credit, including economic development, new investments, job creation or retention of existing jobs, and any other economic benefits that may be specific to each credit.

Complexity - Information related to the complexity of administration and application of each tax credit, including the perspective of the state agencies administering the credit, as well as the trade associations and representatives of the corporations and/or individuals claiming the credit.

Potential Performance Measures - A listing of potential measures that might be used to evaluate each of the income tax credits.

The reported information was obtained from a variety of sources. The JLBC Staff reviewed the statutes establishing each of the credits, as well as the tax forms and instructions used by businesses and individuals to claim the credits.

The JLBC Staff also reviewed summaries and minutes of committee and subcommittee hearings that were held prior to adoption of the credits. Various agencies were contacted, including the Department of Revenue and the Arizona Commerce Authority.

HO:kp
Attachment
xc: Reed Spangler, Senior Policy Advisor, Senate
John Fetherston, Policy Advisor, Senate
Bill Ritz, Analyst, Senate Finance Committee
Ryan Sullivan, Policy Advisor, House
Alan Elder, Policy Advisor, House
Michael Madden, Analyst, House Ways and Means Committee

Credit for Investment in Qualified Small Businesses (“Angel Investment Credit”)

Credit for Investment in Qualified Small Businesses ("Angel Investment Credit")

Summary

- The credit is limited to individual income taxpayers and applies to investments of between $25,000 and $500,000.
- The credit is subject to an aggregate cap of $20 million over the life of program (July 1, 2006 to June 30, 2021).
- The $20.0 million credit cap was reached by July 2015, representing $62.0 million in qualified investments.
- Through tax year 2014, $6.75 million in credits were used to offset tax liability. No later data is available by tax year, except we do know that $2.5 million was collectively taken as credits in FY 2015 and FY 2016.
- The credit was claimed by 364 taxpayers in tax year 2014 at an average credit cost of $4,700.
- To date, a total of 801 investors have made qualified investments in 125 businesses under the program.

Statute

A.R.S. § 43-1074.02 (Individual Income Tax)

Description

This credit is provided to investors who make investments in targeted small businesses certified by the Arizona Commerce Authority (ACA). A qualified ("angel") investor must be either an individual, or a limited liability company, sub-chapter S corporation, or partnership. C corporations are not eligible for the credit.

An investor that wants to obtain tax credits under this program must submit an application for authorization to ACA for each investment in a qualified small business. To qualify for the credit, the investment in a qualified small business must be at least $25,000. Additionally, the angel investor, along with his affiliates, cannot possess more than 30% of the total voting power of all equity securities of the qualified small business.

The tax credit is equal to 30% of the qualified investment unless the investment is made in a rural or bioscience company, in which case the credit is 35%. The credits can be claimed over 3 years and cannot exceed the percentages (of the qualified investment amount) shown in the table below.

Qualified Investment in:	1st Year	2nd Year	3rd Year	Total Credit
Rural or Bioscience Company	12%	12%	11%	35%
Any Other Company	10%	10%	10%	30%

The tax credits, which are authorized by ACA on a first come, first served basis, are limited to a total of $20 million over the life of the program, from July 1, 2006 through June 30, 2021. Taxpayers are allowed to claim authorized credits through December 31, 2024. For an individual investor (and his affiliates), the credit is applied to investment amounts of up to $500,000 in a single calendar year for investments in one or more qualified small businesses. Investment amounts in excess of $500,000 do not generate tax credits.

Any firm that wants to receive qualified angel investments must submit a separate request for certification to ACA. To be a "qualified small business," the firm can be any type of business entity except a sole proprietor. Additionally, the business is required to maintain a portion of its operations in the state, and have at least two non-administrative full-time employees who are Arizona residents. The business is neither allowed to engage in activities involving human cloning or embryonic stem cell research, nor have assets exceeding $10 million. Once a firm has received a total of $2 million in qualified investments, it is no longer allowed to receive credit-eligible angel investments.

Refundable

The credit is not refundable.

Carry Forward

The tax credit may be carried forward for 3 taxable years.

History and Rationale

This credit was created by Laws 2005, Chapter 316 and became effective for use on January 1, 2007 for qualified investments made beginning July 1, 2006. The credit was originally scheduled to expire after December 31, 2014. The incentive has since been extended to December 31, 2024. Laws 2005, Chapter 316 state that the purpose of the credit is to "encourage taxpayers to invest capital in businesses that are in the early stages of development."

Based on a bill summary (SB 1335) issued by the House of Representatives on May 16, 2005, the angel investment credit was created based on a recommendation by the *Capital Formation Committee* within the *Governor's Council of Innovation and Technology*. Committee Minutes indicate that sponsors of the legislation argued that the credit would encourage investment in the high-tech sector by offering incentives to those who wish to invest in start-up companies in Arizona.

The 2005 legislation was subsequently modified by Laws 2011, 2nd Special Session, Chapter 1 and Laws 2014, Chapter 168.

Revenue Impact

Since the program's inception, ACA has authorized the full $20.0 million cap in tax credits. As a result of reaching the cap, no new credits may be authorized in future years.

Not all of the credits authorized by ACA will necessarily be claimed by the taxpayers. In addition, there is also a delay between the time of the investment and the time the credit can be claimed. The first year an investor can claim a credit is the tax year following the calendar year in which the investment was made. As an example, for an investment made in calendar year 2015, ACA would authorize the tax credit to be claimed over 3 consecutive years, beginning in tax year 2016. The investor would claim the first one-third of the credit for tax year 2016, which generally occurs during the tax filing season of calendar year 2017. The last one-third of the credit would not be claimed until calendar year 2019. Note that each authorized credit results in 3 annual tax credit claims.

Table 1, which was provided by the Department of Revenue (DOR), shows actual credit claims by tax year since the inception of the program. There were a total of 364 credit claims in tax year 2014, which resulted in tax credits of $1,716,442. Total credit use between tax years 2007 and 2014 was $6.75 million. Credit data for tax year 2014 is preliminary.

Due to delays in storing credit information from paper returns in DOR's accounting system for past years, 2014 is the most recent tax year for which data is available for the credit. DOR, however, has reported credit data on a fiscal year basis for FY 2015 and FY 2016. The agency reports there were 208 credit claims that

Table 1

Angel Investment Credit Use

Tax Year	# of Claimants	Total Credit Available	Credit Used *	Carry Forward
2007	84	$415,766	$296,115	$119,736
2008	128	$867,689	$411,156	$456,644
2009	208	$1,823,783	$574,434	$1,249,498
2010	220	$2,746,899	$766,806	$1,980,385
2011	223	$3,100,066	$849,766	$1,980,384
2012	281	$3,198,263	$1,069,297	$1,536,819
2013	297	$3,161,923	$1,064,348	$1,517,517
2014	364	$3,581,936	$1,716,442	$1,555,344

# of Claimants – the number of taxpayers who claimed the credit in each year.
Total Credit Available – the total tax credits identified in each tax year, including any new credits and any credits carried over from a previous year and identified in that year.
Credit Used – the total value of credits claimed in each year.
Carry Forward – the total credit identified but not used in each year. The full carry forward may not be reflected in the following year's estimate. For example, a taxpayer could have $10,000 of the credit identified in tax year 2007, use $5,000 of this amount in 2007 and leave $5,000 as a carry forward. If this taxpayer did not identify or claim the credit in 2008, the $5,000 carry forward would not be included in the credit carry forward total for 2008.
* DOR also reports that credits of $844,941 and $1,664,342 were taken in FY 2015 and FY 2016, respectively. Due to the timing of filing, there can be an overlap between tax and fiscal year data. As a result, fiscal year data should not be added to tax year data to produce a cumulative fiscal impact of the credit.

resulted in credits of $844,941 in FY 2015 and 363 credit claims that resulted in credits of $1,664,342 in FY 2016.

Economic Benefits

New Investments
Creation of New Jobs or Retention of Existing Jobs
Commercial Infrastructure Development

Through July 2015, 801 investors made 1,044 qualified investments that totaled $62.0 million under the program. *Table 2* lists the number and amount of qualified investments made by year. A total of 125 certified small businesses received qualified investments during this time, for an average of $496,000 per business.

Table 2

Qualifying Investments

Calendar Year	# of Investments	Amount ($ in Millions)
2006	72	$4.2
2007	65	3.4
2008	108	6.5
2009	91	5.1
2010	123	7.2
2011	150	7.7
2012	142	7.6
2013	149	9.5
2014	89	7.4
2015	55	3.4
Total	**1,044**	**$62.0**

Source: Arizona Commerce Authority

Of the 125 firms that have received qualified investments to date, ACA has identified 94 that were still operating as of 2015. ACA hired Elliott D. Pollack and Co. (EDP) to prepare economic impact estimates of those 94 surviving companies. In preparing the estimates, EPD used an economic impact model developed by IMPLAN and company information from program applications, surveys, and venture capital data sources.

EDP estimates that the recipient companies directly employed 1,378 workers and had operations that contributed $183.5 million in output to the state's economy in 2015. Additionally, construction undertaken by the companies directly contributed an estimated $4.8 million in output in 2014.

The direct contributions from recipient companies were estimated to indirectly spur an additional 1,161 jobs and $149.3 million of economic output through contracts with Arizona suppliers and spending by company employees in 2015. Due to their reliance on economic multipliers, estimates of indirect economic activity are subject to greater uncertainty than estimates of direct impacts.

The impacts mentioned above represent total estimated economic activity in the state associated with companies that received a certified investment under the Angel Investment Credit program. However, the net economic impact of the credit program depends on the extent to which investment, job creation and economic output were directly attributable to the incentive. It is difficult to determine from available data how much of the increase in economic activity was attributable to the incentive and how much would have occurred in its absence.

According to the Angel Capital Association, Arizona is one of 28 states nationwide that offers some type of tax incentive targeted to angel investors. To some extent, the credit enhances Arizona's competitiveness relative to other states by increasing incentives for investors.

Complexity

According to ACA, there has been no feedback from the industry to date that would indicate that the credit is unnecessarily complex in terms of its application, administration, and approval process.

Potential Performance Measures

Performance measures could include:

1. A requirement to annually report on the number of jobs created by firms that received qualified investments.
2. A requirement to report on the allocation of qualified investments by industry.
3. A requirement to annually report on the number of firms that have received qualified investments that remain active.

Prior Review

The credit was last reviewed by the JLITCRC in 2011. The Committee recommended at that time that the credit be continued. The Committee did not recommend the JLBC Staff performance measures.

Credit for Corporate Contributions to School Tuition Organizations

Credit for Corporate Contributions to School Tuition Organizations

Summary

- Current law authorizes tax credits for 4 different types of corporate or insurer contributions to school tuition organizations (STOs). This review specifically addresses corporate contributions to STOs awarding "low-income scholarships" (A.R.S § 43-1183), as statute does not require a separate review of the insurer credit program.
- In FY 2016, corporations and insurers claimed $50.9 million in related tax credits. For FY 2017 they contributed $61.9 million for "low income scholarships" under preliminary data. The FY 2017 contributions may not immediately result in a tax credit, however, as unused credits can be carried forward for 5 years.
- Approximately 100 corporations or insurers contributed to the program each year from 2007 through 2015, but that total increased to 202 in 2016 and to 371 in 2017 because Laws 2015, Chapter 301 now allows "S Corporations" to contribute.
- To the extent that scholarships result in students not attending public school, the credit results in foregone General Fund costs. To offset the reported $61.9 million in corporate donations for FY 2017, for example, approximately 10,900 students would have to be diverted from public schools if all potential tax credits from those donations are claimed.
- The four corporate and insurer STO credits and 2 individual STO credits combined have an estimated tax impact of $159.4 million *(see Attachment A).*

Statute

A.R.S. § 43-1183

Description

Current law authorizes tax credits for 4 different types of corporate or insurer contributions to school tuition organizations (STOs):

1. Corporate contributions to STOs awarding "low-income scholarships" (A.R.S § 43-1183),
2. Insurer contributions to STOs awarding "low-income scholarships" (A.R.S. § 20-224.06),
3. Corporate contributions to STOs awarding scholarships to "displaced or disabled" pupils (A.R.S § 43-1184), and
4. Insurer contributions to STOs awarding scholarships to "displaced or disabled" pupils (A.R.S § 20-224.07).

This review specifically addresses "corporate/low-income" contributions made pursuant to A.R.S § 43-1183, but also indirectly addresses "insurer/low income" contributions made pursuant to A.R.S. § 20-224.06 because the Arizona Department of Revenue (DOR) typically reports combined data for those two programs, as noted above. The income tax credit review schedule in A.R.S. § 43-222 does not require a separate review for the "insurer/low income" program.

This credit is provided to corporations for voluntary contributions to STOs. A STO is a nonprofit organization that is exempt from federal taxation and that is required to allocate at least 90% of its revenue for educational scholarships or tuition grants to children to attend non-governmental elementary or secondary schools (A.R.S. §43-1502). A STO may use up to 10% of corporate contributions for administration expenses.

Total corporate plus insurer contributions to STOs for "low-income scholarships" were capped at approximately $61.9 million for FY 2017 pursuant to A.R.S. § 43-1183C1, which increases the cap by 20% annually. Because of the cap, STO contributions from corporations and insurers must be pre-approved by DOR in order to be eligible for a tax credit. For FY 2017, DOR pre-approved $61.9 million in combined corporate and insurer contributions to STOs for "low-income scholarships" and corporations and insurers made $61.9 million in related donations under

preliminary data (*see Table 1 below*). Contributions, however, do not always result in the taxpayer using the credit. For example, the taxpayer may lack sufficient liability to take the credit *(see Table 2).*

Contributions from this credit must only be made available for scholarships or tuition grants to students whose family income does not exceed 185% of the income limit required for a student to qualify for reduced-price lunch under the National School Lunch and Nutrition Acts. In FY 2017, the maximum annual income for a family of four for purposes of STO scholarship eligibility is $83,167 ($44,955 X 185%). Students also must have attended public school in the prior school year, be entering kindergarten, or have received tuition assistance from a STO during the prior school year. The maximum scholarship amounts for FY 2017 are $5,200 for grades K-8 and $6,500 for grades 9-12. Those amounts increase $100 annually pursuant to A.R.S. § 43-1504C. Lastly, a corporation may not use a tax credit for any contribution if a corporation designates the scholarship for a particular student.

Refundable

The credit is not refundable.

Carry Forward

The unused portion of the credit may be carried forward for a maximum of 5 consecutive years.

Transferable

The credit is not transferable.

History and Rationale

The corporate STO "low-income scholarship" tax credit was created by Laws 2006, Chapter 14 and became effective starting in FY 2007. The purpose of the program is to encourage corporate contributions to STOs that award "low-income scholarships" that enable students to attend non-governmental elementary and secondary schools.

As originally enacted, total corporate tax credits to STOs for "low-income scholarships" was capped at $5 million pursuant to A.R.S § 43-1183C1. Laws 2006, Chapter 325 raised the cap to $10 million and by an additional 20% annually starting in FY 2008.

In September 2006, the Arizona School Boards Association and the Arizona Chapter of the American Civil Liberties Union filed suit against the state regarding this tax credit. In *Green v. Garriott*, plaintiffs alleged that corporate contribution "set asides" in the associated laws violated the "general and uniform" provision of the state's public education system. The Maricopa County Superior Court ruled in favor of the state in a ruling that was later upheld by the Arizona Court of Appeals. The plaintiffs appealed to the Arizona Supreme Court, but in 2009 it declined to review the case, making the Maricopa County Superior Court ruling stand.

The program was originally scheduled to sunset on June 30, 2011, but that date was repealed by Laws 2009, Chapter 168. The program's enabling statute (A.R.S § 43-1183) also has been amended to include references to the related insurer premium tax credit and to new STO administrative requirements enacted by Laws 2009, Chapter 292.

Revenue Impact

Table 1 summarizes corporate and insurer contributions to STOs for "low-income scholarships" since FY 2007. In FY 2017 (the most recent data year for contributions), 327 corporations (including 248 S Corporations) and 44 insurance companies donated a total of $61.9 million to STOs under preliminary data.

Table 1

Corporate Contributions to School Tuition Organizations for "Low-Income Scholarships"

Fiscal Year [1/]	Statutory Limitation [2/]	# of Corporations [3/]	$ Approved by DOR [4/]	$ Received by STOs
2007	$10,000,000	108	$9,740,800	$9,535,800
2008	$12,000,000	73	$12,116,000	$11,996,000
2009	$14,400,000	98	$10,816,006	$10,495,506
2010	$17,280,000	63	$8,121,508	$8,100,008
2011	$20,736,000	69	$11,365,351	$11,324,351
2012	$24,883,200	84	$19,587,037	$19,035,987
2013	$29,859,800	118	$30,041,114	$29,858,865
2014	$35,831,800	100	$36,571,808	$35,831,808
2015	$42,998,200	95	$42,998,200	$42,998,200
2016	$51,597,800	202	$51,597,800	$51,597,800
2017 [5/]	$61,917,400	371	$61,917,400	$61,917,400

1/ DOR reports contributions on a fiscal year rather than tax year basis, since the statutory limitation on such contributions in A.R.S. § 43-1183C is per fiscal year. DOR, however, reports corresponding tax credit data on a tax year basis.
2/ Increases 20% annually pursuant to A.R.S. § 43-1183C1.
3/ Includes insurers starting in FY 2011 and S Corporations starting in FY 2016.
4/ May be higher than the statutory limitation due to corporations donating less than their approved amounts, which allows additional donations to be approved pursuant to A.R.S. §43-1183D.
5/ Preliminary data.

The table above notes that the statutory limit on contributions increases by 20% each fiscal year, growing from $10 million in FY 2007 (the program's first year) to approximately $61.9 million for FY 2017. Corporate and insurer contributions under the program have kept pace with these increases since FY 2013, fully funding the cap in each of the past 5 fiscal years. The number of corporations and insurers contributing to the program, however, remained at approximately 100 annually between 2007 and 2015 before increasing to 202 in FY 2016 and to 371 in FY 2017 because "S Corporations" now also could contribute pursuant to Laws 2015, Chapter 301. "S Corporations" are businesses that allocate all of their income to shareholders, so do not pay income taxes directly, whereas other corporations ("C Corporations") pay income tax directly on their net income.

DOR reports that 98 S Corporations contributed to the program in 2016 (the first year that S Corporations could contribute) and that 248 are expected to contribute in 2017. Under the data in Table 1, the average contribution increased from $88,300 in 2007 ($9,535,800 ÷ 108 contributions) to $166,900 in 2017 ($61,917,400 ÷ 371 contributions).

DOR also reports tax credits claimed for STO contributions, although on a tax year basis (January 1 - December 31) rather than a fiscal year basis (July 1 - June 30). *Table 2* summarizes tax credit data for the program since its inception through FY 2014 (last reported data for credit usage):

Not all corporate contributions result in tax credits. In Tax Year 2014, for example, corporations had $23.7 million of credits available, but used only $17.8 million *(see Table 2).* A.R.S. § 43-1183E allows corporations to carry forward unused credits for up to 5 years.

Table 2

Corporate Income Tax Credit Claims

Tax Year	# of Claims	Credits Available	Credits Used	Carry-Forward
2005	5	$530,000	$526,260	$3,740
2006	57	$10,625,940	$10,369,546	$256,394
2007	62	$11,625,278	$10,823,475	$801,803
2008	74	$9,180,214	$6,147,240	$3,032,974
2009	70	$10,805,124	$8,872,212	$1,932,912
2010	67	$11,714,656	$8,475,518	$3,199,138
2011	83	$15,368,862	$12,900,592	$2,460,215
2012	92	$28,804,101	$24,363,770	$4,279,634
2013	98	$31,340,112	$26,097,925	$4,571,570
2014 1/ 2/ 3/	65	$23,667,860	$17,822,902	$5,777,810

1/ Latest reported data by Tax Year.
2/ Fiscal Year data (now also reported) show $50,851,700 of credits used for FY 2016 *(see narrative)*.
3/ Due to the timing of filing, there can be an overlap between tax and fiscal year data. As a result, fiscal year data should not be added to tax year data to produce a cumulative fiscal impact to the state.

DOR and the Arizona Department of Insurance recently began reporting data on credits used by fiscal year, which for FY 2016 equaled $50,851,700 ($28,065,300 from corporations and $22,786,400 from insurers). This equaled 98.6% of the $51,597,800 that corporations and insurers contributed to STOs for low-income scholarships for FY 2016 *(see Table 1).* A portion of the $50,851,700 of credits used in FY 2016, however, may have been carried forward from prior years *(see Table 2).* As a result, the $50,851,700 of credits and $51,597,800 of contributions for FY 2016 may not be directly comparable.

The tax credit may impact state K-12 education costs. Since students receiving the scholarships must have attended a government-funded school, be entering kindergarten, or have used the same scholarship in the previous year, at least some students who receive "low-income scholarships" from STOs probably otherwise would be in public schools. Currently each pupil added to the statewide K-12 Average Daily Membership (ADM) count costs the state General Fund on average about $5,700. The state General Fund, therefore, saves an average of about $5,700 for each STO "low-income scholarship" recipient who otherwise would attend public school. This implies that the program is currently "breaking even" from a state General Fund perspective if at least 10,900 students no longer attended public schools because of STO "low-income scholarships" ($61.9 million in corporate STO donations in FY 2017 ÷ $5,700 average state cost per public school student ≈ 10,900 students if corporations claim credits for all eligible donations). The number of students receiving a STO "low-income scholarship" who otherwise would be attending state-funded public schools, however, is unknown. The "break even" number of public school "leavers" under the program varies from year to year depending on the total value of tax credits used.

Beyond its impact on state-funded K-12 operating costs, the credit could result in lower School Facilities Board (SFB) costs for new school construction. New school construction costs would be reduced if the SFB approved fewer new schools because of lower public school enrollment growth from the credit. The amount of SFB "foregone costs" due to the credit, however, is unknown. For FY 2017, the state General Fund appropriation for SFB new construction statewide is approximately $24.3 million.

A student leaving a school district under the program also would reduce its local override funding, if any, since override funding is based indirectly on the number of students in a school district. School district override funding statewide currently averages roughly $500 per pupil.

Economic Benefits

This credit is not directly designed to promote economic development or spur new investments that would result in new jobs. Instead, according to DOR's August 2000 report "Income Tax Credits in Arizona," this credit is one of several tax credits in statutes primarily intended to encourage cash contributions to certain target groups in society, such as the working poor or students in private or public schools.

In FY 2014, STOs distributed $24.5 million in scholarships (13,118 scholarships to 187 schools) from corporate and insurance premium tax "low income scholarship" contributions for an average "low income" scholarship of $1,869 (*see Table 3*). The $24.5 million scholarship total for FY 2014 is less than the $35.8 million in reported "low income" contributions for that year primarily because STOs also reserved $22.9 million (including prior year carry forward) in FY 2014 for future year scholarships for current "low income scholarship" recipients.

Table 3

Scholarships for FY 2014 by School Tuition Organization

	# of Recipients	Total Scholarships	Average Scholarship
AAA Scholarship Foundation	278	$1,211,797	$4,359
Arizona Community Foundation STO	1	3,417	3,417
Arizona Episcopal Schools Foundation	59	218,101	3,697
Arizona Independent Schools Scholarship Foundation	62	345,300	5,569
Arizona Leadership Foundation	2,241	6,616,002	2,952
Arizona Private Education Scholarship Fund	341	717,265	2,103
Arizona Scholarship Fund	53	187,186	3,532
Arizona School Choice Trust	1,462	4,104,250	2,807
Arizona Youth Education Scholarships	16	20,051	1,253
Arizona's Catholic Tuition Support Organization	1,239	2,239,012	1,807
Brophy Community Foundation	1,099	2,087,373	1,899
Catholic Education Arizona	3,730	2,755,290	739
Chabad Tuition Organization	1	450	450
Christian Scholarship Foundation	65	22,013	339
Corporate Tax Foundation	67	273,770	4,086
Independent Schools Corporate Tax Foundation	94	459,500	4,888
Institute for Better Education	868	612,015	705
Jewish Tuition Organization	204	10,404	51
Northern Arizona Christian School Scholarship Fund	73	75,678	1,037
Pappas Kids Schoolhouse Foundation	2	4,676	2,338
School Choice Arizona	577	1,834,858	3,180
School Tuition Association of Yuma	223	146,203	656
Tuition Organization for Private Schools	309	543,252	1,758
Valley Lutheran Scholarship Organization	32	21,712	679
Yuma's Education Scholarship Fund for Kids	22	9,952	452
TOTAL	**13,118**	**$24,519,525**	**$1,869**

The average per pupil scholarship for FY 2014 (last reported data on scholarships) was $1,869, which was more than the $1,524 average reported for FY 2013, but less than the $2,100 - $2,500 averages reported for all years

prior to FY 2012 *(see Table 4).* Between FY 2007 and FY 2014, the number of scholarships grew from 1,947 to 13,118. At the same time, the total amount of dollars distributed grew from $4.6 million to $24.5 million. DOR notes in its report for STO-related individual income tax credits that individual students may receive scholarships from more than one STO.

Table 4

School Tuition Organization Scholarships

Year 1/	# Scholarships	# Schools	$ Distributed	Avg. Scholarship
2007	1,947	156	$4,621,290	$2,374
2008	2,967	176	$7,516,750	$2,533
2009	3,652	169	$7,881,787	$2,158
2010	4,215	187	$9,322,243	$2,212
2012	5,836	206	$11,375,721	$1,949
2013	11,653	216	$17,761,391	$1,524
2014	13,118	228	$24,519,525	$1,869

1/ Data were reported on a calendar year basis through 2010, but on a fiscal year basis thereafter. FY 2011 data are omitted from the table, since it was a transition year.

Complexity

DOR indicates that feedback that it gave in 2011 regarding the administrative complexity of the program still applies: DOR indicates that it is administratively simple for corporations to donate to STOs and claim the credit, and for STOs to receive pre-approval from DOR to receive corporate donations. DOR notes, however, that STOs can only award scholarships from this credit to "low income" students, which complicates the scholarship awarding process for STOs. DOR also notes that the annual reporting process for donations is time-consuming for both STOs and DOR because of the sheer number of STOs and the fact that most STOs are staffed by volunteers, which leads to reporting inconsistencies and makes it difficult for DOR to educate STO staff on reporting requirements. Finally, DOR describes its oversight responsibilities over STOs as a "daunting task" that has not yet been fully accomplished and which has been affected by changing statutory requirements.

Potential Performance Measures

Performance measures could include:

1. Percentage of STO revenues retained for administrative costs.

   The STOs would have this information readily available.

2. Percentage of private school tuition paid for with award funding.

   This information appears to be collected by STOs, but would require additional reporting.

Prior Review

At its December 2011 meeting, the Joint Legislative Income Tax Credit Review Committee reviewed the credit and recommended its continuation. They did not recommend placing any performance measures into statute.

ATTACHMENT A: PRIVATE SCHOOL TAX CREDIT SUMMARY

Type of Tax Credit	Category	Statute		Cap	# of STOs [1/] (that received donations)	Donations [1/]			Scholarships [1/]	
		STO	Tax Credit			$ [2/]	#	Average	#	Average
Individual	Private School Original	A.R.S. § 43-1601 through 43-1605	A.R.S. § 43-1089	$545 single/ $1,090 married filing jointly [3/]	52	$61.7 M	80,930	$763	30,049	$1,846
	Private School "Switcher" [4/]	A.R.S. § 43-1601 through 43-1605	A.R.S. § 43-1089.03	$542 single/ $1,083 married filing jointly [3/]	52	$30.8 M	37,676	$816	16,493	$1,496
Corporate & Insurance Premium	Private School Low-Income Student	A.R.S. § 43-1501 through 1507 (except 1505)	A.R.S. § 43-1183 & 20-224.06	$61.9 M [5/]	36	$61.9 M	445	$139,100	Not yet available	Not yet available
	Private School Displaced/Disabled Student	A.R.S. § 43-1501 through 1507 (except 1504)	A.R.S. § 43-1184 & 20-224.07	$5.0 M	11	$5.0 M	37	$135,100	Not yet available	Not yet available
Total						$159.4 M				

1/ Public school tax credit data are for *calendar* year 2015; private school data are for *fiscal* year 2015 (individual income tax) and *fiscal* year 2017 (corporate income tax; preliminary data).

2/ Total donations in the table are $207.5 million for the mix of years represented (see footnote 1). Donations for a given year may not equal tax credits for that year depending on donors' tax liabilities and because corporations and insurers may carry forward tax credits for up to 5 years before using them. Similarly, donations for a given year may not equal total scholarship disbursements for that year because STOs may reserve a portion of current year donations for future year scholarships and may use up to 10% of donations for administration.

3/ Adjusted annually for inflation. Figures shown are for Tax Year 2016.

4/ Referred to as the "Switcher" credit in Department of Revenue publications, since it is limited mostly to students switching from public to private schools (A.R.S. § 43-1603E)

5/ For FY 2017 (increases 20% annually pursuant to A.R.S. § 43-1183.C1).

Note: "Empowerment Scholarship Accounts" (ESA's) authorized by A.R.S. § 15-2402 are not included in this analysis, as they are funded with appropriated state monies rather than contributions that qualify an individual or corporation for a state tax credit. Student must meet criteria specified in A.R.S. §15-2401 in order to qualify for an ESA. ESA's are funded with "… an amount that is equivalent to 90% of the sum of the base support level and additional assistance prescribed in A.R.S. § 15-185 and 15-943 for that particular pupil if that student were attending charter school" (A.R.S. §15-2402C). ADE may retain up to 5% of program funding for administration, but is required to transfer one-fifth of that amount to the State Treasurer to cover related Treasurer costs. (The State Treasurer establishes and maintains a separate ESA for each program participant using monies transferred from ADE.) In FY 2016, approximately 2,175 students received $27.1 million in total ESA funding.

Residential Solar Energy Device Tax Credit

Residential Solar Energy Device Tax Credit

Summary

- The credit is restricted to individual income taxpayers.
- The credit reduced individual income tax collections by $4.0 million in FY 2015 and $4.4 million in FY 2016.
- Taxpayers used $4.2 million in credit to reduce their tax year 2015 liability. No later data is available by tax year.
- The credit was claimed by 7,961 taxpayers in tax year 2015 at an average of $523 per claim.

Statute

A.R.S. § 43-1083 (Individual)

Description

The statute provides an individual with an income tax credit for installing a solar energy device in the taxpayer's Arizona residence. Solar energy devices are defined in A.R.S. § 42-5001 as systems or mechanisms that provide heating, cooling, electrical and mechanical power, daylighting, and energy storage.

The solar energy credit is equal to 25% of the cost of the device, up to maximum of $1,000. The maximum credit in a taxable year cannot exceed $1,000, and the total solar energy credits allowed for a single residence cannot exceed $1,000. The maximum credit a taxpayer may take for all solar energy devices installed in the same residence cannot exceed $1,000.

This credit is 1 of 6 different Arizona renewable energy tax credits, which are described in the appendix to the Renewable Energy Production Tax Credit.

Refundable

The credit is not refundable.

Carry Forward

The unused portion of the credit may be carried forward for a maximum of 5 consecutive years.

History and Rationale

The federal government first introduced individual solar energy tax credits with the Energy Tax Act of 1978. Arizona created its first solar energy tax credit in 1979. The federal tax credit expired in 1985 and Arizona's tax credit expired in 1987. The Energy Policy Act of 2005 established a federal tax credit of 30% of expenditures on qualified residential solar water heaters and solar panels (photovoltaic systems) purchased on or before December 31, 2007. The credit was capped at $2,000. The Energy Improvement and Extension Act of 2008 extended the federal residential credit through December 31, 2016 and removed the credit cap of $2,000.

Most recently, the Federal Consolidated Appropriations Act, signed in December 2015, extended the expiration date for the residential credits through December 31, 2021. The credit percentage remains at 30% through December 31, 2019, decreases to 26% in 2020 and 22% in 2021, after which time the credit expires.

Arizona's current solar energy device tax credit was signed into law in June 1994 (Laws 1994, Chapter 117) and became effective for the 1995 tax year. It has been substantively amended once. Laws 1997, Chapter 218 amended the list of qualifying solar energy devices to exclude "a solar hot water heater plumbing stub-out that was installed by the builder of a house or dwelling unit before title was conveyed to the taxpayer." This law also created a separate tax credit for these devices (A.R.S. § 43-1090).

The statute creating the tax credit does not include a specific statement of purpose or a rationale. The credit was included as a floor amendment to SB 1523 that was passed by the House Committee of the Whole. An earlier bill, HB 2440, which included provisions for the solar energy device tax credit, was heard by the House Ways and Means Committee. At that time, the bill's sponsor stated that the purpose of the solar energy tax incentives was to restore Arizona to a position of leadership in the solar energy field and to promote energy efficiency.

The credit was intended to promote the growth of the solar energy industry and the development of sustainable solar technologies. A related goal would be to reduce the consumption of non-renewable fuels that would otherwise be used to generate electricity.

By itself, the credit creates an incentive to purchase solar energy systems by reducing the cost. Initially, the credit was used mostly to purchase solar water heaters and daylighting systems. In more recent time, the credit has increasingly been used in purchases of photovoltaic (PV) solar energy devices.

According to the Solar Foundation, national domestic PV capacity increased 18.5% from 2014 to 2015, whereas Arizona annual PV capacity additions peaked in 2012, leveled off in 2013, and fell dramatically in 2014. The Arizona residential PV market has had difficulties in particular, and utility-scale development has made up a majority of Arizona annual capacity additions from 2011 to 2015.

In the past decade, falling prices in solar PV installations have been followed by a general decrease in cash incentives provided through state and public utility programs. Arizona's two primary public utilities, Arizona Public Service (APS) and the Salt River Project (SRP), do not offer residential PV installation incentive programs. Both utilities do, however, offer incentive programs for residential solar water heating.

Revenue Impact

The cost of the credit was $4,166,800 in 2015, according to preliminary estimates. The following table summarizing the individual income tax impact of this credit was provided by the Arizona Department of Revenue.

Tax Year	# of Claimants	Total Credit Available	Credit Used**	Carry Forward
1995	1,924	$655,000	$593,000	$63,000
1996	1,651	$591,611	$517,750	$73,876
1997	1,861	$644,057	$527,518	$116,529
1998	2,144	$783,799	$673,892	$109,420
1999	2,765	$1,065,616	$903,738	$152,877
2000	2,560	$1,032,948	$889,508	$143,012
2001	2,273	$1,021,789	$866,027	$155,194
2002	2,336	$1,131,895	$920,767	$210,656
2003	2,687	$1,315,181	$1,050,632	$251,310
2004	3,049	$1,485,693	$1,211,632	$274,061
2005	3,729	$1,945,208	$1,588,034	$356,337
2006	4,172	$2,709,957	$2,090,315	$595,777
2007	2,699	$1,724,349	$1,304,830	$421,078
2008	5,255	$3,357,696	$2,579,148	$777,204
2009	8,528	$6,289,654	$5,065,150	$1,224,169
2010	9,147	$7,188,710	$5,763,107	$1,463,817
2011	9,212	$6,840,408	$4,918,762	$1,921,646
2012	7,754	$5,626,964	$3,874,538	$1,713,779
2013	7,716	$5,530,662	$3,824,470	$1,670,356
2014	7,931	$5,872,740	$4,142,240	$1,640,412
2015*	7,961	$5,833,443	$4,166,795	$1,574,175

# of Claimants – the number of taxpayers who claimed the credit in each year.
Total Credit Available – the total tax credits identified in each tax year, including any new credits and any credits carried over from a previous year and identified in that year.
Credit Used– the total value of credits claimed in each year.
Carry Forward– the total credit identified but not used in each year. The full carry forward may not be reflected in the following year's estimate. For example, an individual could have $500 in credit identified in tax year 2013, use $400 of it in 2013 (leaving $100 as a carry forward). If that individual did not identify or claim that credit in 2014, that $100 carry forward would not be included in the carry forward total for 2014.
*Data for this year is preliminary.
** In addition to the tax year data listed above, DOR reports that credits of $4,049,556 and $4,412,227 were taken in FY 2015 and FY 2016, respectively. Due to the timing of filing, there can be an overlap between tax and fiscal year data. As a result, fiscal year data should not be added to tax year data to produce a cumulative fiscal impact of the credit.

Economic Benefits

Measurable Economic Development
New Investments
Creation of New Jobs or Retention of Existing Jobs

Data on the magnitude of economic development, new investment, or the creation or retention of jobs related to this credit is not available. According to the solar manufacturing and electric utility industries, the credit helped Arizona to remain active in encouraging energy conservation and the development of solar photovoltaic electricity generation technology.

The credit also serves to incentivize consumers to purchase residential solar energy devices, which increases demand for solar installations. With this increased demand comes a more robust labor market for the installation

sector of the Arizona solar industry, where solar installers made a 2015 median wage of $18.00 per hour. The median hourly wage for all nonfarm employees in Arizona was $16.67 in 2015.

Arizona's residential installation market has undergone considerable shifts since 2011, particularly from 2014 to 2015. In the 2015 Arizona Solar Jobs Census, 4.4% of Arizona's solar firms reported that they primarily worked on residential projects, a significantly lower percentage than the 60% of firms reported in the 2014 Census. The installation sector, which installs PV, solar water heating and other solar technologies, comprises 36.8% of all solar employment in Arizona. This sector experienced a 47% reduction in employment from 2014 to 2015.

Complexity

The solar energy device credit does not appear to be unusually complex in terms of its application, administration, and approval process.

Potential Performance Measures

Performance measures could include:
1. Total megawatt hours of electricity generated from solar energy devices.
2. Total megawatt hours of electricity conserved from non-renewable energy sources.
3. Number of persons employed in businesses that manufacture, install or service residential solar energy devices.

The statute does not impose any requirements related to these measures. Arizona Public Service Co. (APS) and Unisource (TEP and Citizens Utilities) measure and report the amount of solar electricity generated in their service territories to the Arizona Corporation Commission on a regular basis. Salt River Project publicly reports similar information. However, the amount of energy saved by other solar energy devices, including water heaters, can only be estimated, and requiring this information would create an additional reporting burden. According to a 2015 study by the Solar Foundation, Arizona employs 6,922 people in a range of solar industry jobs, and projects to employ 7,502 people in 2016.

Prior Review

The credit was last reviewed by the Joint Legislative Income Tax Credit Review Committee in 2011. The Committee recommended that the credit for the residential solar energy devices should be eliminated. The Legislature, however, retained the credit.

Renewable Energy Production Tax Credit

Renewable Energy Production Tax Credit

Summary

- The cost of the corporate income tax credit was $9.4 million in tax year 2014, the last year for which corporate data is available. No later data is available by tax year, except we do know that the corporate credit reduced net collections by $9,477,300 in FY 2016.
- The corporate income tax credit was claimed by 8 taxpayers in tax year 2014 at an average of $1.2 million per claim.
- The cost of the individual income tax credit was $309,200 in tax year 2014, the last year for which individual data has been released by the Department of Revenue (DOR). There have been 5 claimants for the individual income tax credit since 2011. No later data is available by tax year, except we do know that the individual credit reduced net collections by $304,200 in FY 2016.

Statutes

A.R.S. § 43-1164.03 (Corporate) and A.R.S. § 43-1083.02 (Individual)

Description

The statutes provide both individuals and corporations with an income tax credit for electricity production by a qualified generator that uses renewable energy sources. Qualified energy generators are defined by the statutes as facilities that produce at least 5 five megawatts of capacity using solar light, solar heat, wind or biomass. Qualified energy generators must also be located on land in Arizona that is owned or leased by the taxpayer, and must sell electricity to an unrelated entity or to a public service corporation.

The qualified energy generators must first produce electricity after December 31, 2010 but before January 1, 2021. The credit became effective January 1, 2011.

Claimants of this tax credit must first have their qualified energy generator certified by the Department of Revenue (DOR) and include a copy of their Certificate of Renewable Energy Production with their tax return. The total amount of credits is capped at $20 million in any calendar year; therefore, certifications are limited and granted on a first-come, first-served basis. The amount of the credit per facility is limited to $2 million per calendar year, for up to 10 calendar years.

The tax credit for wind and biomass systems equals $0.01 per kilowatt-hour (kWh) for the first 200,000 megawatt-hours (MWh) of electricity produced in a calendar year for a period of 10 years. The tax credit for photovoltaics (PV) and solar thermal electric systems varies depending on the year of electricity production as shown in *Table 1* below.

Table 1

Credit Schedule for PV and Solar Thermal Electric Systems

Calendar Year	Amount of the Credit
1	$0.04 per kWh
2	$0.04 per kWh
3	$0.035 per kWh
4	$0.035 per kWh
5	$0.03 per kWh
6	$0.03 per kWh
7	$0.02 per kWh
8	$0.02 per kWh
9	$0.015 per kWh
10	$0.01 per kWh

This credit is 1 of 6 different Arizona renewable energy tax credits, which are described in the attached appendix.

Refundable
This credit is not refundable.

Carry Forward
The unused portion of the credit may be carried forward for a maximum of 5 consecutive years.

History and Rationale
The credit was created by Laws 2010, Chapter 312 and became effective January 21, 2011. According to a purpose statement included in the legislation, the credit was enacted to promote investment in renewable energy production using low-emission and zero-emission electricity generation technologies. See *Table 2* below for an overview of the share of electricity generation in Arizona from 2011 to 2014. Biomass and wind energy increased their combined share of electricity generation in that timeframe from 0.2% to 0.5%, whereas solar energy increased its share from 0.1% to 2.8% over the same period.

Table 2

Arizona Electric Power Industry Generation by Primary Source

	2011	2012	2013	2014
Coal	40.4%	36.2%	38.4%	38.0%
Hydroelectric	8.5%	6.1%	5.2%	5.5%
Natural gas	21.5%	27.3%	26.2%	24.3%
Nuclear	28.9%	28.8%	27.7%	28.8%
Biomass	0.0%	0.0%	0.1%	0.1%
Petroleum	0.0%	0.0%	0.0%	0.1%
Pumped storage	0.1%	0.1%	0.0%	0.0%
Solar	0.1%	0.9%	1.9%	2.8%
Wind	0.2%	0.5%	0.4%	0.4%
Wood	0.1%	0.1%	0.1%	0.2%
Total	**100%**	**100%**	**100%**	**100%**

Source: U.S. Energy Information Administration

The renewable energy production credit was first introduced during the 2009 regular session under HB 2341. According to the House Water and Energy Committee Minutes from February 26, 2009, the bill's sponsor explained that the bill had been 4 years in development and that New Mexico had passed the same legislation in 2008. While HB 2341 passed out of both houses, the Governor vetoed the bill on July 13, 2009. In the veto letter, the Governor noted that while she supported the concepts advanced by the legislation, she wanted a cap to be placed on the amount of credit claimed. In 2010, the bill was introduced again and this time signed into law with a $20 million annual cap.

The Renewable Energy Tax Credit for Manufacturers (Laws 2014, Chapter 8), which became effective July 2014, created a separate credit for both individual and corporate investments in renewable energy resources that produce energy primarily for manufacturing. This credit specifies that a taxpayer may not claim both the manufacturing credit as well as the original renewable energy production credit.

In addition to Arizona incentives, corporate taxpayers may also receive the federal Renewable Energy Production Tax Credit (PTC). The federal credit is an inflation-adjusted per-kilowatt hour (kWh) tax credit for electricity generated by qualified renewable energy sources and sold by the taxpayer to an unrelated business entity. Originally enacted in 1992, the PTC has been renewed and expanded multiple times, most recently by the Federal

Consolidated Appropriations Act of 2016. The federal credit expires for electricity produced by wind facilities on December 31, 2019, and expires on December 31, 2016 for all other types of renewable technologies, such as geothermal, biomass, and hydroelectric.

Revenue Impact

Based on the data provided by DOR, the individual credit was first used in 2014, when it was claimed by 5 taxpayers for a combined amount of $309,200. The corporate credit was claimed by 8 taxpayers in 2013 and again in 2014.

Table 3

Individual and Corporate Income Tax Credit Use

Tax Year	# of Claimants	Total Credit Available	Credit Used*	Carry Forward
Individual				
2011	0	$0	$0	$0
2012	0	$0	$0	$0
2013	0	$0	$0	$0
2014	5	$320,171	$309,243	$10,928
2015	1	x	x	x
Corporate				
2011	4	x	x	x
2012	7	x	x	x
2013	8	$24,371,476	$8,754,958	$15,616,518
2014	8	$35,296,348	$9,371,488	$25,924,860

# of Claimants – the number of taxpayers who claimed the credit in each year.
Total Credit Available – the total tax credits identified in each tax year, including any new credits and any credits carried over from a previous year and identified in that year.
Credit Used– the total value of credits claimed in each year.
Carry Forward– the total credit identified but not used in each year. The full carry forward may not be reflected in the following year's estimate. For example, an individual could have $500 in credit identified in tax year 2011, use $400 of it in 2011 (leaving $100 as a carry forward). If that individual did not identify or claim that credit in 2012, that $100 carry forward would not be included in the carry forward total for 2012.
x – No data publicly released by DOR
* In addition to the tax year data listed above, DOR reports that 4 individual credit claims of $304,162 and 9 corporate claims of $9,477,269 were taken in FY 2016. Due to the timing of filing, there can be an overlap between tax and fiscal year data. As a result, fiscal year data should not be added to tax year data to produce a cumulative fiscal impact of the credit.

Table 4 summarizes the credit approvals of qualified facilities in Arizona. At the time of this publication, DOR is unable to differentiate between individual and corporate qualified facilities.

The number of qualified facilities and credit approved has consistently increased since the creation of the incentive, eventually reaching in 2014 its annual credit approval cap of $20 million.

Table 4

Individual and Corporate Qualified Facilities

Production Year	# of qualified facilities[1/]	# of facilities with allowable credit[2/]	Credit approved
2011	5	5	$1,276,521
2012	12	12	$9,653,594
2013	16	16	$18,421,782
2014	20	16	$20,000,000
2015	22	17	$20,000,000

1/ Facilities that were certified by DOR to have a renewable energy generator, but did not necessarily have their credit approved due to the annual cap of $20 million.

2/ Facilities that were certified by DOR to have a renewable energy generator and had their credit approved.

Economic Benefits

Measurable Economic Development
New Investments
Creation of New Jobs or Retention of Existing Jobs

The economic benefits resulting from the credit depend on the extent to which investment and job creation would have occurred in its absence. It is difficult to determine if the economic activity related to the credit's use would have otherwise been realized. To some extent, the credit enhances Arizona's competitiveness relative to other states by lowering the cost of doing business.

According to the Database of State Incentives for Renewables & Efficiency prepared by North Carolina Clean Energy Technology Center at North Carolina State University, at least 3 other states offer a corporate income tax credit for renewable energy production (Iowa, Florida and New Mexico), at least 2 other states offer an individual credit (Iowa and New Mexico), and at least 2 other states provide performance-based incentives (Minnesota and Maine), where the state offers payments based on energy production to owners of renewable energy facilities.

The economic impacts of the Arizona tax credit are not available at this time. However, in 2015, New Mexico commissioned an economic analysis of its Renewable Energy Production Tax Credit. Since New Mexico's renewable energy production tax credit is similar to Arizona's, the economic impacts displayed in *Table 5* below, which describes both direct and indirect impacts, provide at least some perspective of the potential impacts of Arizona's tax credit program. Arizona's economy is approximately 3 times larger than New Mexico's economy. Additionally, New Mexico's renewable energy environment differs from Arizona's, particularly in its larger wind capacity.

Table 5

Summary of Economic Impact Results of New Mexico's Renewable Energy Production Credit, 2003-2012
(In Millions of Dollars)

Labor Income	$434.1
Value Added	$597.2
Output	$1,089.7
Employment (FTE jobs)	9,209

Source: State of New Mexico Energy, Minerals and Natural Resources Department

Complexity

According to DOR, the credit is complex in its application, certification and administration. The implementation of the Certificate of Renewable Energy Production required extensive research of the renewable energy industry. The different types of generators available for the credit, each subject to the same 5 megawatts capacity standard, also makes the certification and application process complex.

Additionally, taxpayers sometimes confuse the credit with the Commercial and Industrial Solar Tax Credit. The Renewable Energy Production Tax Credit is for renewable electricity production for the purpose of selling the electricity, whereas the Commercial and Industrial Solar Tax Credit is for solar electricity production for the purpose of using the electricity for commercial or industrial applications.

Potential Performance Measures

Performance measures could include:

1. Total megawatt hours of electricity generated from qualified energy generators.
2. Total megawatt hours of electricity conserved from non-renewable energy resources.
3. Number of persons employed in businesses that manufacture, install or service qualified energy generators.

Prior Review

This credit has not been reviewed by the Committee before.

APPENDIX: RENEWABLE ENERGY TAX INCENTIVES

SUMMARY OF MAIN TAX CREDIT PROVISIONS

Tax Credit	Value of Credit	Annual Aggregate Credit Cap	Annual Revenue Impact	Qualifications
Renewable Energy Investment	10% of Total Capital Investment	$70.0 million	$(5.0) million [1/]	$500,000 in capital investment per 1.5 full-time positions for manufacturing and $200,000 in capital investment per 1 new full-time position
Renewable Energy Manufacturing Facility	$5.0 million per qualifying facility	$10.0 million	$(10.0) million [2/]	*Manufacturer*: $300.0 million investment in new renewable energy facilities that produce energy used in a company's own manufacturing. Individual facilities must produce at least 40,000 megawatt hours of energy, annually. Investment must be made by December 31, 2017. *IOC*: $100.0 million investment in renewable energy facilities within 3 years of applying for the credit and no later than December 31, 2018. At least 51% of renewable energy produced must be used for self-consumption by the fifth year of operation.
Renewable Energy Production	1¢ per kilowatt hour for the first 200,000 megawatt hours of biomass or wind energy and 1¢ - 4¢ for every kilowatt hour of solar energy	$20.0 million	$(8.6) million [3/4/]	Energy must be produced from a qualified generator that did not first produce energy before January 1, 2011 or after December 31, 2020
Solar Liquid Fuel	11¢ per 100,000 BTUs of fuel produced; 30% of the cost of converting or modifying an existing motor vehicle fuel station for retail sale; 40% of qualified research expenses	None	None [3/]	Fuel and research must be solar liquid fuel related
Commercial and Industrial Solar Energy Devices	10% of the installed cost of a solar device used in the business	None	$(0.7) million [3/]	Qualified solar device that is utilized for business purposes
Residential Solar Energy Devices	25% of the purchase price for a solar energy device	None	$(4.0) million [3/]	Qualified solar device for residential use

1/ Based solely on the budgeted estimate. ACA reports $2.0 million in credits have received final approval since the program began. DOR has not been able to release credit use data due to confidentiality restrictions.

2/ Based solely on the budgeted estimate. DOR reports that no applications for the credit were received as of October 2015. No update is available on the number of applications received for the credit.

3/ Reflects the latest tax credit use reported by DOR.

4/ DOR reports that a total of $49.4 million in credits were approved in calendar years 2011 through 2014. Due to confidentiality restrictions, DOR has not reported how much of the approved credits have been used to offset tax liability.

Solar Liquid Fuel Research & Development Tax Credit

Solar Liquid Fuel Research & Development Credit

Summary

- No claims on individual or corporate income tax returns for the solar liquid fuel research & development credit have been identified at the date of this publication.
- Solar liquid fuel is not currently in commercial use. Further research and development is needed to make the technology economically viable.
- The credit has been available since January 1, 2011.

Statutes

A.R.S. § 43-1085.01 (Individual) and A.R.S. § 43-1164.02 (Corporate)

Description

Solar liquid fuel is generated through processes that use sunlight, carbon dioxide and water to produce infrastructure compatible liquid hydrocarbon fuels. The statutes provide an income tax credit for corporations and individuals for research and development (R&D), production and delivery system costs associated with solar liquid fuel.

The credit applies as follows:

- In Tax Year (TY) 2011 through TY 2021, the credit is 40% of qualified research expenses related to solar liquid fuel over a base amount determined under federal law for research conducted in Arizona during the taxable year.

- The credit is 11 cents per 100,000 British thermal units of fuel produced in Arizona during TY 2016 through TY 2026.

- In TY 2016 through TY 2026, the credit is 30% of the cost of conversion or modification of existing motor vehicle fuel stations for the retail sale of solar liquid fuel. The credit is capped at $20,000 per service station per taxable year.

A taxpayer that claims the solar liquid fuel R&D credit is not allowed to claim the regular R&D credit for the same expenses. *Table 1* below describes the differences in the amount of allowable credit under the solar liquid fuel R&D credit and the regular R&D credit.

Table 1

Amount of Credit for Solar Liquid Fuel Credit R&D Credit and Regular R&D Credit

Solar Liquid Fuel R&D credit	Regular R&D credit
Credit is 40% of allowable expenses.1/	If allowable expenses do not exceed $2,500,000, then credit is 24% of allowable expenses.1/ If allowable expenses exceed $2,500,000, credit is $600,000 plus 15% of the amount of allowable expenses over $2,500,000.1/

1/ Allowable expenses are qualified research expenses over a base amount, as defined by federal tax code.

This credit is 1 of 6 different Arizona renewable energy tax credits, which are described in the appendix to the Renewable Energy Production Tax Credit.

Refundable

The credit is not refundable.

Carry Forward

There is no carry forward for this tax credit.

History and Rationale

Laws 2010, Chapter 289 created an individual and corporate income tax credit specifically for research and development, production and delivery costs associated with solar liquid fuel. The credit related to R&D is effective from January 1, 2011 through December 31, 2021, whereas the credits related to production and delivery costs are effective from January 1, 2016 through December 31, 2026.

Pursuant to Chapter 289, the purpose of the credit is to encourage and promote the production, marketing and use of solar liquid fuel. Whereas the regular R&D tax credit is broad and applicable to a large segment of research and development, the solar liquid R&D credit is designed to be more narrowly focused.

Solar liquid fuel is a nascent technology with the potential to provide the United States transportation system with a reliable, renewable source of fuel. This technology generates rudimentary transportation fuels (methanol and ethanol, not yet gasoline and diesel) through a process called artificial photosynthesis, which essentially combines sunlight, water and carbon dioxide to form a product of liquid fuel. At present, the process is too expensive and inefficient for commercialization. However, the technology is considered promising because of its ability to function within the United States' current transportation sector, which accounts for over a quarter of the country's energy end-use.

The commercialization and efficiency of this technology is being researched across the nation and globe, most notably by the Joint Center for Artificial Photosynthesis, a California Institute of Technology research team selected in 2010 to run the federal Department of Energy's Fuels from Sunlight Energy Innovation Hub. While the research field is broad and varied, it is primarily focused on improving the efficiency of fuel generation in order to make the process economically viable.

Proponents of the solar liquid fuel tax credit emphasized the possibility of establishing energy independence as well as attracting high tech industries, thereby attracting high wage jobs and improving economic development. Arizona State University (ASU) supported the credit as a way to improve its candidacy for a $122 million grant to run the prior-referenced federal Sunlight Energy Innovation Hub, which was eventually awarded to the California Institute of Technology.

Revenue Impact

According to the Department of Revenue, no taxpayer has claimed the credit to date. For this reason, there is no revenue impact from this credit.

Economic Benefits

Measurable Economic Development
New Investments
Creation of New Jobs or Retention of Existing Jobs

Research and development is widely considered a positive factor in a nation's long term productivity growth, but the economic benefits of investments in promising technologies tend to materialize slowly and unpredictably. In the event, however, that solar liquid fuel research achieves breakthroughs in cost efficiency, the tax credits could potentially serve to attract high wage jobs and growing technology firms. However, since the credit has not been used to date, there are no measurable economic benefits associated with this incentive.

Complexity

The credit is complex in its description, calculation and application. Qualified expenses are defined by federal regulations and not by Arizona law.

Potential Performance Measures

1. Total amount of funding in Arizona devoted to solar liquid research.

2. Total number of researchers in Arizona devoted specifically to solar liquid fuel research.

3. Total number of jobs added by increased solar liquid fuel research.

Prior Review

The credit has not been reviewed by the Committee before.