

PRELIMINARY REPORT:
2021 TAX PREFERENCE PERFORMANCE
REVIEWS

Credit for Renewable Energy Program Payments

LEGISLATIVE AUDITOR'S CONCLUSION:

The tax credit program increased Washington's solar capacity and met its solar-related employment target. It did not broaden low-income participation. Solar installations have continued after the program reached its funding limit.

July 2021

Executive Summary

Utilities earn a tax credit for the amount they pay customers enrolled in the Renewable Energy System Incentive Program

The Renewable Energy System Incentive Program (RESIP) allows participating utilities to pay customers for every kilowatt-hour of electricity they generate from their own renewable energy systems. These include rooftop solar panels and wind turbines.

Utilities receive a tax credit to offset a portion of the public utility taxes they owe. The credit is equal to the amount the utilities pay their customers for the power they generate, regardless of whether they use the power or it flows back into the power grid.

Customers include individuals, businesses, and community solar organizations. RESIP is administered by the Washington State University (WSU) Energy Extension Program, in coordination with participating utilities.

The preference is scheduled to expire June 30, 2030. The Legislature set a deadline of June 30, 2021 for WSU Energy to certify new systems and also directed WSU Energy not to certify any new systems that would likely result in program expenses exceeding \$110 million.

Legislature set targets specific to solar energy. They were partially met.

The Legislature established this credit program to encourage production of renewable energy. It set two metrics in statute specific to solar energy. It directed the Legislative Auditor to conclude that the credit achieved its objectives if these metrics are met. The Legislature did not establish targets for other renewable energy technologies.

Estimated Biennial Beneficiary Savings

\$27.4 million

Tax Type

Public Utility Tax

RCW 82.16.130

Applicable Statutes

Objectives (stated)	Results
115 megawatts (MW) of solar capacity are installed from July 2017 to June 2021.	Not met. 87% (100.5 MW) of the target has been reached through the RESIP program. However, installations of solar energy systems have continued after the program reached its funding limit.
The state's solar-related employment increases , either in jobs per capita or in national ranking.	Met. Solar-related employment increased by 1,519 jobs, and jobs per capita increased by 52%. The state's ranking in solar employment remained 21st in the nation when the program reached its funding limit.

Recommendation

Legislative Auditor's Recommendation: Allow to expire

The Legislature should allow the credit to expire because the objectives are mostly met and installations have continued after the program reached its funding limit. If the Legislature wants to broaden low-income participation in the production and use of solar energy, it should consider other options.

You can find more information in Recommendations.

Commissioners' Recommendation

Available on [Citizen Commission website](#) October 2021.

REVIEW DETAILS

1. Utilities receive credit for incentive payments to customers

Utilities receive a public utility tax credit for the amount they pay customers who generate electricity from their own renewable energy systems

The credit reimburses utilities for payments they make to customers through the Renewable Energy System Incentive Program

Utilities that choose to participate in the Renewable Energy System Incentive Program (RESIP) pay their enrolled customers an incentive for producing their own renewable energy. The state then reimburses the utilities with a credit to offset a portion of the public utility taxes the utilities owe on their total annual sales.

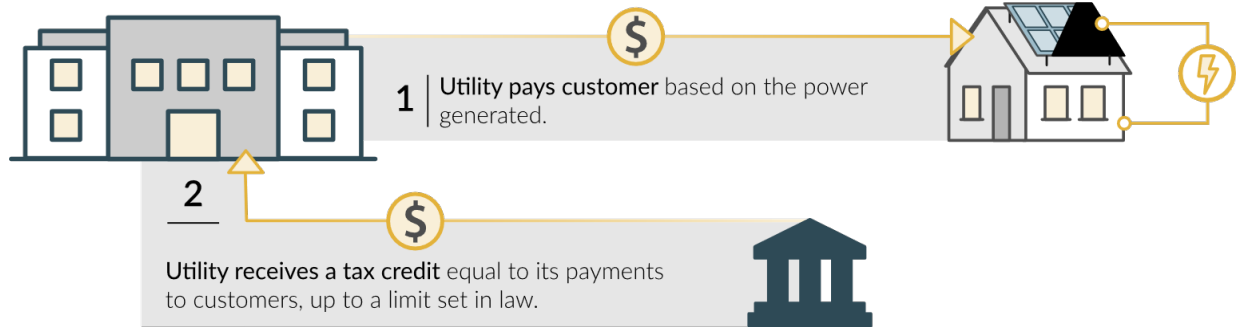
Utilities must claim a tax credit from the Department of Revenue. Credits are:

- Equal to the amount the utilities pay their customers for the power they generate, regardless of whether they use the power or it flows back into the power grid.
- Capped at the greater amount of one and one-half percent of the utility's taxable power sales in calendar year 2014 or \$250,000.

- Not intended to compensate utilities for their administrative costs.

Between 2018 and 2020, 48 utilities participated in RESIP.

Exhibit 1.1: When utilities provide incentive payments to customers, utilities can receive a public utility tax credit



Source: JLARC staff analysis of Chapter 82.16 RCW.

RESIP replaced the Renewable Energy Cost Recovery Incentive Program (RECRIP) which was active from 2005 to 2017, and continued paying incentives to system owners until 2020.

Participating customers can receive incentive payments if they install solar or wind energy systems or anaerobic digesters

Customers can apply to participate in RESIP after they install a renewable energy system and receive a final electrical inspection. Eligible systems include solar energy systems, wind turbines, and anaerobic digesters¹.

RESIP is administered by the Washington State University (WSU) Energy Extension Program. WSU Energy must certify systems in order for them to be eligible for incentive payments from utilities.

The types of systems that qualify for RESIP vary in scale and project type:

- **Residential-scale systems** have a capacity² of up to 12 kilowatts (kW) of electricity.
- **Commercial-scale systems** have a capacity over 12 kW of electricity.
- **Community solar projects** allow individuals to participate as a group and share the financial benefit. One entity builds the system and administers the project on behalf of all the customers.
- **Shared commercial solar projects** allow businesses to participate as a group and share the financial benefit. A utility builds the system and administers the project on behalf of the businesses.

¹A closed, oxygen-free container where organic materials like manure decompose, releasing biogas that can be used to generate heat, electricity, and renewable fuel.

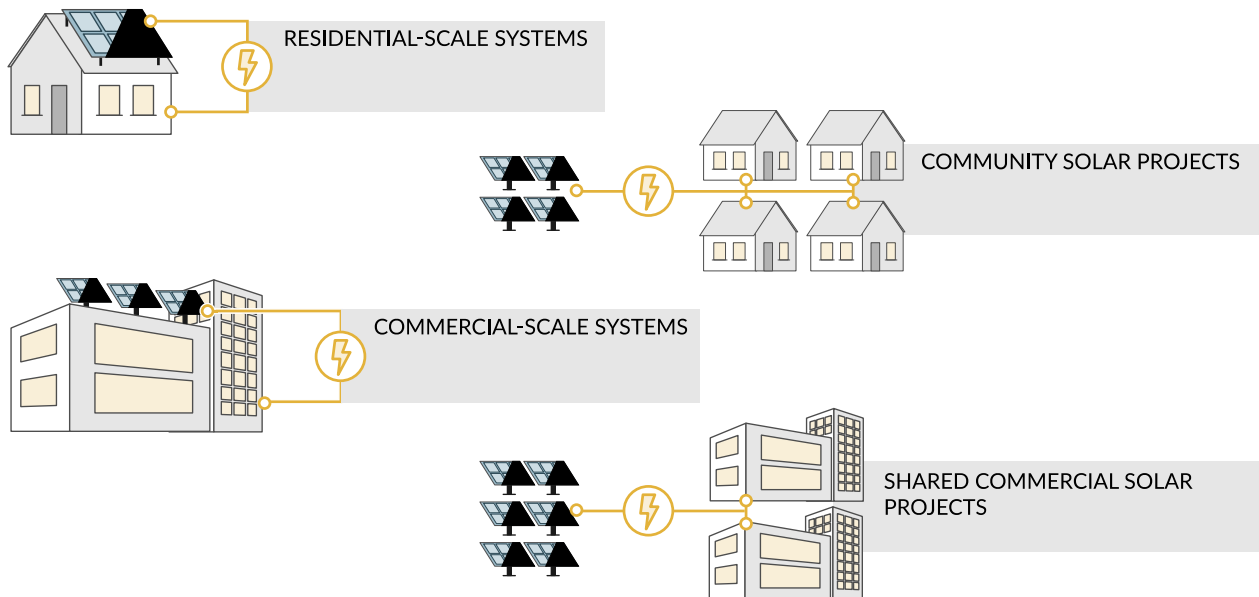
²Capacity is the maximum amount of electricity a generator can produce, measured in kilowatts or megawatts.

The Legislature set a statutory deadline of June 30, 2021 for RESIP to certify new systems and set a limit of \$110 million in payments. Statute also directed WSU Energy not to certify any new systems that would likely result in program expenses exceeding \$110 million.

WSU Energy announced in February 2019, less than two years after the program began, that it had fully allocated funding to existing projects, and future applicants would be placed on a wait list. As discussed in Section 2, all but three of the renewable energy systems that are participating in RESIP are solar.

The credit is scheduled to expire on June 30, 2030.

Exhibit 1.2: Types of solar energy systems that qualify for participation in the program



Source: JLARC staff analysis of Chapter 82.16 RCW.

Incentive payments are based on the amount of electricity produced and system characteristics

Customers receive annual incentive payments from their utility based on the amount of energy their systems produce, measured in kilowatt-hours³ (kWh), and several other factors. The rate is highest for systems certified in fiscal year 2018, the first year of the program. Residential-scale systems and community solar systems receive a higher rate than commercial-scale and shared commercial systems. A bonus rate exists for systems that include components made in Washington.

³A measure of energy produced over time. One kilowatt-hour is equal to one kilowatt of power for one hour.

Exhibit 1.3: Incentive rates depend on the year a system is certified, its size, and whether components were made in Washington

Fiscal year of system certification	BASE RATE PER KILOWATT-HOUR		Made in WA bonus
	Residential-scale and community solar	Commercial-scale and shared commercial	
2018	\$0.16	\$0.06	\$0.05
2019	\$0.14	\$0.04	\$0.04
2020*	\$0.12	\$0.02	\$0.03
2021*	\$0.10	\$0.02	\$0.02

The incentive per kilowatt-hour is based on these three factors:

- ① Year system was installed
- ② Type of system
- ③ Components made in WA

Source: JLARC staff analysis of Chapter 82.16 RCW.

*No systems were certified using these rates because the program reached its funding limit by February 2019.

Incentive payments are subject to an annual limit and a lifetime cap

Annual limits on payments depend on the type of system installed:

- Owners of residential-scale systems and community solar participants may receive up to \$5,000 per year.
- Owners of commercial-scale systems may receive up to \$25,000 per year.
- Shared commercial participants may receive up to \$35,000 per year.

Owners can receive payments for up to eight years, or until the amount is equal to 50% of the cost of the system, whichever comes first.

RESIP is distinct from net metering. Customers may qualify for one or both programs as well as other state and federal incentives.

RESIP participants may also benefit from net metering, which requires utilities to purchase any excess power a customer produces but doesn't use at the utility's retail electricity rate. Unlike net metering, RESIP is optional for utilities and provides an incentive for all the electricity a customer generates, regardless of whether it is used by the customer or sold back to the utility.

Customers may qualify for one or both programs depending on the characteristics of the system they install. For instance, systems capable of producing over 100 kW of electricity may qualify as commercial-scale under RESIP, but would not be eligible for net metering. Systems without a meter capable of measuring production may qualify for net metering, but would not be eligible for RESIP.

Participants may also be eligible for a separate state sales and use tax exemption for renewable energy systems, as well as a federal income tax credit for a portion of the amount paid to install renewable energy systems.

2. Statutory metrics focus on solar energy

Washington's solar capacity increased and met 87% of the target in statute. While the state added 1,519 solar jobs, it still ranked

21st in the country for solar employment when the program reached its funding limit.

Legislature identified two solar energy metrics to measure the effectiveness of the tax credit

When the Legislature amended the tax credit in 2017, it included a performance statement with metrics that are focused on solar energy systems. The Legislature indicated its intent to reduce the costs of installing and operating solar energy systems. It directed the Legislative Auditor to conclude the credit has achieved its objectives if both of the following occurred:

1. **Install 115 megawatts (MW) of solar capacity** through the program between July 2017 and June 2021.
2. **Increase solar-related employment** between 2015 and 2020. This can be measured either by the number of jobs per capita, or by the state's ranking in a nationally recognized report.

The Legislature also indicated that the credit was intended to:

- **Promote installation of renewable energy systems through 2021.** By that time, the state was expected to sustain the growth and vitality of its renewable energy industry without an incentive.
- **Create opportunities for broader participation by low-income individuals and others** who may not own the property where a system could be installed.
- **Balance the mix of community solar and shared commercial solar projects, and balance the distribution of community solar between utilities, nonprofits, and housing authorities** to support renewable energy throughout the state.

All but three of the systems participating in the program use solar energy

All new systems certified through Renewable Energy System Incentive Program (RESIP) are powered by solar energy. There are also three anaerobic digesters and 202 solar projects that were built prior to 2017, but qualified for RESIP because they had not been included in the earlier version of the program.

Exhibit 2.1: A total of 7,337 solar energy systems were installed between July 2017 and June 2021. An additional 205 systems were installed earlier and are part of RESIP.

Type of Project	Solar Energy Systems Installed Between 2017 and 2021 (Metric in Statute)		Systems Installed Before July 2017		Total Systems in RESIP	
	Number	Capacity	Number	Capacity	Number	Capacity
Residential-scale Solar	6,959	59.8 MW	187	1.2 MW	7,146	61 MW

Type of Project	Solar Energy Systems Installed Between 2017 and 2021 (Metric in Statute)		Systems Installed Before July 2017		Total Systems in RESIP	
	Number	Capacity	Number	Capacity	Number	Capacity
Commercial-scale Solar	359	11.5 MW	15	1.7 MW	374	13.2 MW
Community Solar	11	1.4 MW	0	0	11	1.4 MW
Shared Commercial Solar	8	27.8 MW	0	0	8	27.8 MW
Anaerobic Digesters	Does not apply	Does not apply	3	2.5 MW	3	2.5 MW
Total	7,337	100.5 MW	205	5.5 MW	7,542	106 MW

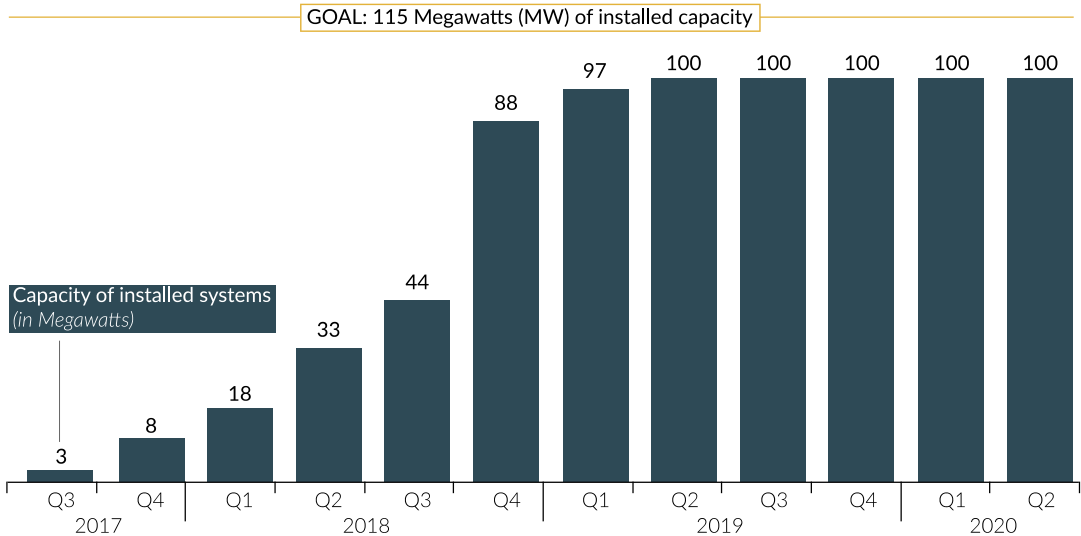
Source: JLARC staff analysis of program data from Washington State University (WSU) Energy Extension.

Solar installations reached 87% of the capacity target

Since the credit was amended in 2017, participants in RESIP have installed 7,337 solar energy systems with a total combined capacity of 100.5 MW. This is 87% of the legislative target of 115 MW during the time period that the program was open to new applicants.

The program reached its funding limit by February 2019, 20 months after the program began and more than two years before the statutory deadline for certifying new systems.

Exhibit 2.2: Installed solar capacity increased but did not meet legislative target



Source: JLARC staff analysis of program data from WSU Energy Extension. Program reached its funding limit as of February 2019.

While the state added 1,519 solar jobs since 2015, it still ranked 21st in the country for solar employment when program reached its funding limit

The Legislature identified two ways to measure whether the tax credit resulted in an increase in solar employment: solar jobs per capita and the state's national ranking for solar employment.

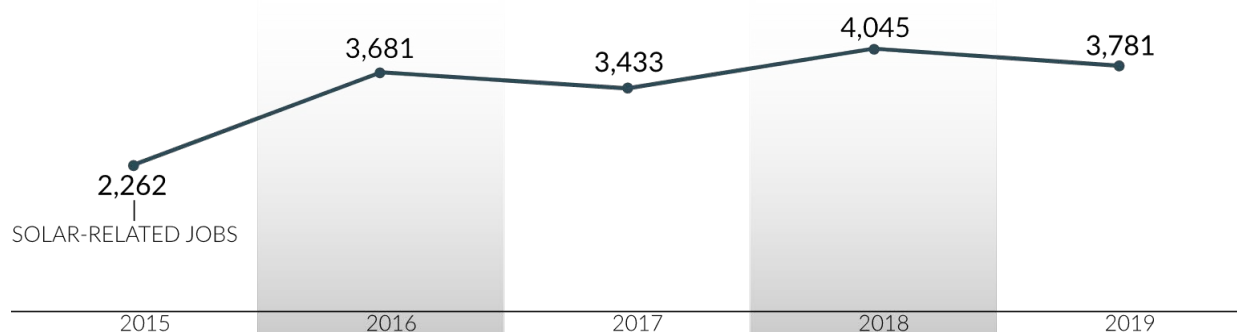
The number of solar jobs increased:

- The number of solar-related jobs⁴ grew by 1,519 between 2015 and 2019 according to The Solar Foundation⁵.
- The number of solar-related jobs per capita⁶ grew by 52% during the same time period.

Washington's national ranking remained steady for overall solar employment, but dropped for solar jobs per capita:

- Washington's growth in total solar jobs kept pace with growth nationwide. The state ranked 21st in the nation in both 2015 and 2019 for overall solar employment.
- Washington's national ranking decreased from 29th to 31st for solar jobs per capita. While Washington's solar-related employment grew from 2015 faster than its economy in general, other states' solar employment grew even more than Washington's relative to their state economies.

Exhibit 2.3: Washington solar-related employment grew from 2015 to 2019



Source: JLARC staff analysis of data from The Solar Foundation's annual State Solar Jobs Census.

Program funds were fully allocated before the capacity target was reached

WSU Energy announced that the funding limit was reached before the program met the Legislature's goal of installing 115 MW of solar capacity. Because incentive rates vary depending on system characteristics, the types of systems installed can either reduce or increase anticipated program costs.

⁴Jobs where at least half of an employee's time is related to solar energy.

⁵The Solar Foundation is a nonprofit organization that states it is dedicated to advancing the use of solar technology worldwide. It publishes a national solar jobs census annually.

⁶Jobs in the industry as a share of total employment in the state.

- Incentive rates vary from 5 cents per kWh to 21 cents. Residential-scale systems receive a higher incentive rate than commercial-scale systems.
- Incentive rates were highest for systems certified in fiscal year 2018. If the Legislature was expecting fewer systems to be built in 2018, the program would have had lower costs.
- Systems that were installed before July 2017 were eligible for incentive payments as long as they did not participate in the prior incentive program (RECRIP). As a result, RESIP paid incentives for 2.9 MW from solar energy systems and 2.5 MW from anaerobic digesters that were installed before 2017. These systems cost the program money but did not count towards the capacity target in statute.

As detailed in Section 4, installation of renewable energy systems has continued after RESIP reached its funding limit.

- JLARC staff identified at least 32 MW of capacity added after the limit was reached through net metering data from 15 utilities.
- When these additional systems are included, over 115 megawatts of solar capacity have been installed prior to the legislative target deadline of June 2021. However, some of these systems are not part of RESIP because program funding had already been allocated.

3. System owners tend to be rural, higher income

Homeowners living east of the Cascades and in rural areas installed solar at a higher rate than those living west of the Cascades and in urban areas. Income of system owners was 180% of the median in their area.

Utilities will pay customers with renewable energy systems an estimated \$27.4 million in the 2021-23 biennium

A total of 48 utilities participated in Renewable Energy System Incentive Program (RESIP) and paid incentives to their customers. Based on the amount of incentives each utility reported paying, the utilities are estimated to receive \$27.4 million in tax credits for the 2021-23 biennium.

Homeowners east of the Cascades installed solar more often than homeowners west of the Cascades

Relative to the population of Washington's homeowners, regions east of the Cascades had more systems installed through RESIP than regions west of the Cascades. Counties east of the Cascades have 21% of Washington's homeowners and 26% of solar energy systems installed through RESIP.

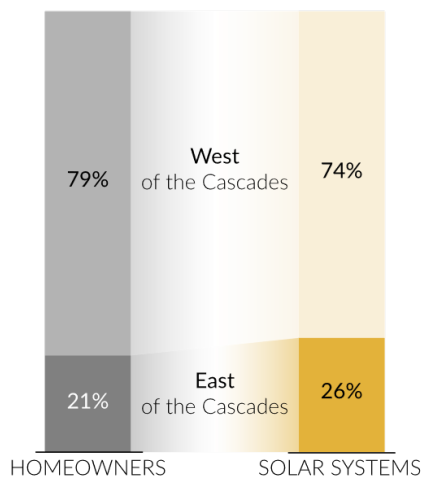
Systems were also an average of 12% larger on the east side of the Cascades. The east side generally receives more sunlight than the west, and the eastern systems produced 16% more

energy as a result. Because incentive payments are based on the amount of electricity produced, areas with more sunlight have a greater incentive to build, and to build bigger systems.

Homeowners in rural areas installed solar more often, and installed larger systems, than homeowners in urban areas

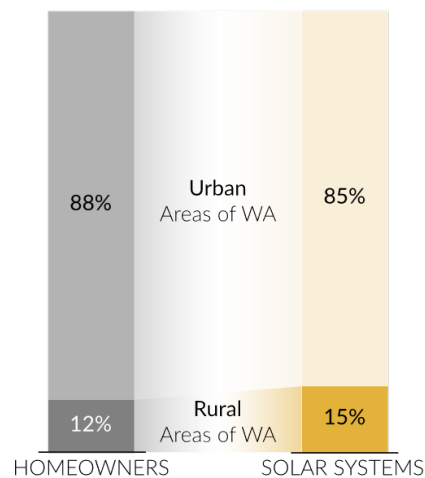
Homeowners in rural areas, as defined by the U.S. Census Bureau, installed systems more often than homeowners in urban areas. Rural areas of Washington have 12% of homeowners and 15% of solar energy systems. Systems installed in rural areas were also 15% larger on average than systems in urban areas.

Exhibit 3.1: Counties east of the Cascades have 21% of homeowners but 26% of solar energy systems



Source: JLARC staff analysis of RESIP program data.

Exhibit 3.2: Rural areas of Washington have 12% of homeowners but 15% of solar energy systems



Source: JLARC staff analysis of U.S. Census Bureau data and RESIP program data.

System owners generally have higher income levels than the median in their counties. Their income has increased since 2015.

JLARC staff used data from the Department of Commerce to summarize the financial characteristics of borrowers taking out loans for solar energy systems. The dataset includes 3,679 loans made by one lender between 2015 and 2020. Not all borrowers are RESIP participants, but the data provides general characteristics of individuals borrowing money to install solar energy systems in the state.

According to this lending data, the median income of borrowers increased by \$22,500 between 2015 and 2020, from \$120,000 to \$142,500. On average, borrowers earned 180% of the median income in their counties. The actual average income of households installing solar could be higher. This data is based on the primary borrower and may not include the total household income if other members did not sign the loan. It also does not include individuals paying cash or using other financial mechanisms to install solar.

The lender reported that its lending decisions are not based on income from RESIP participation. Because incentive payments begin after systems are installed, RESIP does not reduce the up-front cost to install solar.

Community solar projects made up the smallest portion of installed capacity among RESIP's projects

Community solar projects are intended to facilitate broad, equitable access to solar power across income levels. Similar to shared commercial solar projects for businesses, these projects do not require the user to own the solar panels or the properties they are located on.

The Legislature indicated that one of its goals for the tax credit was to broaden low-income participation in producing and accessing solar power. Community solar projects allow individuals to participate as a group and share the financial benefit. To date, Washington State University (WSU) Energy has certified 11 community solar projects with several types of owners:

- Six are run by utilities.
- Four are run by a housing authority.
- One is run by a church.

These 11 projects have a total combined capacity of 1.4 megawatts⁷, or 1.4% of the total capacity installed through RESIP. In comparison, shared commercial systems for businesses make up 26.2% of capacity in the program.

Exhibit 3.3: Community solar projects compose 1.4% of installed capacity through RESIP



Source: JLARC staff analysis of program data from WSU Energy Extension.

Administrators of community solar projects used several methods to support low-income customers

The utilities, housing authorities, and church offered varying benefits to low-income customers.

- **Utilities:** Some set aside a certain number of units within the project to provide to low-income ratepayers. Others set aside units to provide to organizations that assist low-income households.
- **Housing authorities:** Did not charge participants for the program, but asked them to gift back their incentive payments so that the money would benefit the housing authority's residents. They used savings from reduced electricity costs to benefit the common spaces in the housing developments.
- **Church:** Allowed participants to contribute whatever they were able to in order to participate in the program. The project is structured as a loan program to provide a fixed interest rate for payments back to participants.

⁷One megawatt is equal to 1,000 kilowatts.

Community solar participants may receive different benefits than other users of solar energy systems

In a [survey conducted by](#)⁸ the National Renewable Energy Laboratory (NREL), respondents indicated that they installed solar in order to lower electricity costs, protect against future price increases, and reduce their environmental impact.

Community solar participants receive all of these benefits, but often in a different manner than other solar energy users.

- Community solar participants may end up receiving financial benefits for a shorter period of time than individual owners of solar energy systems. Projects in RESIP have contract terms ranging from 8 to 25 years. When a contract term ends, any ongoing financial benefits of the system accrue to the property owner rather than the community participants.
- Some utilities offer other programs where they charge their customers a premium to receive a portion of their power from solar or other renewable energy sources. Compared to those programs, participants in community solar projects have the opportunity to financially benefit from their participation in the program.

4. Likely impact: earlier installations and larger systems

Analysis suggests the incentive likely caused some adopters to install solar earlier. Installed systems were estimated to be 32% larger as a result of the incentive.

Incentive may have caused earlier and larger system installations, but likely did not bring in new solar adopters

JLARC staff used a model developed by the National Renewable Energy Laboratory (NREL) to simulate the impact of incentive payments on solar adoption in Washington. NREL is a national laboratory of the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy, operated by the Alliance for Sustainable Energy LLC.

NREL has used this model to perform analyses for other states that are considering policy changes. The model incorporates NREL's existing research on how potential adopters respond to different market conditions, such as state and federal incentives, rooftop characteristics, utility electricity rates, and other variables.

JLARC staff ran models simulating Washington's market conditions with and without the incentive, and measured the difference between the results.

⁸2017 Publication by NREL and Portland State University, "A Non-Modeling Exploration of Residential Solar PV Adoption and Non-Adoption."

- **Incentive may have caused a temporary 12% increase in solar installations, but that increase reversed after the incentive expired.** This suggests that the incentive may have encouraged customers to install solar energy systems earlier than they otherwise would have, but it did not induce new customers to install solar. The net increase in installations disappeared over 10 years.
- **The model estimates that systems were 32% larger on average with the incentive.** Because the incentive pays the same rate for systems up to 12 kW, it encourages owners to purchase bigger systems. The average installation cost per kW is lower for larger systems.

The incentive does not reduce up-front costs to install solar

According to NREL survey respondents, the most common reasons for not adopting solar energy are concerns about initial costs and inability to receive a loan. Washington's incentive does not reduce the initial costs for installing a system. Incentive payments begin after the system is installed and is generating power.

A Washington lender who has made 3,679 solar loans in the last five years told JLARC staff that the incentive does not factor into lending decisions and does not impact a participant's ability to obtain a loan. As noted in Section 3, loan data shows borrowers who installed solar earned an average of 180% of the median income in their counties.

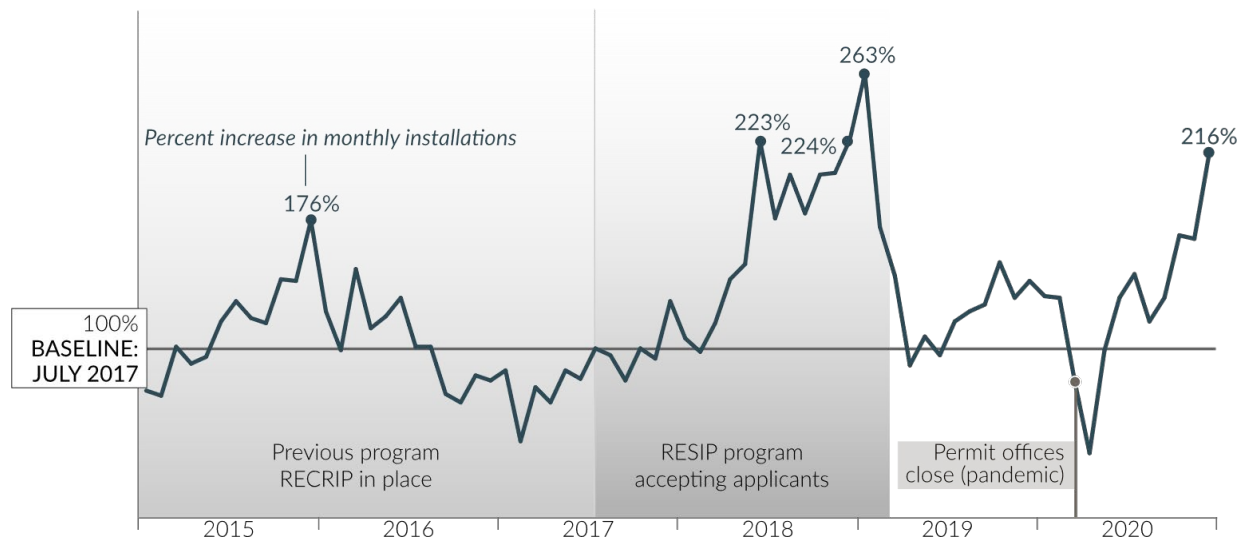
5. Washington's solar market has continued after program reached its funding limit

After an initial decline, Washington's solar market has continued after the program reached its funding limit

To assess the change in solar energy system installations across the state, JLARC staff analyzed net metering data provided by 15 utilities that serve 70% of all Renewable Energy System Incentive Program (RESIP) participants. The data includes systems under net metering agreements that were installed between 2015 and 2020, and systems installed after the RESIP program ended, to show general statewide trends in monthly installation.

Although this data suggests that installations declined initially when RESIP reached its funding limit, installations began increasing shortly afterwards. The increase continued until the beginning of the COVID-19 pandemic, when permit offices closed, and increased again for the rest of 2020. For the 15 utilities that provided data, installations increased 30% from the last quarter of 2019 to the last quarter of 2020. Installations in December 2020 reached their fourth highest month since 2015.

Exhibit 5.1: Solar installations reached the fourth highest number in December 2020 even though the program had already reached its funding limit



Source: JLARC staff analysis of utility-reported net metering data.

The 2020 National Solar Jobs Census indicates Washington solar employment improved relative to the rest of the country

Data from the Solar Foundation's 2020 National Solar Jobs Census shows Washington solar employment decreased by 216 jobs from 2019, a 6% decline. However, the state's national rankings for both jobs and jobs per capita improved in 2020, suggesting Washington's solar employment outperformed other states. The Solar Foundation attributed national job losses to both the COVID-19 pandemic and improvements in labor productivity.

One Washington solar panel manufacturer has expanded its business and a new manufacturer is planning to start production

When the 2017 legislation was enacted, Washington had one manufacturer building solar panels for rooftop solar energy systems.

- Representatives for the manufacturer testified in legislative hearings that the business was expanding and working to become competitive outside Washington. They indicated that the Made in Washington bonus would support the business's sales until that occurred (see Section 1).
- Silfab Solar, the current owner of the manufacturing facility, reports that it has opened a second facility in Washington and grown from 80 employees in 2017 to 240 employees in May 2021. Washington is no longer the primary market for Silfab's solar panels.
- A second manufacturer, Violet Power, has announced plans to begin production in 2021 in Washington.

6. Applicable statutes

RCW 82.16.130 through 82.16.175 and intent statement

NOTES: Finding—Intent—2017 3rd sp.s. c 36:

"The legislature finds and declares that stimulating local investment in distributed renewable energy generation is an important part of a state energy strategy, helping to increase energy independence from fossil fuels, promote economic development, hedge against the effects of climate change, and attain environmental benefits. The legislature intends to increase the effectiveness of the existing renewable energy investment cost recovery program by reducing the maximum incentive rate provided for each kilowatt-hour of electricity generated by a renewable energy system over the period of the program and by creating opportunities for broader participation by low-income individuals and others who may not own the premises where a renewable energy system may be installed. The legislature intends to provide an incentive sufficient to promote installation of systems through 2021, at which point the legislature expects that the state's renewable energy industry will be capable of sustained growth and vitality without the cost recovery incentive. The legislature intends for the program to balance the deployment of community solar and shared commercial solar projects in order to support participation in renewable energy generation, and that deployment of community solar projects is balanced among eligible utilities, nonprofits, and local housing authorities, as doing so will support maximum deployment of renewable energy generation throughout the state."

Renewable energy system cost recovery—Light/power business tax credit.

RCW 82.16.130

- (1) A light and power business is allowed a credit against taxes due under this chapter in an amount equal to:
 - (a) Incentive payments made in any fiscal year under RCW 82.16.120 and 82.16.165; and
 - (b) Any fees a utility is allowed to recover pursuant to RCW 82.16.165(5).
- (2) The credits must be taken in a form and manner as required by the department. The credit taken under this section for the fiscal year may not exceed one and one-half percent of the businesses' taxable power sales generated in calendar year 2014 and due under RCW 82.16.020(1)(b) or two hundred fifty thousand dollars, whichever is greater.
- (3) The credit may not exceed the tax that would otherwise be due under this chapter. Refunds may not be granted in the place of credits. Expenditures not used to earn a credit in one fiscal year may not be used to earn a credit in subsequent years.
- (4) For any business that has claimed credit for amounts that exceed the correct amount of the incentive payable under RCW 82.16.120, the amount of tax against which credit was claimed for the excess payments is immediately due and payable. The department may deduct amounts due from future credits claimed by the business.

(a) Except as provided in (b) of this subsection, the department must assess interest but not penalties on the taxes against which the credit was claimed. Interest must be assessed at the rate provided for delinquent excise taxes under chapter 82.32 RCW, retroactively to the date the credit was claimed, and accrues until the taxes against which the credit was claimed are repaid.

(b) A business is not liable for excess payments made in reliance on amounts reported by the Washington State University extension energy program as due and payable as provided under RCW 82.16.165(20), if such amounts are later found to be abnormal or inaccurate due to no fault of the business.

(5) The amount of credit taken under this section is not confidential taxpayer information under RCW 82.32.330 and is subject to disclosure.

(6) The right to earn tax credits for incentive payments made under RCW 82.16.120 expires June 30, 2020. Credits may not be claimed after June 30, 2021.

(7) The right to earn tax credits for incentive payments made under RCW 82.16.165 expires June 30, 2029. Credits may not be claimed after June 30, 2030. [2017 3rd sp.s. c 36 § 4; 2010 c 202 § 3; 2009 c 469 § 506; 2005 c 300 § 4.]

Light and power business—Liability.

RCW 82.16.150

Owners of a community solar project as defined in RCW 82.16.110(2)(a) (i) and (iii) must agree to hold harmless the light and power business serving the situs of the system, including any employee, for the good faith reliance on the information contained in an application or certification submitted by an administrator or company. In addition, the light and power business and any employee is immune from civil liability for the good faith reliance on any misstatement that may be made in such application or certification. Should a light and power business or employee prevail upon the defense provided in this section, it is entitled to recover expenses and reasonable attorneys' fees incurred in establishing the defense. [2010 c 202 § 5.]

Tax preference performance statement—Joint legislative audit and review committee review—Washington State University data collection.

RCW 82.16.155

(1) This section is the tax preference performance statement for the tax preference and incentives created under RCW 82.16.130 and section 6, chapter 36, Laws of 2017 3rd sp. sess. This performance statement is only intended to be used for subsequent evaluation of the tax preference and incentives. It is not intended to create a private right of action by any party or be used to determine eligibility for preferential tax treatment.

(2) The legislature categorizes the tax preference created under RCW 82.16.130 and incentive payments authorized in section 6, chapter 36, Laws of 2017 3rd sp. sess. as intended to:

(a) Induce participating utilities to make incentive payments to utility customers who invest in renewable energy systems; and

(b) By inducing utilities, nonprofit organizations, and utility customers to acquire and install renewable energy systems, retain jobs in the clean energy sector and create additional jobs.

(3) The legislature's public policy objectives are to:

(a) Increase energy independence from fossil fuels; and

(b) Promote economic development through increasing and improving investment in, development of, and use of clean energy technology in Washington; and

(c) Increase the number of jobs in and enhance the sustainability of the clean energy technology industry in Washington.

(4) It is the legislature's intent to provide the incentives in section 6, chapter 36, Laws of 2017 3rd sp. sess. and RCW 82.16.130 in order to ensure the sustainable job growth and vitality of the state's renewable energy sector. The purpose of the incentive is to reduce the costs associated with installing and operating solar energy systems by persons or entities receiving the incentive.

(5) As part of its 2021 tax preference reviews, the joint legislative audit and review committee must review the tax preferences and incentives in section 6, chapter 36, Laws of 2017 3rd sp. sess. and RCW 82.16.130. The legislature intends for the legislative auditor to determine that the incentive has achieved its desired outcomes if the following objectives are achieved:

(a) Installation of one hundred fifteen megawatts of solar photovoltaic capacity by participants in the incentive program between July 1, 2017, and June 30, 2021; and

(b) Growth of solar-related employment from 2015 levels, as evidenced by:

(i) An increased per capita rate of solar energy-related jobs in Washington, which may be determined by consulting a relevant trade association in the state; or

(ii) Achievement of an improved national ranking for solar energy-related employment and per capita solar energy-related employment, as reported in a nationally recognized report.

(6) In order to obtain the data necessary to perform the review, the joint legislative audit and review committee may refer to data collected by the Washington State University extension energy program and may obtain employment data from the employment security department.

(7) The Washington State University extension energy program must collect, through the application process, data from persons claiming the tax credit under RCW 82.16.130 and persons receiving the incentive payments created in RCW 82.16.165, as necessary, and may collect data from other interested persons as necessary to report on the performance of chapter 36, Laws of 2017 3rd sp. sess.

(8) All recipients of tax credits or incentive payments awarded under this chapter must provide data necessary to evaluate the tax preference performance objectives in this section as requested by the Washington State University extension energy program or the joint legislative audit and review committee. Failure to comply may result in the loss of a tax credit award or incentive payment in the following year.

Definitions—Renewable energy tax incentives.

RCW 82.16.160

The definitions in this section apply throughout this section and RCW 82.16.165, 82.16.170, and 82.16.175 unless the context clearly requires otherwise.

- (1) "Administrator" means the utility, nonprofit, or other local housing authority that organizes and administers a community solar project as provided in RCW 82.16.165 and 82.16.170.
- (2) "Certification" means the authorization issued by the Washington State University extension energy program establishing a person's eligibility to receive annual incentive payments from the person's utility for the program term.
- (3) "Commercial-scale system" means a renewable energy system or systems other than a community solar project or a shared commercial solar project with a combined nameplate capacity greater than twelve kilowatts that meets the applicable system eligibility requirements established in RCW 82.16.165.
- (4) "Community solar project" means a solar energy system that has a direct current nameplate generating capacity that is no larger than one thousand kilowatts and meets the applicable eligibility requirements established in RCW 82.16.165 and 82.16.170.
- (5) "Consumer-owned utility" has the same meaning as in RCW 19.280.020.
- (6) "Customer-owner" means the owner of a residential-scale or commercial-scale renewable energy system, where such owner is not a utility and such owner is a customer of the utility and either owns the premises where the renewable energy system is installed or occupies the premises.
- (7) "Electric utility" or "utility" means a consumer-owned utility or investor-owned utility as those terms are defined in RCW 19.280.020.
- (8) "Governing body" has the same meaning as provided in RCW 19.280.020.
- (9) "Person" means any individual, firm, partnership, corporation, company, association, agency, or any other legal entity.
- (10) "Program term" means:
 - (a) For community solar projects, eight years or until cumulative incentive payments for electricity produced by the project reach fifty percent of the total system price, including applicable sales tax, whichever occurs first; and
 - (b) for other renewable energy systems, including shared commercial solar projects, eight years or until cumulative incentive payments for electricity produced by a system reach fifty percent of the total system price, including applicable sales tax, whichever occurs first.
- (11) "Renewable energy system" means a solar energy system, including a community solar project, an anaerobic digester as defined in RCW 82.08.900, or a wind generator used for producing electricity.

(12) "Residential-scale system" means a renewable energy system or systems located at a single situs with combined nameplate capacity of twelve kilowatts or less that meets the applicable system eligibility requirements established in RCW 82.16.165.

(13) "Shared commercial solar project" means a solar energy system, owned or administered by an electric utility, with a combined nameplate capacity of greater than one megawatt and not more than five megawatts and meets the applicable eligibility requirements established in RCW 82.16.165 and 82.16.175. [2017 3rd sp.s. c 36 § 5.]

Annual production incentive certification.

RCW 82.16.165

(1) Beginning July 1, 2017, the following persons may submit a one-time application to the Washington State University extension energy program to receive a certification authorizing the utility serving the situs of a renewable energy system in the state of Washington to remit an annual production incentive for each kilowatt-hour of alternating current electricity generated by the renewable energy system:

(a) The utility's customer who is the customer-owner of a residential-scale or commercial-scale renewable energy system;

(b) An administrator of a community solar project meeting the eligibility requirements outlined in RCW 82.16.170 and applies for certification on behalf of each of the project participants; or

(c) A utility or a business under contract with a utility that administers a shared commercial solar project that meets the eligibility requirements in RCW 82.16.175 and applies for certification on behalf of each of the project participants.

(2) No person, business, or household is eligible to receive incentive payments provided under subsection (1) of this section of more than five thousand dollars per year for residential systems or community solar projects, twenty-five thousand dollars per year for commercial-scale systems, or thirty-five thousand dollars per year for shared commercial solar projects.

(3)(a) No new certification may be issued under this section to an applicant who submits a request for or receives an annual incentive payment for a renewable energy system that was certified under RCW 82.16.120, or for a renewable energy system served by a utility that has elected not to participate in the incentive program, as provided in subsection (4) of this section.

(b) The Washington State University extension energy program may issue a new certification for an additional system installed at a situs with a previously certified system so long as the new system meets the requirements of this section and its production can be measured separately from the previously certified system.

(c) The Washington State University extension energy program may issue a recertification for a residential-scale or commercial-scale system if a customer makes investments resulting in an expansion of the system's nameplate capacity. Such recertification expires on the same day as the original certification for the residential-scale or commercial-scale system and applies to the entire system the incentive rates and program rules in effect as of the date of the recertification.

- (4) A utility's participation in the incentive program provided in this section is voluntary.
- (a) A utility electing to participate in the incentive program must notify the Washington State University extension energy program of such election in writing.
- (b) The utility may terminate its voluntary participation in the production incentive program by providing notice in writing to the Washington State University extension energy program to cease issuing new certifications for renewable energy systems that would be served by that utility.
- (c) Such notice of termination of participation is effective after fifteen days, at which point the Washington State University extension energy program may not accept new applications for certification of renewable energy systems that would be served by that utility.
- (d) Upon receiving a utility's notice of termination of participation in the incentive program, the Washington State University extension energy program must report on its web site that customers of that utility are no longer eligible to receive new certifications under the program.
- (e) A utility's termination of participation does not affect the utility's obligation to continue to make annual incentive payments for electricity generated by systems that were certified prior to the effective date of the notice. The Washington State University extension energy program must continue to process and issue certifications for renewable energy systems that were received by the Washington State University extension energy program before the effective date of the notice of termination.
- (f) A utility that has terminated participation in the program may resume participation upon filing notice with the Washington State University extension energy program.
- (5)(a) The Washington State University extension energy program may certify a renewable energy system that is connected to equipment capable of measuring the electricity production of the system and interconnecting with the utility's system in a manner that allows the utility, or the customer at the utility's option, to measure and report to the Washington State University extension energy program the total amount of electricity produced by the renewable energy system.
- (b) The Washington State University extension energy program must establish a reporting and fee-for-service system to accept electricity production data from the utility or the customer that is not reported electronically and with the reporting entity selected at the utility's option as described in subsection (19) of this section. The fee-for-service agreement must allow for electronic reporting or reporting by mail, may be specific to individual utilities, and must recover only the program's costs of obtaining the electricity production data and incorporating it into an electronic format. A statement of the amount due for the fee-for-service must be provided to the utility by the Washington State University extension energy program with the report provided to the utility pursuant to subsection (20)(a) of this section. The utility may determine how to assess and remit the fee, and the utility may be allowed a credit for fees paid under this subsection (5) against taxes due, as provided in RCW 82.16.130(1).

- (6) The Washington State University extension energy program may issue a certification authorizing annual incentive payments up to the following annual dollar limits:
- (a) For community solar projects, five thousand dollars per project participant;
 - (b) For residential-scale systems, five thousand dollars;
 - (c) For commercial-scale systems, twenty-five thousand dollars; and
 - (d) For shared commercial solar projects, up to thirty-five thousand dollars a year per participant, as determined by the terms of subsection (15) of this section.
- (7)(a) To obtain certification under this section, a person must submit to the Washington State University extension energy program an application, including:
- (i) A signed statement that the applicant has not previously received a notice of eligibility from the department under RCW 82.16.120 entitling the applicant to receive annual incentive payments for electricity generated by the renewable energy system at the same meter location;
 - (ii) A signed statement of the total price, including applicable sales tax, paid by the applicant for the renewable energy system;
 - (iii) System operation data including global positioning system coordinates, tilt, estimated shading, and azimuth;
 - (iv) Any other information the Washington State University extension energy program deems necessary in determining eligibility and incentive levels, administering the program, tracking progress toward achieving the limits on program participation established in RCW 82.16.130, or facilitating the review of the performance of the tax preferences by the joint legislative audit and review committee, as described in RCW 82.16.155; and
 - (v)(A) Except as provided in (a)(v)(B) of this subsection (7), the date that the renewable energy system received its final electrical inspection from the applicable local jurisdiction, as well as a copy of the permit or, if the permit is available online, the permit number;
 - (B) The Washington State University extension energy program may waive the requirement in (a)(v)(A) of this subsection (7), accepting an application and granting provisional certification prior to proof of final electrical inspection. Provisional certification expires one hundred eighty days after issuance, unless the applicant submits proof of the final electrical inspection from the applicable local jurisdiction or the Washington State University extension energy program extends the certification, for a term or terms of thirty days, due to extenuating circumstances; and
- (b)(i) Prior to obtaining certification under this subsection, a community solar project or shared commercial solar project must apply for precertification against the remaining funds available for incentive payments under subsection (13)(d) of this section in order to be guaranteed an incentive payment under this section;
- (ii) A project applicant of a community solar project or shared commercial solar project must complete an application for certification with the Washington State University extension energy

program within less than one year to retain the precertification status described in this subsection; and

(iii) The Washington State University extension energy program may design a reservation or precertification system for an applicant of a residential-scale or commercial-scale renewable energy system.

(8) No incentive payments may be authorized or accrued until the final electrical inspection and executed interconnection agreement are submitted to the Washington State University extension energy program.

(9) Within thirty days of receipt of the application for certification, the Washington State University extension energy program must notify the applicant and, except when a utility is the applicant, the utility serving the situs of the renewable energy system, by mail or electronically, whether certification has been granted. The certification notice must state the rate to be paid per kilowatt-hour of electricity generated by the renewable energy system, as provided in subsection (12) of this section, subject to any applicable cap on total annual payment provided in subsection (6) of this section.

(10) Certification is valid for the program term and entitles the applicant or, in the case of a community solar project or shared commercial solar project, the participant, to receive incentive payments for electricity generated from the date the renewable energy system commences operation, or the date the system is certified, whichever date is later. For purposes of this subsection, the Washington State University extension energy program must define when a renewable energy system commences operation and provide notice of such date to the recipient and the utility serving the situs of the system. Certification may not be retroactively changed except to correct later discovered errors that were made during the original application or certification process.

(11)(a) System certification follows the system if the following conditions are met using procedures established by the Washington State University extension energy program:

(i) The renewable energy system is transferred to a new owner who notifies the Washington State University extension energy program of the transfer; and

(ii) The new owner provides an executed interconnection agreement with the utility serving the premises.

(b) In the event that a community solar project participant terminates their participation in a community solar project, the system certification follows the system and participation may be transferred to a new participant. The administrator of a community solar project must provide notice to the Washington State University extension energy program of any changes or transfers in project participation.

(12) The Washington State University extension energy program must determine the total incentive rate for a new renewable energy system certification by adding to the base rate any applicable made-in-Washington bonus rate. A made-in-Washington bonus rate is provided for a renewable energy system or a community solar project with solar modules made in Washington

or with a wind turbine or tower that is made in Washington. Both the base rates and bonus rate vary, depending on the fiscal year in which the system is certified and the type of renewable energy system being certified, as provided in the following table:

Fiscal year of system certification	Base rate - residential-scale	Base rate - commercial-scale	Base rate - community solar	Base rate - shared commercial solar	Made in Washington bonus
2018	\$0.16	\$0.06	\$0.16	\$0.06	\$0.05
2019	\$0.14	\$0.04	\$0.14	\$0.04	\$0.04
2020	\$0.12	\$0.02	\$0.12	\$0.02	\$0.03
2021	\$0.10	\$0.02	\$0.10	\$0.02	\$0.02

(13) The Washington State University extension energy program must cease to issue new certifications:

(a) For community solar projects and shared commercial solar projects in any fiscal year for which the Washington State University extension energy program estimates that fifty percent of the remaining funds for credit available to a utility for renewable energy systems certified under this section as of July 1, 2017, have been allocated to community solar projects and shared commercial solar projects combined;

(b) For commercial-scale systems in any fiscal year for which the Washington State University extension energy program estimates that twenty-five percent of the remaining funds for credit available to a utility for renewable energy systems certified under this section as of July 1, 2017, have been allocated to commercial-scale systems;

(c) For any renewable energy system served by a utility, if certification is likely to result in incentive payments by that utility, including payments made under RCW 82.16.120, exceeding the utility's available funds for credit under RCW 82.16.130; and

(d) For any renewable energy system, if certification is likely to result in total incentive payments under this section exceeding one hundred ten million dollars.

(14) If the Washington State University extension energy program ceases issuing new certifications during a fiscal year or biennium as provided in subsection (13) of this section, in the following fiscal year or biennium, or when additional funds are available for credit such that the thresholds described in subsection (13) of this section are no longer exceeded, the Washington State University extension energy program must resume issuing new certifications using a method of awarding certifications that results in equitable and orderly allocation of benefits to applicants.

(15) A customer who is a participant in a shared commercial solar project may not receive incentive payments associated with the project greater than the difference between the

levelized cost of energy output of the system over its production life and the retail rate for the rate class to which the customer belongs. The levelized cost of the output of the energy must be determined by the utility that administers the shared commercial solar project and must be disclosed, along with an explanation of the limitations on incentive payments contained in this subsection (15), in the contractual agreement with the shared commercial solar project participants.

(16) In order to begin to receive annual incentive payments, a person who has been issued a certification for the incentive as provided in subsection (9) of this section must obtain an executed interconnection agreement with the utility serving the situs of the renewable energy system.

(17) The Washington State University extension energy program must establish a list of equipment that is eligible for the bonus rates described in subsection (12) of this section. The Washington State University extension energy program must, in consultation with the department of commerce, develop technical specifications and guidelines to ensure consistent and predictable determination of eligibility. A solar module is made in Washington for purposes of receiving the bonus rate only if the lamination of the module takes place in Washington. A wind turbine is made in Washington only if it is powered by a turbine or built with a tower manufactured in Washington.

(18) The manufacturer of a renewable energy system component subject to a bonus rate under subsection (12) of this section may apply to the Washington State University extension energy program to receive a determination of eligibility for such bonus rates. The Washington State University extension energy program must publish a list of components that have been certified as eligible for such bonus rates. The Washington State University extension energy program may assess an equipment certification fee to recover its costs. The Washington State University extension energy program must deposit all revenue generated by this fee into the state general fund.

(19) Annually, the utility must report electronically to the Washington State University extension energy program the amount of gross kilowatt-hours generated by each renewable energy system since the prior annual report. For the purposes of this section, to report electronically means to submit statistical or factual information in alphanumeric form through a web site established by the Washington State University extension energy program or in a list, table, spreadsheet, or other nonnarrative format that can be digitally transmitted or processed. The utility may instead opt to report by mail or require program participants to report individually, but if the utility exercises one or more of these options it must negotiate with the Washington State University extension energy program the fee-for-service arrangement described in subsection (5)(b) of this section.

(20)(a) The Washington State University extension energy program must calculate for the year and provide to the utility the amount of the incentive payment due to each participant and the total amount of credit against tax due available to the utility under RCW 82.16.130 that has been allocated as annual incentive payments. Upon notice to the Washington State University

extension energy program, a utility may opt to directly perform this calculation and provide its results to the Washington State University extension energy program.

(b) If the Washington State University extension energy program identifies an abnormal production claim, it must notify the utility, the department of revenue, and the applicant, and must recommend withholding payment until the applicant has demonstrated that the production claim is accurate and valid. The utility is not liable to the customer for withholding payments pursuant to such recommendation unless and until the Washington State University extension energy program notifies the utility to resume incentive payments.

(21)(a) The utility must issue the incentive payment within ninety days of receipt of the information required under subsection (20)(a) of this section from the Washington State University extension energy program. The utility must resume the incentive payments withheld under subsection (20)(b) of this section within thirty days of receiving notice from the Washington State University extension energy program that the claim has been demonstrated accurate and valid and payment should be resumed.

(b) A utility is not liable for incentive payments to a customer-owner if the utility has disconnected the customer due to a violation of a customer service agreement, such as nonpayment of the customer's bill, or a violation of an interconnection agreement.

(22) Beginning January 1, 2018, the Washington State University extension energy program must post on its web site and update at least monthly a report, by utility, of: (a) The number of certifications issued for renewable energy systems, including estimated system sizes, costs, and annual energy production and incentive yields for various system types; and (b) An estimate of the amount of credit that has not yet been allocated for incentive payments under each utility's credit limit and remains available for new renewable energy system certifications.

(23) Persons receiving incentive payments under this section must keep and preserve, for a period of five years for the duration of the consumer contract, suitable records as may be necessary to determine the amount of incentive payments applied for and received. The Washington State University extension energy program may direct a utility to cease issuing incentive payments if the records are not made available for examination upon request. A utility receiving such a directive is not liable to the applicant for any incentive payments or other damages for ceasing payments pursuant to the directive.

(24) The nonpower attributes of the renewable energy system belong to the utility customer who owns or hosts the system or, in the case of a community solar project or a shared commercial solar project, the participant, and can be kept, sold, or transferred at the utility customer's discretion unless, in the case of a utility-owned community solar or shared commercial solar project, a contract between the customer and the utility clearly specifies that the attributes will be retained by the utility.

(25) All lists, technical specifications, determinations, and guidelines developed under this section must be made publicly available online by the Washington State University extension energy program.

(26) No certification may be issued under this section after June 30, 2021.

(27) The Washington State University extension energy program must collect a one-time fee for applications submitted under subsection (1) of this section of one hundred twenty-five dollars per applicant. The Washington State University extension energy program must deposit all revenue generated by this fee into the state general fund. The Washington State University extension energy program must administer and budget for the program established in RCW 82.16.120, this section, and RCW 82.16.170 in a manner that ensures its administrative costs through June 30, 2022, are completely met by the revenues from this fee. If the Washington State University extension energy program determines that the fee authorized in this subsection is insufficient to cover the administrative costs through June 30, 2022, the Washington State University extension energy program must report to the legislature on costs incurred and fees collected and demonstrate why a different fee amount or funding mechanism should be authorized.

(28) The Washington State University extension energy program may, through a public process, develop any program requirements, policies, and processes necessary for the administration or implementation of this section, RCW 82.16.120, 82.16.155, and 82.16.170. The department is authorized, in consultation with the Washington State University extension energy program, to adopt any rules necessary for administration or implementation of the program established under this section and RCW 82.16.170.

(29) Applications, certifications, requests for incentive payments under this section, and the information contained therein are not deemed tax information under RCW 82.32.330 and are subject to disclosure.

(30)(a) By November 1, 2019, and in compliance with RCW 43.01.036, the Washington State University extension energy program must submit a report to the legislature that includes the following:

- (i) The number and types of renewable energy systems that have been certified under this section as of July 1, 2019, both statewide and per participating utility;
- (ii) The number of utilities that are approaching or have reached the credit limit established under RCW 82.16.130(2) or the thresholds established under subsection (13) of this section;
- (iii) The share of renewable energy systems by type that contribute to each utility's threshold under subsection (13) of this section;
- (iv) An assessment of the deployment of community solar projects in the state, including but not limited to the following:
 - (A) An evaluation of whether or not community solar projects are being deployed in low-income and moderate-income communities, as those terms are defined in RCW 43.63A.510, including a description of any barriers to project deployment in these communities;
 - (B) A description of the share of community solar projects by administrator type that contribute to each utility's threshold under subsection (13)(a) of this section; and
 - (C) A description of any barriers to participation by nonprofits and local housing authorities in the incentive program established under this section and under RCW 82.16.170;

(v) The total dollar amount of incentive payments that have been made to participants in the incentive program established under this section to date; and

(vi) The total number of megawatts of solar photovoltaic capacity installed to date by participants in the incentive program established under this section.

(b) By December 31, 2019, the legislature must review the report submitted under (a) of this subsection and determine whether the credit limit established under RCW 82.16.130(2) should be increased to two percent of a light and power business' taxable power sales generated in calendar year 2014 and due under RCW 82.16.020(1)(b) or two hundred fifty thousand dollars, whichever is greater, in order to achieve the legislative intent under section 1, chapter 36, Laws of 2017 3rd sp. sess.

Community solar programs—Organization and administration.

RCW 82.16.170

(1) The purpose of community solar programs is to facilitate broad, equitable community investment in and access to solar power. Beginning July 1, 2017, a community solar administrator may organize and administer a community solar project as provided in this section.

(2) A community solar project must have a direct current nameplate capacity that is no more than one thousand kilowatts and must have at least ten participants or one participant for every ten kilowatts of direct current nameplate capacity, whichever is greater. A community solar project that has a direct current nameplate capacity greater than five hundred kilowatts must be subject to a standard interconnection agreement with the utility serving the situs of the community solar project. Except for community solar projects authorized under subsection (9) of this section, each participant must be a customer of the utility providing service at the situs of the community solar project.

(3) The administrator of a community solar project must administer the project in a transparent manner that allows for fair and nondiscriminatory opportunity for participation by utility customers.

(4) The administrator of a community solar project may establish a reasonable fee to cover costs incurred in organizing and administering the community solar project. Project participants, prior to making the commitment to participate in the project, must be given clear and conspicuous notice of the portion of the incentive payment that will be used for this purpose.

(5) The administrator of a community solar project must maintain and update annually through June 30, 2030, the following information for each project it operates or administers:

(a) Ownership information;

(b) Contact information for technical management questions;

(c) Business address;

(d) Project design details, including project location, output capacity, equipment list, and interconnection information; and (e) Subscription information, including rates, fees, terms, and conditions.

(6) The administrator of a community solar project must provide the information required in subsection (5) of this section to the Washington State University extension energy program at the time it submits the application allowed under RCW 82.16.165(1).

(7) The administrator of a community solar project must provide each project participant with a disclosure form containing all material terms and conditions of participation in the project, including but not limited to the following:

(a) Plain language disclosure of the terms under which the project participant's share of any incentive payment will be calculated by the Washington State University extension energy program over the life of the contract;

(b) Contract provisions regulating the disposition or transfer of the project participant's interest in the project, including any potential costs associated with such a transfer;

(c) All recurring and nonrecurring charges;

(d) A description of the billing and payment procedures;

(e) A description of any compensation to be paid in the event of project underperformance;

(f) Current production projections and a description of the methodology used to develop the projections;

(g) Contact information for questions and complaints; and (h) Any other terms and conditions of the services provided by the administrator.

(8) A utility may not adopt rates, terms, conditions, or standards that unduly or unreasonably discriminate between utility-administered community solar projects and those administered by another entity.

(9) A public utility district that is engaged in distributing electricity to more than one retail electric customer in the state and a joint operating agency organized under chapter 43.52 RCW on or before January 1, 2017, may enter into an agreement with each other to construct and own a community solar project that is located on property owned by a joint operating agency or on property that receives electric service from a participating public utility district. Each participant of a community solar project under this subsection must be a customer of at least one of the public utility districts that is a party to the agreement with a joint operating agency to construct and own a community solar project.

(10) The Washington utilities and transportation commission must publish, without disclosing proprietary information, a list of the following: (a) Entities other than utilities, including affiliates or subsidiaries of utilities, that organize and administer community solar projects; and (b) Community solar projects and related programs and services offered by investor-owned utilities.

(11) If a consumer-owned utility opts to provide a community solar program or contracts with a nonutility administrator to offer a community solar program, the governing body of the

consumer-owned utility must publish, without disclosing proprietary information, a list of the nonutility administrators contracted by the utility as part of its community solar program.

(12) Except for parties engaged in actions and transactions regulated under laws administered by other authorities and exempted under RCW 19.86.170, a violation of this section constitutes an unfair or deceptive act in trade or commerce in violation of chapter 19.86 RCW, the consumer protection act. Acts in violation of chapter 36, Laws of 2017 3rd sp. sess. are not reasonable in relation to the development and preservation of business, and constitute matters vitally affecting the public interest for the purpose of applying the consumer protection act, chapter 19.86 RCW.

(13) Nothing in this section may be construed as intending to preclude persons from investing in or possessing an ownership interest in a community solar project, or from applying for and receiving federal investment tax credits.

Shared commercial solar projects—Organization and administration.

RCW 82.16.175

(1) The purpose of a shared commercial solar project is to provide an entry point in solar utilization by large load customers in a manner that achieves economies of scale and maximizes system performance without limitations posed by on-site systems where sun exposure is not optimal or structural and other site deficiencies preclude solar development.

(2) Beginning July 1, 2017, a utility may, at its discretion, organize and administer a shared commercial solar project as provided in this section.

(3) A shared commercial solar project must have a direct current nameplate capacity greater than one megawatt and no more than five megawatts and must have at least five participants. To receive incentive payments under RCW 82.16.165, each participant must be a customer of the utility providing service at the situs of the shared commercial solar project and must be located in the state of Washington.

(4) The administrator of a shared commercial solar project must administer the project in a transparent manner.

(5) The administrator of a shared commercial solar project may establish a reasonable fee to cover costs incurred in organizing and administering the shared commercial solar project. Project participants, prior to making the commitment to participate in the project, must be given clear and conspicuous notice of the fees charged by the administrator as authorized under this subsection.

(6) The administrator of a shared commercial solar project must submit to the Washington State University extension energy program at the time it submits an application allowed under RCW 82.16.165(1) project design details, including project location, output capacity, equipment list, and interconnection information.

(7) The administrator of a shared commercial solar project must provide each project participant with a disclosure form containing all material terms and conditions of participation in the project, including but not limited to the following:

- (a) All recurring and nonrecurring charges;
 - (b) A description of the billing and payment procedures;
 - (c) Production projections and a description of the methodology used to develop the projections;
 - (d) An estimate of the project participant's share of any incentive payment over the life of the contract;
 - (e) A description of contract terms that relate to project underperformance;
 - (f) Contract provisions regulating the disposition or transfer of the project participant's interest in the project, including any potential costs associated with such a transfer;
 - (g) Contact information for questions and complaints; and
 - (h) Any other terms and conditions of the services provided by the administrator.
- (8) If a utility opts to contract with a nonutility administrator to offer a shared commercial solar program, the utility must publish, without disclosing proprietary information, the name of the nonutility administrator contracted by the utility as part of its shared commercial solar program.
- (9) In order to meet the intent of chapter 36, Laws of 2017 3rd sp. sess. of promoting a sustainable, local renewable energy industry, the legislature prefers award of the majority of the installation of shared commercial solar projects be given to contractors based in Washington state. In the event the majority of the installation of a shared commercial solar project is awarded to out-of-state contractors, the administrator must submit to the Washington State University extension energy program the reasons for using out-of-state contractors, the percentage of installation work performed by out-of-state contractors, and a cost comparison of the installation services performed by out-of-state contractors against the same services performed by Washington-based contractors.

Appendix A: NREL's dGen model overview

What is NREL's dGen model?

JLARC staff used the National Renewable Energy Laboratory's (NREL) Distributed Generation Market Demand (dGen) model to estimate the impacts of the renewable energy tax preference on the adoption of solar energy. NREL is a federally funded research and development center sponsored by the Department of Energy. It publishes technical reports, journal articles, and conference papers related to dGen and its predecessor, The Solar Deployment System model. Multiple state governments and academic researchers use dGen's results to evaluate the impacts of policy changes.

dGen is open source and highly customizable

dGen is a market-penetration model used to simulate how policy changes might potentially impact who adopts solar energy systems and where. The software includes various features that make it particularly useful for analyzing the impacts of the renewable energy tax preference:

- All data used within the model is embedded within a database built by NREL that is spatially resolved.
- In contrast to other modeling software, dGen is fully open source. This permits users to modify the assumptions within the model to align with state specific assumptions and needs (e.g., JLARC staff can include all tax preferences related to solar energy within Washington).
- The model can forecast the adoption of solar energy multiple years into the future.

Model simulates the impact of a policy change

The dGen model estimates the geospatial adoption of solar energy in two-year increments using an agent-based approach, which allows users to simulate the full impact of a policy change over time. The adoption is modeled through four steps:

1. Generates agents, which are a probabilistic representation of individual customer types. They are assigned attributes such as roof angle (azimuth), rooftop availability, and estimated energy consumption.
2. Applies technical and siting restrictions to develop measures of resource availability and quality. An example of a potential restriction is the proportion of the roof facing the appropriate direction.
3. Performs economic calculations using cash flow analysis incorporating project costs, prevailing retail rates, incentives, and net metering considerations. The adoption of solar for each agent is only considered if it is a positive financial investment.
4. Calculates market share of solar energy by simulating technology adoption based on Bass diffusion models. These are differential equations that model the adoption of a technology using innovators⁹ and imitators¹⁰.

The dGen model produces estimates in two-year increments of the total statewide effects of a tax policy change. Impacts are measured as the change in number of solar adoptions between:

- A baseline estimate assuming there was no tax preference.
- The estimated effects of the tax preference after it went into effect.

While the model is complex and forecasting involves some degree of uncertainty, dGen provides a tool for practitioners to simulate how policy changes may affect Washington's adoption of solar energy systems.

⁹Adopters who are the first within their geographical area.

¹⁰Adopters who install solar after an innovator nearby.

Appendix B: NREL's dGen model analysis

dGen analysis shows the potential impacts of the renewable energy tax preference on the adoption of solar energy

JLARC staff used NREL's dGen model to estimate the impact of Renewable Energy System Incentive Program (RESIP), the \$110 million tax preference detailed in Section 1. This technical appendix provides context and supporting information for the analysis and results summarized in Section 4.

dGen methodology

User inputs in dGen

NREL's dGen model allows users to estimate the impacts of policy changes in local solar energy markets (see Appendix A for an overview of the dGen model).

Before modeling policy scenarios, JLARC staff calibrated the model to Washington. This included:

- Adding current and historic solar-related tax incentives to the model.
- Modifying the cost of solar energy systems to align with observed data from the Washington State University Energy Extension Program, the entity that administers RESIP.
- Updating the financing terms to match information provided by a Washington lender.

NREL's dGen model allows users to estimate the impacts of policy changes to the adoption of solar energy systems by Washington residents.

JLARC staff modeled two scenarios with dGen:

- RESIP was in effect.
- RESIP was not in effect.

JLARC staff then compared the estimated adoption of solar energy from each of the two simulations.

Model estimates the impact of RESIP on solar energy adoption in Washington

The modeled scenarios estimate the adoption of solar energy across Washington with and without the renewable energy tax preference. The outputs include the number of adopters every two years, as well as the amount of system capacity installed. The difference between these two estimations is the likely increase of solar adoption due to the renewable energy tax preference.

In 2018-19, when the model assumed the tax preference was in effect, the model estimated a 12% increase in new adopters. Each year after 2020-21, the model estimates that there are fewer adopters with the preference than without. This implies that the preference is likely

incentivizing agents to adopt solar energy sooner than they normally would have, but the increase is not sustained in future years.

Exhibit B1: Percent modeled increase in new adopters of solar energy systems with the preference

Year	Percent Increase With Preference
2014-15	0%
2016-17	0%
2018-19	12%
2020-21	0%
2022-23	-6%
2024-25	-3%

Source: JLARC staff analysis using dGen model.

Between 2018-19, the model estimates that the total new capacity for solar energy systems increased by 47% with the preference. Each year after that, the difference in new capacity created is negligible. This could possibly mean that the preference incentivized users to build bigger systems than they otherwise would have. The model selects system size to maximize the financial benefit, limited by roof size and maximum annual electricity usage.

Exhibit B2: Percent difference in new solar capacity installed with the preference

Year	Percent Difference With Preference
2014-15	0%
2016-17	0%
2018-19	47%
2020-21	1%
2022-23	-5%
2024-25	-2%

Source: JLARC staff analysis using dGen model.

JLARC staff explored the possibility that adopters built bigger systems than they otherwise would have without the preference. We computed the average system size installed by year with and without the preference. The estimated installed capacity is essentially the same in each year except 2018-19, where the system size increased by 32%, when the preference was assumed to be in effect.

Exhibit B3: Percent difference in average system size installed with the preference

Year	Percent Difference With Preference
2014-15	0%
2016-17	0%
2018-19	32%
2020-21	1%
2022-23	0%
2024-25	2%

Source: JLARC staff analysis using dGen model.

RECOMMENDATIONS & RESPONSES

Legislative Auditor's Recommendation

Legislative Auditor's Recommendation: Allow to expire

The Legislature should allow the credit to expire in 2030 because the objectives are mostly met and installations have continued after the program reached its funding limit. If the Legislature wants to broaden low-income participation in the production and use of solar energy, it should consider other options.

Legislation Required: No

Fiscal Impact: None

Letter from Commission Chair

Available on [Citizen Commission website](#) October 2021.

Commissioners' Recommendation

Available on [Citizen Commission website](#) October 2021.


Agency Response

If applicable, available on [Citizen Commission website](#) October 2021.

MORE ABOUT THIS REVIEW

Study questions

Click image to view PDF of proposed study questions.



Washington
JLARC

PROPOSED STUDY QUESTIONS
Credit for Renewable Energy Program Payments

State of Washington Joint Legislative Audit and Review Committee


September 2020

JLARC to review credit for utilities participating in the Renewable Energy System Incentive Program

The 2006 Legislature directed JLARC staff to conduct performance audits of tax preferences. This preference is included in the review schedule set by the Citizen Commission for Performance Measurement of Tax Preferences.

The credit for renewable energy systems provides utilities a public utility tax credit for the amount they pay customers through the Renewable Energy System Incentive Program (Program).

The Program allows participating utilities to pay customers for every kilowatt-hour of electricity generated by renewable energy systems, including rooftop solar panels or a wind turbine. Customers with these systems include individuals, businesses, and community solar organizations. The Program is administered by the Washington State University Energy Extension Program, in coordination with participating utilities.



Credit intended to encourage installation of renewable energy systems

The Legislature included a performance statement specifying that the credit was intended to encourage installation of renewable energy systems, thereby promoting economic development, increasing jobs, and fostering energy independence from fossil fuels. The Legislative Auditor was directed to conclude that the preference has met its objectives if two conditions are met:

- 115 megawatts of capacity are installed.
- The state's solar-related employment either increases in number of jobs or improves in national rankings.

This study will address the following questions:

1. How many entities have used the Program, what kinds of systems have they installed, how much have beneficiaries saved, and how much solar capacity has been added?
2. How does the preference incentivize installation of renewable energy systems, and how has this affected which entities use it and the type of systems installed?
3. Has the preference increased renewable energy system installation?
4. How has employment in the installation and manufacturing industries changed, including the number of solar jobs and Washington's national rank for solar jobs?
5. What is the impact of the Program on the broader economy, and how does that compare to the impact of the reduction in state tax revenue?

Study Timeframe

Preliminary Report: July 2021 Proposed Final Report: December 2021

Study Team

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<p>JLARC Study Process</p>	<p>Study Mandate Budget, legislation, committee direction</p>	→	<p>Proposed Study Questions</p>	→	<p>Legislative Auditor's Preliminary Report</p>	→	<p>For Tax Preferences:</p> <ul style="list-style-type: none"> • Citizen Commission meeting • Public testimony • Commission adopts comments 	→	<p>Legislative Auditor's Proposed Final Report Agency response included</p>	→	<p>Final Report Option to append committee comment</p>
<p>○ Committee votes to distribute completed audit</p>											

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