REPORT TO THE CALIFORNIA LEGISLATURE ON CAEATFA'S SALES & USE TAX EXCLUSION PROGRAM FOR ADVANCED MANUFACTURING

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EXECUTIVE SUMMARY

Under authority granted by Senate Bill (SB) 71 (Padilla, 2010), Senate Bill 1128 (Padilla, 2012) and Assembly Bill 199 (Eggman, 2015), the California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA) offers financial assistance to businesses and other entities in the form of an exclusion from sales and use tax (known as a Sales and Use Tax Exclusion, or STE) on tangible personal property—equipment and machinery—purchased as part of a qualifying alternative energy, advanced transportation, advanced manufacturing, or recycled feedstock project. The average sales and use tax exclusion value is 8.42% (state and local share), and varies across the state, ranging from 7.5% to 10%.

The passage of SB 1128 in September 2012 made advanced manufacturing projects eligible for the STE and required CAEATFA to report to the legislature on the efficacy of the STE for advanced manufacturing projects by January 1, 2017. This report was prepared to fulfill that statutory reporting requirement. Appendix A provides the statutory language of the relevant sections of the Public Resources Code.

Advanced Manufacturing is Important to California's Economy

Advanced Manufacturing is an important sector of the California economy, accounting for a substantial fraction of the state's output, supporting relatively high wage jobs, and stimulating considerable ancillary economic activity. The STE helps defray the costs of starting or expanding an advanced manufacturing business and supports growth in this sector. Though tax incentives are one of many considerations in a business location decision, California nevertheless competes with other states that offer tax incentives. As a result, the STE represents a potentially important factor in influencing business location or expansion decisions.

CAEATFA's Method for Evaluating Advanced Manufacturing Projects

CAEATFA has developed a rigorous application process for approving businesses seeking the sales tax exclusion. An application is recommended for approval only if the projected marginal fiscal and environmental benefits from an applicant's project exceed the cost of the STE.[1] Different from other programs that may "take credit" for a project in its entirety, this net benefit evaluation and test compares only the benefits attributable to the anticipated marginal economic activity from the incentive effects of the STE to the cost of the program in terms of foregone sales tax revenue.

Assessing the Impact of STEs for Advanced Manufacturing

CAEATFA's Advanced Manufacturing program is still relatively new. CAEATFA's board began approving advanced manufacturing projects in December 2013. Between December 2013 and October 2016, CAEATFA's board approved 21 advanced manufacturing projects that are still active to purchase $1.45

[1] In limited cases, CAEATFA may recommend a project for approval even if the projected net benefits are not positive if a determination is made that the project is in the state's interest and furthers the purposes of the program.

billion in capital equipment and machinery ($121 million in anticipated STE).[2] Of these 21 projects, more than two-thirds were approved during either 2015 or 2016. Because most projects purchase and install capital equipment over an extended period, many projects have so far claimed only a portion of their maximum STE amount. As of October 2016, $13.6 million in STE had been claimed of the approved $121 million in anticipated STE. With only 11 percent of the anticipated capital equipment purchased, it is too early to draw any definitive conclusions with respect to program results.

Over the next few years, these projects are expected to continue ramping up by purchasing equipment, hiring employees, purchasing supplies, and selling products. Once projects have progressed further along the ramp process, CAEATFA can assess the impact of the STE program by comparing reported data to the annual averages projected at the time of application.

CAEATFA's Initial Assessment of Net Benefits

An initial assessment of the 21 active projects indicates that the total anticipated net benefit of the program is $94 million. This includes total anticipated fiscal benefits of $216 million minus $121 million in foregone sales tax revenue. Because most applicants have only recently begun purchasing capital equipment, these estimates are based on information provided on project applications.

In addition to these fiscal benefits, advanced manufacturing projects can also generate environmental benefits through improved manufacturing processes. The 21 approved projects are expected to reduce energy and water use, solid waste generation, and emissions of air pollutants. Approved STE Program applicants may also generate additional economic benefits, including patents, strengthened industry clusters, workforce training and partnerships, production process improvements, and benefits of the advanced manufacturing products themselves, such as cancer treatment and space exploration.

Another goal of the program, in addition to promoting California-based manufacturing, is to promote the creation of new jobs in California. The total number of jobs associated with the approved advanced manufacturing projects is projected to be 6,589, in addition to any new jobs created at supplier firms. Of these more than 6,500 jobs, 80 percent are ongoing jobs involved in operating STE Program facilities and 20 percent are temporary facility construction jobs. The average annual salary of the ongoing jobs is projected to be $76,701.

Most standard evaluations of economic development programs rely on gross figures to present the effectiveness of the various programs. Using this approach, the advanced manufacturing program has produced a net benefit of $14,315 per job, including total benefits of $32,752 per job and costs of $18,437 per job. CAEATFA's approach, however, relies on an estimate of the marginal impact of the program (rather than crediting all of the economic activity at applicant facilities to the STE). Using CAEATFA's approach, an

[2] One additional project was approved, but did not claim any STE before becoming inactive. Therefore, this report excludes this project from analysis.

estimated 535 jobs will be created directly as a result of the STE program. The net benefit per marginal job is projected to be $176,383, including total benefits of $403,295 per job and costs of $227,024 per job.

I. INTRODUCTION

The California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA) was established in 1980 to promote the development and commercialization of alternative energy and advanced transportation technologies and products. Under authority granted by Senate Bill 71 (Padilla, 2010), CAEATFA began offering financial assistance to certain types of businesses in the form of an exclusion from sales and use tax (known as a Sales and Use Tax Exclusion, or STE) for tangible personal property purchased as part of a qualifying alternative energy or advanced transportation project. Senate Bill (SB) 1128 (Padilla, 2012) expanded the application of the STE to advanced manufacturing projects.[3]

California's approach to taxing manufacturing equipment changed in 2014, when SB 90 (Galgiani, Cannella, 2014) amended the Sales and Use Tax Law to grant a partial state exemption of the sales and use tax (of approximately 4.2%) for a broad swath of manufacturers, including equipment used for research and development.[4] CAEATFA's STE Program has continued to provide a larger incentive (state and local share) to a narrower group of manufacturers. And subsequently, Assembly Bill 199 (Eggman, 2015) expanded the CAEATFA program to extend the STE to recycled feedstock projects.

The STE Program, which reduces the purchase cost of capital, is intended to promote specific types of manufacturing in California and reduce energy consumption, greenhouse gas emissions, and air and water pollution. Public Resources Code Section 26011.8(i)(1) requires CAEATFA to report to the Legislature by January 1, 2017 on the efficacy and cost benefit of the sales and use tax exclusion as it relates to advanced manufacturing projects. This report is intended to fulfill that statutory requirement.

II. THE IMPORTANCE OF ADVANCED MANUFACTURING AND THE ROLE OF TAX INCENTIVES

The CAEATFA Sales and Use Tax Exclusion program for advanced manufacturing supports an important sector for the state's economy by reducing the cost of starting or expanding a business, helping the state overcome perceptions of high taxes for businesses, and improving the state's ability to compete with other states that offer tax incentives to advanced manufacturing businesses.

Advanced manufacturing is an important sector of the California economy characterized by investment in research and development that leads to innovation, which makes the state's economy competitive.[5] The

[3] In 2017, Senate Bill 90 (Galgiani, Cannella, 2014) amended the Sales and Use Tax Law to grant a partial exemption of the sales and use tax on certain manufacturing and research and development equipment purchases (Revenue and Taxation Code section 6377.1)

[4] Revenue and Taxation Code section 6377.1, allows manufacturers an exemption on $200 million in eligible equipment annually.

[5] For the role of research and development in advanced manufacturing, see Cooper, Christine, Shannon M. Sedgwick, and Somjita Mitra, "California's Manufacturing Industries: Employment and Competitiveness in the 21st Century," Institute for

sector also accounts for a substantial fraction of the state's economic output, supports relatively high wage jobs, and stimulates considerable ancillary economic activity. At 35 percent of the manufacturing workforce in California, the advanced manufacturing sector generates a great deal of economic output per job.[6] Indicative of this productivity, the average wage for employees in advanced manufacturing is estimated to be 80 percent more than employees in lower technology manufacturing in California.[7] Advanced manufacturing firms also purchase relatively more goods and services than many other industries, thus stimulating more jobs indirectly in supplier firms.[8] Growing the state's advanced manufacturing sector provides a direct path toward expanding the economy and making the state more competitive.

The STE program helps enhance California's economic competitiveness by increasing advanced manufacturing employment. California ranks 7th in terms of advanced manufacturing employment as a share of statewide employment behind Michigan, Washington, Massachusetts, Indiana, Virginia, and Utah.[9] CAEATFA's Sales and Use Tax Exclusion program for advanced manufacturing can play an important role in bolstering California's economic growth and competitiveness by encouraging investment and offering a counterweight to a perception that California's business climate is unfriendly to businesses.

Perception of California's Business Climate

A challenge to growing California's advanced manufacturing sector may be a perception that California's business environment is unattractive. For example, the Tax Foundation ranked California as one of the highest cost states for capital intensive manufacturing firms in 2015 (45th for a mature firm and 43rd for a new firm) by comparing calculations of the total business tax on a model firm in all 50 states.[10] Similarly,

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Applied Economics, Los Angeles County Economic Development Corporation, June 2014, page 20, http://laedc.org/wp-content/uploads/2014/07/California_Manufacturing_2014.pdf (accessed October 2016) and Muro, Mark, Jonathan Rothwell, Scott Andes, Kenan Fikri, and Siddharth Kulkarni, "America's Advanced Industries," The Brookings Institute, February 2015, page 2, https://www.brookings.edu/wp-content/uploads/2015/02/AdvancedIndustry_FinalFeb2lores-1.pdf (accessed October 2016)

[6] Cooper, Christine, Shannon M. Sedgwick, and Somjita Mitra, "California's Manufacturing Industries: Employment and Competitiveness in the 21st Century," Institute for Applied Economics, Los Angeles County Economic Development Corporation, June 2014, http://laedc.org/wp-content/uploads/2014/07/California_Manufacturing_2014.pdf (accessed October 2016)

[7] Cooper et al (2014) reported that wages of employees in high technology manufacturing were on average $120,641 in 2012 and those of employees in lower technology manufacturing were on average $66,350 (see page 21) http://laedc.org/wp-content/uploads/2014/07/California_Manufacturing_2014.pdf (accessed October 2016)

[8] Muro, Mark, Jonathan Rothwell, Scott Andes, Kenan Fikri, and Siddharth Kulkarni, "America's Advanced Industries," The Brookings Institute, February 2015, page 3, https://www.brookings.edu/wp-content/uploads/2015/02/AdvancedIndustry_FinalFeb2lores-1.pdf (accessed October 2016)

[9] See addendum to the Muro et al (2015) Brookings report located at the following URL: https://www.brookings.edu/research/americas-advanced-industries-what-they-are-where-they-are-and-why-they-matter/#/M10420 (accessed October 2016)

[10] The model capital-intensive manufacturer is a steel company with 200 positions, $300 million in capital investment, $200 million in revenue, a gross profit ratio of 25 percent, earnings before tax of 10 percent, and an equity ratio of 50 percent. The company is fully taxed in the state in which it is located and the sales are distributed to all 50 states according to the

Forbes' annual ranking of "The Best States for Business" ranks California 48th in regulatory environment.[11] Fortune Magazine also came to a similar conclusion, ranking California's taxation and regulatory environment last among the 50 states, based on an annual survey of approximately 500 CEOs that asks respondents to rank states as good for business.[12] Regardless of whether California's business climate is in fact worse than that of other states, the perception of California as an expensive and difficult state in which to do business nevertheless exists. CAEATFA's STE program is one tool at the state's disposal to counter this perception.

Other States Compete for Businesses with Tax Incentives

CAEATFA's STE program does not exist in a vacuum. States across the country compete for businesses with tax benefits and other incentives that reduce the costs of starting or expanding businesses. Nationwide, 35 states exclude manufacturing machinery from the sales tax.[13] In addition, some states have sought to promote advanced manufacturing with other incentives, such as grants for developing advanced manufacturing training programs, early-stage capital for high-tech companies, and business and occupation tax credits for the aerospace industry.[14] Though tax incentives are one of many considerations in a business location decision, California competes with other states that offer tax incentives. Therefore, reducing the cost for advanced manufacturing companies through the STE Program can—other things being equal—improve the state's competitiveness in attracting and retaining businesses.

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relative population sizes of each state. The Tax Foundation, "Location Matters: The State Tax Costs of Doing Business," 2015, page 19, http://taxfoundation.org/location-matters/location-matters-2015.pdf (accessed October 2016).

[11] Forbes. "Best States for Business," http://www.forbes.com/best-states-for-business/list/#tab:overall and http://www.forbes.com/places/ca/ and http://www.forbes.com/sites/kurtbadenhausen/2015/10/21/ranking-the-best-states-for-business-2015-behind-the-numbers/#1988acaa228e (accessed October 2016)

[12] Addady, Michal, "These are the Best and Worst States for Business," Fortune, 2016, http://fortune.com/2016/05/09/best-worst-states-business/ (accessed October 2016) ; Chief Executive, "California," http://chiefexecutive.net/california/ (accessed October 2016).

[13] CCH Incorporated, "State Tax Handbook," Chicago: Wolters Klewer, 2015; Francis, Norton, "State Tax incentives for Economic Development," Economic Development Strategies Information Brief 3, The Urban Institute, http://www.urban.org/sites/default/files/alfresco/publication-pdfs/2000636-state-tax-incentives-for-economic-development.pdf (accessed October 2016).

[14] These incentives are from Massachusetts, Michigan, and Washington. Other states may have similar incentives. To read more about these incentives, see the following press release: Shore, Michael, "$25 million now available to support Michigan entrepreneurs," Michigan Economic Development Corporation, July 2011, http://www.michiganbusiness.org/press-releases/$25-million-now-available-to-support-michigan-entrepreneurs/ (accessed October 2016); and the following awards announcement in Massachusetts: "2016 Advanced Manufacturing Training Grant Awards," http://www.mass.gov/hed/community/funding/advanced-manufacturing-training-grant-awards.html (accessed October 2016); and the following description of tax incentives for the aerospace industry in Washington: "Incentive Programs: Deferrals, Exemptions, and Credits: Aerospace Industry," Department of Revenue Washington State, http://dor.wa.gov/content/findtaxesandrates/taxincentives/incentiveprograms.aspx#General (accessed October 2016).

IV. CAEATFA'S METHOD FOR EVALUATING PROGRAM PERFORMANCE

The practice of reporting foregone tax revenues due to tax incentives has not been historically performed; California's legislature was the first state to require tax expenditure reports in 1971.[15] In the past few years, state legislatures across the country have shown an increasing interest in further analysis by passing laws that require evaluation of the effectiveness of tax incentives in stimulating economic growth.[16] Since 2012, 23 states have passed laws that require regular independent evaluations of tax incentives,[17] and as of 2015, 12 states have produced reports on the performance of companies that receive tax incentives.[18]

Many of these evaluations of tax incentives, however, overestimate the effectiveness of programs by reporting the total number of jobs and capital investment associated with the new or expanded project, rather than the marginal benefit attributable to the incentive. For example, Massachusetts' annual report on the state's Economic Development Incentive Program provides the number of new jobs created after a firm receives the tax incentive, the number of jobs retained, and the total private investment in the project, but does not adjust these numbers for the economic activity that would have occurred without the tax incentive.[19] Similarly, Florida's evaluation of seven economic development projects reports the total number of new jobs, jobs maintained, and capital investment in each approved project, but does not estimate the marginal effects of the incentives.[20] Like Florida and Massachusetts, Washington's evaluation of tax incentives to high tech industries reports annually the number of new employees, but does not

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[15] Connolly, Katrina D. and Michael E. Bell. (2012) "The Need for a Property Tax Expenditure Budget" State Tax Notes, 64(8), May 21. As of 2015, the Governmental Accounting Standards Board is requiring all state and local governments to report tax abatements in their comprehensive annual financial report (CAFR); Francis, Norton, "GASB 77: Reporting Rules on Tax Abatements," Economic Development Strategies Information Brief 1, Urban Institute, October 2015, http://www.urban.org/sites/default/files/alfresco/publication-pdfs/2000474-GASB-77-Reporting-Rules-on-Tax-Abatements.pdf (accessed October 2016).

[16] Goodman, Josh and John Hamman, "Tax Incentive Evaluation in 2016: in Law and Practice," 2016, http://www.pewtrusts.org/en/research-and-analysis/analysis/2016/09/14/tax-incentive-evaluation-in-2016-in-law-and-practice (accessed October 2016) ; Goodman, Josh, "Tax Incentive Programs," The Pew Charitable Trusts, January 2015, http://www.pewtrusts.org/~/media/assets/2015/01/statetaxincentivesbriefjanuary2015.pdf?la=en (accessed October 2016).

[17] The Pew Charitable Trusts, "States Make Progress Evaluating Tax incentives," January 2015, http://www.pewtrusts.org/en/research-and-analysis/fact-sheets/2015/01/tax-incentive-evaluation-law-state-fact-sheets (accessed October 2016) ; Goodman, Josh and John Hamman, "Tax Incentive Evaluation in 2016: in Law and Practice," 2016, http://www.pewtrusts.org/en/research-and-analysis/analysis/2016/09/14/tax-incentive-evaluation-in-2016-in-law-and-practice (accessed October 2016)

[18] Francis, Norton, "State Tax Incentives for Economic Development," Economic Development Strategies Information Brief 3, The Urban Institute, http://www.urban.org/sites/default/files/alfresco/publication-pdfs/2000636-state-tax-incentives-for-economic-development.pdf (accessed October 2016).

[19] Massachusetts Office of Business Development, "Fiscal Year 2015 Annual Report," Economic Development Incentive Program (EDIP), September 2015, http://www.mass.gov/hed/economic/eohed/bd/econ-development/results/fy15-economic-development-incentive-program-final-report.pdf (accessed October 2016).

[20] Office of the Florida Legislature, "Florida Economic Development Program Evaluations – Year 1," *Report No. 14-01*, January 2014, http://www.oppaga.state.fl.us/MonitorDocs/Reports/pdf/1401rpt.pdf (accessed October 2016).

estimate the fraction of these new employees that is attributable to tax incentives.[21] These reports may quantify the number of new jobs, but they lack analysis of the extent to which those jobs would have existed without the tax incentive.

In developing and establishing its methodology for project analysis under the STE Program, CAEATFA also recognized the challenge and difficulty in accurately determining what specific company activity is actually spurred and due to the tax incentive. This challenge is what led to CAEATFA adopting its current approach.

CAEATFA's Method Evaluates Marginal Impact

When it approved SB 71, the Legislature required CAEATFA to evaluate projects based on a number of factors, including expansion of manufacturing in California, job creation, environmental and fiscal benefits, and overall net benefits (Public Resources Code Sec. 26011.8). Based on these requirements, CAEATFA developed a transparent and rigorous application scoring process that requires projects to document net benefits to the state in order to be recommended for approval. These net benefits are calculated on a marginal rather than an aggregate basis. In other words, the cost of the program in terms of foregone sales tax revenue is compared to the benefits attributable just to the marginal economic activity resulting from the incentive effects of the STE.

Based on the statutory requirements, CAEATFA promulgated regulations implementing the administration and application processes for the STE Program.[22] In addition to general information about the applicant's project, manufacturing process, and product, CAEATFA requires applicants to provide detailed business plan data, including the specific capital equipment that will be purchased and its expected cost; projections on the number of units that will be sold per year; price, materials, and labor costs per unit; full time-equivalent jobs at the facility; and many other factors. Based on this information, CAEATFA analyzes the data provided to ensure that the anticipated revenues, profit margin, labor costs and other factors are both internally consistent and plausible. CAEATFA also requires detailed information about the projected environmental performance of the product and the production process (where relevant). These data are likewise checked for internal consistency and plausibility.

Net Benefits Test

Once the application data have passed CAEATFA's due diligence review, CAEATFA estimates the marginal additional economic output resulting from the STE's reduction in the cost of purchasing capital equipment. As a result of lower capital equipment costs, applicants are incentivized to purchase more such equipment than would be the case in the absence of the STE. CAEATFA's estimate of the extent of these additional capital equipment purchases is based on a study conducted by the Federal Reserve Bank of San Francisco.[23]

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[21] Washington State Department of Revenue, "High Tech Study: Analysis of High Technology Programs," December 2013, http://dor.wa.gov/Docs/Reports/2013/High_Tech_2013.pdf (accessed October 2016).

[22] The most recent regulations were approved on August 9, 2016 and can be found at http://www.treasurer.ca.gov/caeatfa/ste/regulations/regulations.pdf.

[23] Chirinko, Robert S. and Daniel J. Wilson, "State Investment Tax Incentives: A Zero-Sum Game?" Federal Reserve Bank of San Francisco Working Paper 2006-47, July 2008.

This study analyzed the responsiveness of firms to changes in the cost of capital equipment stemming from tax changes. Using this study, CAEATFA is able to estimate how much additional equipment each applicant will purchase based on the reduction in equipment cost stemming from the STE.

Any increase in economic output due to the STE is predicted to result in a number of economic, fiscal, and environmental benefits, including increased economic activity, increased purchases of capital equipment and raw materials from suppliers, and increased sales of the applicant's product(s). These increases have secondary effects, such as increased employment at supplier firms; increased property, income, and sales tax revenues; and increases in environmental benefits, such as reductions in emissions of greenhouse gases and air pollutants. Together, all of these direct and indirect effects of the STE result in economic, fiscal, and environmental benefits to the state.

Marginal projected benefits attributable to the STE program are estimated from an economic model developed by CAEATFA that estimates the size of the various fiscal and environmental benefit streams over the life of the project, monetizes non-monetary benefits, such as reductions in environmental emissions, and applies discounting of future benefits in order to estimate their net present value. In order for a project to be approved by the CAEATFA Board, the project must be projected to produce STE-induced fiscal and environmental benefits that exceed the cost of the STE in reduced sales tax revenues. Calculating the net benefits on a marginal rather than an aggregate basis ensures an apples-to-apples comparison of project costs and benefits and reduces the risk of overestimating project benefits.

All projects are scored on the same criteria in terms of fiscal benefits. However, due to the different eligibility criteria, Advanced Manufacturing projects are scored differently from Advanced Transportation, Alternative Source, and Recycled Feedstock projects in terms of environmental benefits. For non-Advanced Manufacturing projects, the products themselves produce environmental benefits, whereas the products produced by an Advanced Manufacturing process need not necessarily produce environmental benefits. Instead, for Advanced Manufacturing applicants, environmental benefits generally stem from improvements to the manufacturing process itself. As a result, the environmental benefits for Advanced Manufacturing projects are not monetized in the application scoring process as they are with Alternative Source, Advanced Transportation and Recycled Feedstock projects. Instead, points are awarded for specific environmental process improvements and these are incorporated into the project's final benefit score.

The Nature of Uncertainty in Making Projections

In spite of the rigorous nature of the net benefits test developed and applied, there are some uncertainties associated with estimating the impact of the STE Program. First, the net benefits test is performed prospectively, based on information provided by applicants during the application process as well as due diligence performed by CAEATFA. However, the estimated costs and benefits of a project can change as the project evolves under real-world market conditions and individual project contingencies. CAEATFA requires applicants to file annual reports on their projects' status, both to ensure that applicants are complying with the conditions for receiving a Sales and Use Tax Exclusion and to track production, sales, and employment activity. At the time of application, CAEATFA estimates future costs and benefits which will ultimately vary over time.

Second, estimating the future fiscal and environmental benefits of projects based on currently available information requires economic modeling, which in turn requires assumptions regarding discount rates, multiplier effects, and the monetary value of environmental protection benefits. CAEATFA relied on estimates standard in economic modeling literature for these and other input parameters for the net benefits test, but the appropriate values for these factors are nevertheless uncertain.

In recognition of this uncertainty despite CAEATFA's rigorous application review process and net benefits test, the fact that projects benefit from the STE only when they actually purchase equipment helps to ensure that the state's investment in STEs is put to good use. In essence, the STE serves as the "last dollar in" for moving the project forward, after applicants have secured their primary project financing independently.

V. ASSESSING THE IMPACT OF THE STE PROGRAM FOR ADVANCED MANUFACTURING

CAEATFA's Advanced Manufacturing program is still relatively new. CAEATFA's Board began approving advanced manufacturing projects in December 2013. Between December 2013 and October 2016, CAEATFA's Board has approved 21 advanced manufacturing projects that are still active, totaling nearly $121 million in anticipated STE.[24] Projects have three years from the date of approval to claim all of the STE they were granted and can apply to CAEATFA for an extension if unforeseen circumstances, such as permitting delays or other contingencies, extend the timeline over which capital equipment is purchased.

Of the 21 active projects, more than two-thirds were approved during either 2015 or 2016. Specifically, two were approved in 2013, four in 2014, 11 in 2015, and four in 2016. Although projects become eligible for a STE at the time the project is approved, the actual cost savings due to the STE do not occur until taxable property is purchased. The standard ramp-up process begins with the purchase of capital equipment followed by the hiring of employees. After purchasing and installing capital equipment, companies begin to purchase supplies and then begin making sales. The ramp-up process for some projects is very fast (e.g. a year or less), but most projects require a period of a few years to begin making sales.

Because most projects purchase and install capital equipment over an extended period, many projects have so far claimed only a portion of their maximum STE amount. As of October 2016, $13.6 million in STE had been claimed, representing $161 million in capital equipment purchases. The remaining $108 million in outstanding STE represents potential additional capital equipment purchases of $1.3 billion.

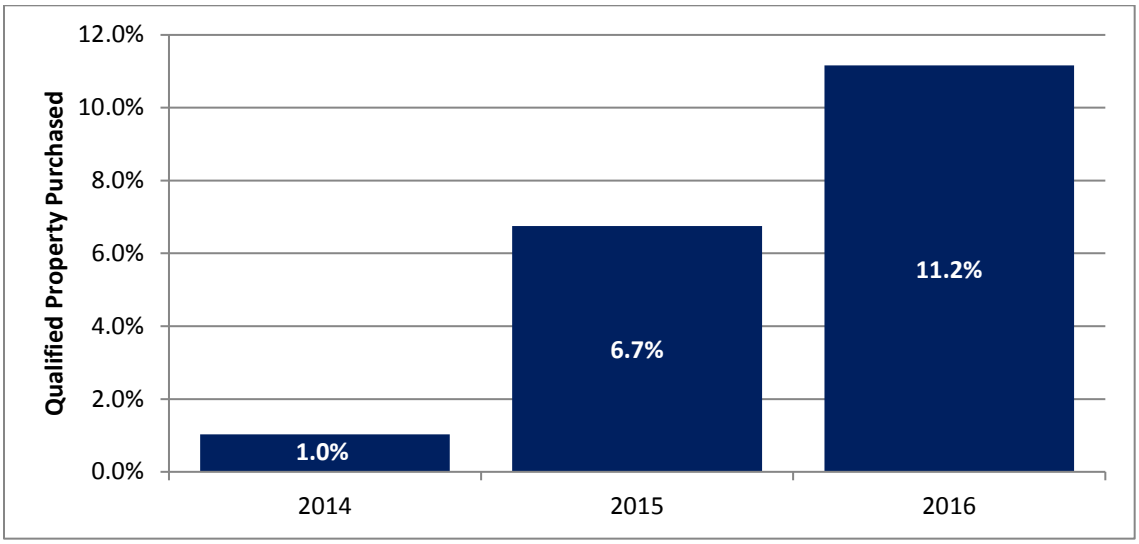
Capital Equipment Purchases Increase Each Year

Projects have begun purchasing capital equipment, and with each passing year they purchase more of the capital equipment approved in their applications. Figure 1 shows this increasing trend. By the end of the

[24] One additional project was approved that became inactive during this time period without conveying any qualified property, and was therefore excluded from analysis. Projects can become inactive for a number of reasons, including voluntarily withdrawing from the STE Program, significant project delays, or bankruptcy or other financial distress.

first full year of the program, very little capital equipment had been purchased (one percent in 2014). By the end of the second full year (2015), active projects had purchased 6.7 percent of capital equipment. By October 2016, active projects have purchased 11.2 percent of approved capital equipment.

FIGURE 1: CUMULATIVE CAPITAL EQUIPMENT PURCHASES SHOW THAT THE PROGRAM IS STILL IN AN EARLY STAGE



Approved projects are purchasing more capital equipment each year, but with only 11 percent of the anticipated capital equipment purchased to date, it is too early to draw any definitive conclusions with respect to program results. Over the next few years, these projects are expected to continue ramping up to full operation by purchasing capital equipment, hiring employees, purchasing supplies, and selling products.

The apparently low percentage of STE claimed only tells part of the story, however. The amount of STE a project receives depends on the amount of "Qualified Property"—generally speaking, capital equipment—that the project plans to purchase. By this measure, active advanced manufacturing projects expect to purchase $1.45 billion of equipment. These projects range in size from $3.8 million to $445 million, with a median of $16.2 million. The range of STE granted is $315,750 to $37,230,704, with a median of $1,358,804. Appendix B displays more information about each project's progress in purchasing capital equipment.

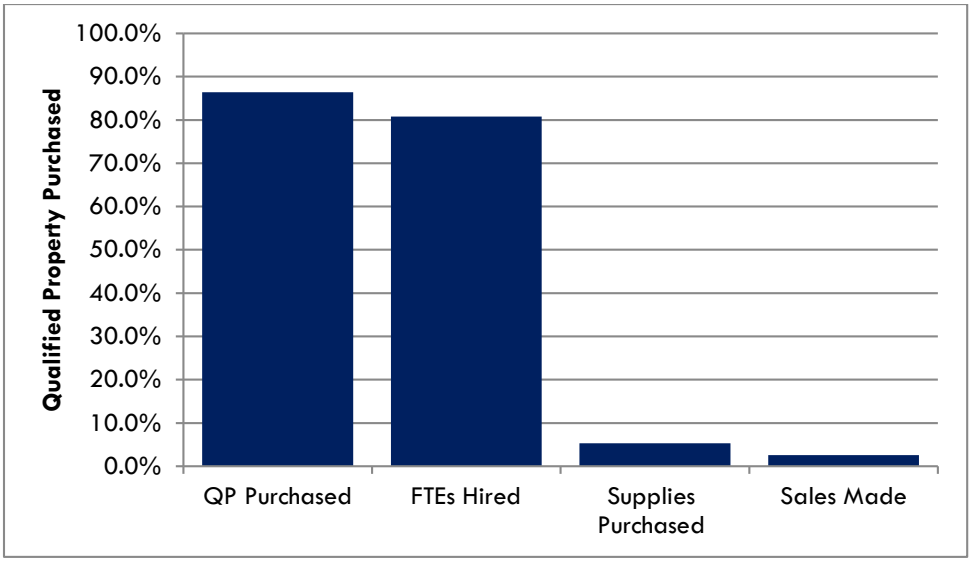
Evidence of Early Progress

Most advanced manufacturing companies have purchased a very small portion of their approved capital equipment; however, a few projects are well underway. Five projects have purchased at least half of the capital equipment approved in their applications.[25] One of these projects was approved in 2013, three in

[25] As of December 31, 2015.

2014, and one in 2015. Figure 2 shows the projects' progress according to capital equipment purchased, full time employees hired, supplies purchased, and sales made by the end of calendar year 2015.

FIGURE 2: THE AVERAGE RAMP OF FIVE PROJECTS THAT PURCHASED MORE THAN HALF OF ANTICIPATED CAPITAL EQUIPMENT BY DECEMBER 2015



As Figure 2 demonstrates, projects typically begin hiring in conjunction with purchasing capital equipment, but can take more time to purchase supplies and make sales on the ramp to full operation. Though still in the early stages, these five advanced manufacturing projects have already contributed 15.3 full-time equivalent ongoing operational jobs that would not have existed without the STE program at an average wage of $57,012 (weighted by jobs) in addition to 29 workers hired for purposes of constructing facilities or installing equipment that would not have been hired otherwise. These five projects have thus far received $5 million in STE. As these companies complete purchases of capital equipment and begin full operations, the fiscal benefits in terms of increased corporation, personal income, sales and property taxes are expected to more than offset this cost.

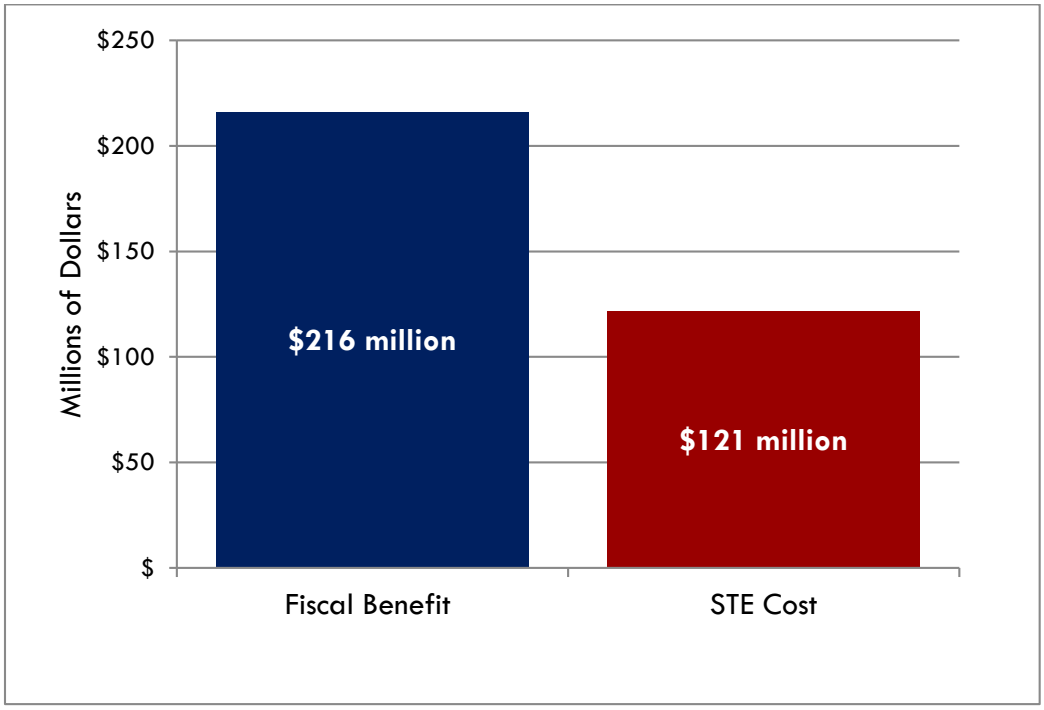
Once projects have fully ramped up, data from annual reports will become more useful for assessing the impact of the STE program. At this point in time, data from annual reports provide limited insight into the impact of the STE program, therefore the initial assessment based on application data provides the best estimate of the expected impact of the program.

Initial Assessment of Net Benefits

Given that it is too early to analyze the program's performance based on reported sales and hiring data, the best basis for an assessment of the program's performance is the analysis completed at the time of application. Based on the initial assessment, the benefits of the STE program for advanced manufacturing are expected to exceed the costs. Figure 3 summarizes the projected fiscal benefits and costs of the STE Program for advanced manufacturing, including all 21 active projects approved from December 2013

through October 2016. These projects are expected to generate a net benefit of $94 million based on the anticipated total benefits of $216 million minus the $121 million in costs of the program (i.e., foregone sales tax revenue). These benefits include the marginal increase in upstream and downstream economic activity such as increases in sales made, purchases from California suppliers and others, and increased wages. Any increase in economic output due to the STE is predicted to have secondary effects as well, such as increased employment at supplier firms and increased property, income, and sales tax revenues. The cost includes the amount of STE already claimed and all outstanding STE projected to be claimed during the next few years by active projects.

FIGURE 3: PROJECTED FISCAL BENEFITS TO THE STATE EXCEED THE COSTS OF THE STE



Note: Estimates are based on initial assessment of active projects approved from December 2013 to October 2016.

The fiscal benefits of the program ($216 million) are projected to exceed the cost of foregone STE to the state ($121 million) by $94 million. These benefits will be realized over the expected useful life of the capital equipment and the products produced with that equipment (which range from 5-15 years). The cost and benefit projections are based on the assumption that currently active projects continue to operate according to the plans identified in their applications. Although CAEATFA carefully scrutinizes applications to ensure validity and consistency of the data provided at the time of approval, some projects might fall short of the projections in their business plans due to real-world market risks or other contingencies that could result in lower-than-projected program costs and benefits. Nevertheless, the substantial positive anticipated net benefits from the program to date suggest that, even if some applicants fail to achieve their financial goals as outlined in the application data submitted to CAEATFA, the program is likely to produce net benefits over time.

Job Creation

In addition to promoting California-based manufacturing, another goal of the program is to promote the creation of new jobs in California. The total number of jobs associated with approved projects in the Advanced Manufacturing Program is projected to be 6,589, in addition to any new jobs created at supplier firms. Of these more than 6,500 jobs, 80 percent are ongoing jobs operating STE Program facilities and 20 percent are facility construction jobs. The average salary of the ongoing jobs is projected to be $76,701.

Most common evaluations of economic development programs rely on gross figures in presenting the effectiveness of the various programs. Using this approach, the advanced manufacturing program has produced a net benefit of $14,315 per job, including total benefits of $32,752 per job and costs of $18,437 per job. CAEATFA's approach, however, relies on an estimate of the marginal impact of the program (rather than crediting all of the economic activity at applicant facilities STE). Using this approach, an estimated 535 jobs will be created directly as a result of the STE program. The net benefit per marginal job is projected to be $176,383, including total benefits of $403,295 per job and costs of $227,024 per job.

The initial assessment of fiscal net benefits and jobs depict only some of the benefits to the state generated by the advanced manufacturing sector. The approved projects also generate environmental benefits, additional economic benefits, and other societal benefits (discussed below).

Other Benefits Generated by Advanced Manufacturing Projects

In addition to creating jobs and generating fiscal benefits, the 21 approved STE Program applicants may also produce environmental benefits and additional economic benefits, including patents, cluster benefits, spin-off companies, workforce training and partnerships, location in economically distressed communities with high unemployment areas, production process improvements, and benefits of the advanced manufacturing products themselves, such as cancer treatment and space exploration. The application credits applicants with additional points in the scoring for some of these activities and outputs: environmental benefits, industry clusters, research and development, and workforce partnerships.

Environmental Benefits

Many advanced manufacturing applicants have deployed improvements in their manufacturing processes that reduce the impact on the environment. The application scoring process awards points for specific environmental process improvements and incorporates these points into the project's final benefit score. These environmental improvements may include reductions in water or energy use, use of hazardous chemicals, waste generation, and emissions of air pollutants. For example, Monolith Materials, Inc. replaces crude oil as the energy source for producing carbon black with natural gas, which reduces carbon dioxide emissions during the manufacturing process by 70 percent, nitrous oxide emissions by 76 percent, and Sulphur dioxide emissions by 95 percent.[26]

[26] See Monolith Inc. website: http://monolithmaterials.com/innovative-technology/

Another recipient of the STE, nanoPrecision, is reducing the environmental impact of the manufacturing process that produces fiber optic connectors. The new advanced manufacturing process self-aligns metal connectors during assembly rather than manually connecting fiber optic cables using epoxy and ceramic connectors. This advanced process improves the impact of manufacturing on the environment because the raw material of the new connector consists of metal rather than ceramic, which can be melted at a temperature that is 40 percent lower than that required to melt ceramic and therefore uses less energy during the manufacturing process. Further energy is saved by eliminating the heating step during the epoxy process. The company's sustainability plan calls for recycling of all metal scrap, tracks energy use, solid waste and hazardous waste generation, and includes initiatives for reduction in environmental impacts over the long-term.

Similar to these examples, the manufacturing processes of all 21 active advanced manufacturing projects are expected to generate environmental benefits. According to data provided by approved applicants, 18 projects reduce energy use, 9 projects reduce water use, 10 projects reduce solid waste generation, 7 projects reduce hazardous waste generation, 8 projects reduce emissions of air pollutants, and 3 projects reduce other pollutants beyond the industry standard. In addition, 13 projects have an environmental sustainability plan in place that tracks water, energy, and waste generation or air pollution emissions at the facility. These reductions in the impact of manufacturing processes on the environment contribute to the net benefit of the STE program to the state that is not quantified monetarily.

Industry Clusters

The application scoring process also allocates points to projects for additional economic activities that contribute to growth in the advanced manufacturing sector. By locating in an area considered an industry cluster, a manufacturing facility contributes to the geographic aggregation of firms in the same industry (i.e. "clustering"). Clustering contributes to economic growth because it drives increased investment and encourages business formation through the accumulation of resources such as information spillover, local training programs, a skilled workforce, local supply chain density, and specialized suppliers. An indicator of clustering, and thus a region's competitiveness, is advanced manufacturing employment as a proportion of regional employment.[27] Using this metric, California hosts 3 of the 10 highest ranked advanced industry clusters nationwide in terms of the share of metropolitan area employment in San Jose, San Francisco, and San Diego.

Though CAEATFA does not explicitly model the STE program's impact on industry clusters, the STE program supports the development of these clusters to the extent that the program stimulates economic activity that would otherwise not exist in California. Over half (13 of 21) of the companies in the STE program are part of an industry cluster that has been identified by a California state or local government entity or regional economic development authority. Ten of these companies are located in the southern California

[27] Cooper, Christine, Shannon M. Sedgwick, and Somjita Mitra, "California's Manufacturing Industries: Employment and Competitiveness in the 21st Century," Institute for Applied Economics, Los Angeles County Economic Development Corporation, June 2014, page 20, http://laedc.org/wp-content/uploads/2014/07/California_Manufacturing_2014.pdf (accessed October 2016)

aerospace industry cluster, identified as such by the Los Angeles Economic Development Corporation.[28] These companies include nanoPrecision, Hi-Shear Corporation, The Monadnock Company, Orbital ATK DES/Northridge, Rolls-Royce High Temperature Composites, Inc., Space Exploration Technologies Corp, Weber Metals, Inc., GKN Aerospace Chem-Tronics, Millennium Space Systems, Inc., and The Gill Corporation.

Research and Development

Similar to rewarding projects located in a cluster, the application factors extra points into the net benefits score for facilities engaged in research and development (R&D) related to the approved project because such investment contributes to growing the economy. By investing in R&D, an industry is more likely to innovate with new products and processes.[29] The advanced manufacturing industry invests a relatively high proportion of expenditures in research and development as a share of the total value of production compared to other industries. Most of the advanced manufacturing companies in the STE program (16 of 21) perform research and development related to the product or production process in California. For example, The Gill Corporation's facility in California, which supplies commercial aircraft and aerospace industries with high performance composite products, engages in research, materials development, and testing as well as efforts to improve its manufacturing processes and tooling using Computer Aided Design (CAD) and non-destructive testing methods.

Workforce Training Partnerships

The application also allocates extra points to projects executed by companies that have local partnerships with educational institutions for the purpose of training current workers at the facility or assisting in the training of potential future workers. These partnerships contribute to local employment by developing a match between the skills of the local labor pool and those needed by local employers. Over a third of the companies (8 of 21) have these kinds of partnerships. For example, Weber Metals, Inc. receives the STE on machinery used to produce Hand and Die Forged Metal, which is a supply for aerospace manufacturers, and has partnerships with several colleges and universities in California. For their current employees, Weber partners with El Camino College to provide on-site training. For potential future employees, Weber partners with WYO Tech Trade School to cultivate new technicians, and also participates in job and career fairs. Weber is also a major sponsor for the Paramount Education Partnership, an alliance between the City of Paramount, the Paramount Unified School District, and the Paramount Chamber of Commerce, which is

[28] All of the companies listed are in Los Angeles and Orange counties. Counties included in this cluster include Imperial, Kern, Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura. Cooper, Christine, Shannon Sedgwick, and Wesley DeWitt, "The Changing Face of Aerospace in Southern California," March 2016, page 10 http://laedc.org/wp-content/uploads/2016/02/LAEDC_Aerospace_FINAL_20160301.pdf (accessed October 2016)

[29] Cooper, Christine, Shannon M. Sedgwick, and Somjita Mitra, "California's Manufacturing Industries: Employment and Competitiveness in the 21st Century," Institute for Applied Economics, Los Angeles County Economic Development Corporation, June 2014, page 20-21, http://laedc.org/wp-content/uploads/2014/07/California_Manufacturing_2014.pdf (accessed October 2016)

"dedicated to providing programs and services that increase the academic achievement and educational expectations of the City's residents."[30]

CAEATFA-Approved Projects Generate Benefits Beyond Those Scored in the Application

Some of the benefits that accrue to the state extend beyond those captured by the application process. The approved projects pass the net benefits test according to those benefits captured by the scoring process, but they likely generate additional benefits as well, such as patents, spin-off companies, production process improvements, and benefits of the advanced manufacturing products themselves.

By supporting advanced manufacturing process improvements, the STE program also supports the technological advancement of a wide range of innovative products, such as cancer treatment, shuttles for space exploration, and satellites for world communications. For example, one successful CAEATFA applicant, Kite Pharma, develops immunotherapy products that harness the patient's immune system to eliminate cancer cells. These products and the commercialized manufacturing process to genetically engineer T-cells to recognize and destroy cancer cells, currently in clinical trials, are entirely new. This immunotherapy is intended to fight even the most aggressive cancers quickly and reduce the need for chemotherapy. As another example, SpaceX manufactures advanced rockets and spacecraft for space exploration. One of the company's space shuttles has made multiple trips to the international space station delivering supplies and returning with cargo containing materials used for the advancement of science. In 2016, one of the company's rockets launched a satellite for commercial communications into orbit. Appendix B describes the products of each approved project.

By supporting industry clustering, workforce partnerships, and R&D investment in and the production of innovative products, CAEATFA's STE program supports growth in the advanced manufacturing sector in California.

VII. CONCLUSION

The CAEATFA Sales and Use Tax Exclusion program for advanced manufacturing supports growth in an essential sector of the state's economy by reducing the cost of expanding innovative businesses and helping California compete with other states that offer tax incentives to advanced manufacturing businesses.

To date, the STE program has approved 21 projects that expect to invest $1.45 billion in equipment purchases, claim $121 million in STE, and employ 6,589 workers. Based on CAEATFA's initial assessment, the STE program is projected to generate $94 million in net fiscal benefits, reduce the environmental impact of applicant's manufacturing processes, and create 535 new jobs that would otherwise not exist at an average wage of $76,701.

[30] City of Paramount, "Paramount Education Partnership (PEP)," http://www.paramountcity.com/ps.educationpartnership.cfm?ID=29 (accessed October 2016).

Because most of these projects have only recently been approved, however, it is still too early for a complete assessment of program performance. Specifically, these projects have so far claimed just 11 percent of the awarded STE benefits. Over the next several years, these projects are expected to ramp up to full operation by purchasing capital equipment, hiring employees, purchasing supplies, and selling products. Once projects have completed their purchases of capital equipment and are fully operational, actual performance can be compared to projections to assess the actual impact of the STE program.

APPENDIX A

To fulfill the requirements of PRC 26011.8(i)(1) in this report, CAEATFA outlined an approach and reviewed it with the Legislative Analyst Office. This approach included reviewing literature on the importance of advanced manufacturing to California's economy, reviewing methods for evaluating tax incentives in other states, and analyzing reported data from Applicants in their annual reports and application data from approved advanced manufacturing projects.

PUBLIC RESOURCES CODE SECTION 26011.8

(a) The purpose of this section is to promote the creation of California-based manufacturing, California-based jobs, advanced manufacturing, the reduction of greenhouse gases, or reductions in air and water pollution or energy consumption. In furtherance of this purpose, the authority may approve a project for financial assistance in the form of the sales and use tax exclusion established in Section 6010.8 of the Revenue and Taxation Code.

(b) For purposes of this section, the following terms have the following meanings:

(1) "Project" means tangible personal property if at least 50 percent of its use is either to process recycled feedstock that is intended to be reused in the production of another product or using recycled feedstock in the production of another product or soil amendment, or tangible personal property that is used in the state for the design, manufacture, production, or assembly of advanced manufacturing, advanced transportation technologies, or alternative source products, components, or systems, as defined in Section

26003. "Project" does not include tangible personal property that processes or uses recycled feedstock in a manner that would constitute disposal as defined in subdivision (b) of Section 40192.

(2) "Recycled feedstock" means materials that would otherwise be destined for disposal, having completed their intended end use and product lifecycle.

(3) "Soil amendments" may include "compost," as defined in Section 14525 of the Food and Agricultural Code, "fertilizing material," as defined in Section 14533 of the Food and Agricultural Code, "gypsum" or "phosphatic sulfate gypsum," as those terms are defined in Section 14537 of the Food and Agricultural Code, or a substance distributed for the purpose of promoting plant growth or improving the quality of crops by conditioning soils through physical means.

(c) The authority shall publish notice of the availability of project applications and deadlines for submission of project applications to the authority.

(d) The authority shall evaluate project applications based upon all of the following criteria:

(1) The extent to which the project develops manufacturing facilities, or purchases equipment for manufacturing facilities, located in California.

(2) The extent to which the anticipated benefit to the state from the project equals or exceeds the projected benefit to the participating party from the sales and use tax exclusion.

(3) The extent to which the project will create new, permanent jobs in California.

(4) To the extent feasible, the extent to which the project, or the product produced by the project, results in a reduction of greenhouse gases, a reduction in air or water pollution, an increase in energy efficiency, or a reduction in energy consumption, beyond what is required by federal or state law or regulation.

(5) The extent of unemployment in the area in which the project is proposed to be located.

(6) Any other factors the authority deems appropriate in accordance with this section.

(e) At a duly noticed public hearing, the authority shall approve, by resolution, project applications for financial assistance.

(f) Notwithstanding subdivision (j), and without regard to the actual date of any transaction between a participating party and the authority, any project approved by the authority by resolution for the sales and use tax exclusion pursuant to Section 6010.8 of the Revenue and Taxation Code before March 24, 2010, shall not be subject to this section.

(g) The Legislative Analyst's Office shall report to the Joint Legislative Budget Committee on the effectiveness of this program, on or before January 1, 2019, by evaluating factors, including, but not limited to, the following:

(1) The number of jobs created by the program in California.

(2) The number of businesses that have remained in California or relocated to California as a result of this program.

(3) The amount of state and local revenue and economic activity generated by the program.

(4) The types of advanced manufacturing, as defined in paragraph

(1) of subdivision (a) of Section 26003, utilized.

(5) The amount of reduction in greenhouse gases, air pollution, water pollution, or energy consumption.

(h) The exclusions granted pursuant to Section 6010.8 of the Revenue and Taxation Code for projects approved by the authority pursuant to this section shall not exceed one hundred million dollars ($100,000,000) for each calendar year.

(i) (1) The authority shall study the efficacy and cost benefit of the sales and use tax exemption as it relates to advanced manufacturing projects. The study shall include the number of jobs created, the costs of each job, and the annual salary of each job. The study shall also consider a dynamic analysis of the economic output to the state that would occur without the sales and use tax exemption. Before January 1, 2017, the authority shall submit to the Legislature, consistent with Section 9795 of the Government Code, the result of the study.

(2) Before January 1, 2015, the authority shall, consistent with Section 9795 of the Government Code, submit to the Legislature an interim report on the efficacy of the program conducted pursuant to this section. The study shall include recommendations on program changes that would increase the program's efficacy in creating permanent and temporary jobs, and whether eligibility for the program should be extended or narrowed to other manufacturing types. The authority may work with the Legislative Analyst's Office in preparing the report and its recommendations.

(j) This section shall remain in effect only until January 1, 2021, and as of that date is repealed, unless a later enacted statute, that becomes operative on or before January 1, 2021, deletes or extends that date. The sale or purchase of tangible personal property of a project approved before January 1, 2021, shall continue to be excluded from sales and use taxes pursuant to Section 6010.8 of the Revenue and Taxation Code for the period of time set forth in the authority's resolution approving the project pursuant to this section.

APPENDIX B

	Application Number	Date of Board Consideration	Applicant Name	City	County	Use of Proceeds	Amount of Qualified Property in Application	Amount of Qualified Property Purchased	Percent Purchased	STE Used to Date[1]
ADVANCED MANUFACTURING APPLICATIONS PREVIOUSLY APPROVED - ACTIVE										
1	13-SM012	12/17/2013	**CE&P Imperial Valley 1, LLC**	Brawley	Imperial	Industrial Biotechnology	$ 444,811,275	$ -	0%	$ -
2	13-SM014	12/17/2013	**Boxer Industries, Inc.**	Redwood City	San Mateo	Advanced Materials	$ 6,553,000	$ 4,993,661.25	76%	$ 420,466
3	14-SM001	2/18/2014	**Enovix Corporation**	Fremont	Alameda	Advanced Materials	$ 16,234,215	$ 2,776,241.25	17%	$ 233,463
4	14-SM008	6/17/2014	**Niagara Bottling, LLC**	San Bernardino	San Bernardino	Integrated Computational Materials Engineering – Water Bottling Facility	$ 30,000,000	$ 28,781,191.38	96%	$ 2,423,376
5	14-SM009	7/15/2014	**nanoPrecision Products, Inc.**	El Segundo, Camarillo	Los Angeles, Ventura	Advanced Materials	$ 7,963,792	$ 4,398,946.80	55%	$ 370,391
6	14-SM021	1/20/2015	**Pacific Ethanol Madera, LLC**	Madera	Madera	Industrial Biotechnology - Corn Oil Production	$ 4,763,500	$ 3,222,977.51	68%	$ 271,375
7	15-SM002	4/21/2015	**GKN Aerospace Chem-Tronics, Inc.**	Santa Ana	Orange	Advanced Materials	$ 118,687,529	$ 10,478,764.39	9%	$ 882,312
8	15-SM003	5/19/2015	**Weber Metals, Inc.**	Paramount	Los Angeles	Advanced Materials	$ 167,661,606	$ 591,100.00	0%	$ 49,771
9	15-SM005	6/16/2015	**U.S. Corrugated of Los Angeles, Inc.**	Santa Fe Springs	Los Angeles	Integrated Computational Materials	$ 23,969,087	$ 23,969,087.00	100%	$ 2,018,197
10	15-SM007	6/16/2015	**The Monadnock Company**	Industry	Los Angeles	Advanced Materials	$ 6,475,000	$ 363,300.02	6%	$ 30,590
11	15-SM008	7/21/2015	**Hi Shear Corporation**	Torrance	Los Angeles	Advanced Materials	$ 39,385,000	$ 3,638,553.00	9%	$ 306,366
12	15-SM011	8/18/2015	**Orbital ATK, Inc.**	Northridge	Los Angeles	Advanced Materials	$ 16,275,154	$ 1,111,381.37	7%	$ 93,578

	Application Number	Date of Board Consideration	Applicant Name	City	County	Use of Proceeds	Amount of Qualified Property in Application	Amount of Qualified Property Purchased	Percent Purchased	STE Used to Date[1]
ADVANCED MANUFACTURING APPLICATIONS PREVIOUSLY APPROVED - ACTIVE										
13	15-SM012	9/15/2015	**Rolls-Royce High Temperature Composites, Inc.**	Huntington Beach	Orange	Advanced Materials	$ 8,728,000	$ 1,989,386.97	23%	$ 167,506
14	15-SM010	10/20/2015	**Karma Automotive LLC**	Moreno Valley	Riverside	Integrated Computational Materials Engineering	$ 38,194,860	$ 2,470,154.94	6%	$ 207,987
15	15-SM016	10/20/2015	**Space Exploration Technologies Corp.**	Hawthorne	Los Angeles	Additive Manufacturing	$ 360,169,639	$ 999,278.00	0%	$ 84,139
16	15-SM017	11/17/2015	**Space Systems/Loral LLC**	Palo Alto	Santa Clara	Micro and Nanoelectronics	$ 5,586,000	$ -	0%	$ -
17	15-SM020	12/15/2015	**Millennium Space Systems, Inc..**	El Segundo	Los Angeles	Advanced Materials	$ 4,284,672	$ -	0%	$ -
18	16-SM003	1/19/2016	**Kite Pharma, Inc.**	El Segundo	Los Angeles	Industrial Biotechnology	$ 13,763,050	$ -	0%	$ -
19	16-SM004	1/19/2016	**rPlanet Earth, LLC**	Vernon	Los Angeles	Micro and Nano Electronics	$ 119,800,000	$ -	0%	$ -
20	16-SM006	1/19/2016	**California Safe Soil**	McClellan	Sacramento	Industrial Biotechnology	$ 3,750,000	$ -	0%	$ -
21	16-SM002	2/16/2016	**The Gill Corporation and Its Subsidiary, Castle Industries**	El Monte, Ontario	Los Angeles, San Bernardino	Advanced Materials	$ 8,472,000	$ -	0.00%	$ -
						TOTAL:	$ 1,445,527,379	$ 89,784,024	-	$ 7,559,518

[1] Under the Program the value of a specific project's sales and use tax exclusion is calculated using the statewide sales and use tax average. The statewide average was estimated at 9.1% through June 2011 and changed to 8.1% in July 2011, 8.37% in January 2013, and 8.42% in March 2014.