
The Impact of the High Technology Business Investment Tax Credit on Hawaii's Economy for Calendar Year 2009

**Department of Taxation
State of Hawaii
December 2010**

Web Site: www.hawaii.gov/tax

Table of Contents

Table of Contents	2
I. Executive Summary	3
II. Legislative History	5
III. Background on the High Technology Business Investment Tax Credit and the Research Activities Tax Credit	8
IV. Data Sources	9
V. Investment in Hawaii	10
VI. Costs in State Tax Credits to Attract High Technology Investments	13
a. Cumulative Costs For Investment Through 2009	13
b. Who Made Investments in QHTBs and Claimed the Investment Credit	15
c. The Research Activities Tax Credit	13
VII. Job Creation	17
a. Jobs Reported by QHTBs	17
b. Estimated Impact of the High Technology Business Investment Tax Credit and the Tax Credit For Research Activities on Technology Employment in Hawaii	17
VIII. Viability and Sustainability of QHTBs	21
IX. Conclusion	26

List of Tables

Table 1 -- Cash Investment Received by 163 QHTBs, by Year (2009 Filers)	10
Table 2 -- Estimated Investment Tax Credit Claimed for Tax Years 1999 - 2009	13
Table 3 -- High Technology Business Investment Tax Credits Claimed for Tax Years 1999 through 2008 .	14
Table 4 -- Returns Claiming the Investment Credit: 2008	15
Table 5 -- Individuals Claiming the Investment Credit by Hawaii AGI: 2008	16
Table 6 -- Estimated Research Credit Claims for Tax Years 2000 - 2009	16
Table 7A -- Average Wages for QHTB Full-time Employees (2009 Filers)	17
Table 7B -- Average Wages for QHTB Part-time and Temporary Employees (2009 Filers)	17
Table 8 -- Hawaii Payroll Expenses, Research Credits, and Contractors Hired and Expenses (2009 Filers).	19
Table 9A -- 2009 Hawaii Revenues, Expenses, and Jobs (2009 Filers)	22
Table 9B -- 2009 Hawaii Revenues, Expenses, Cash Investment, and Intellectual Properties (2009 Filers).	23
Table 10 -- Number of QHTBs Performing Qualifying Activities and Duration of Activity (2009 Filers) ...	24

List of Charts

Chart 1 -- Cash Investment Received by 419 QHTBs for 2000 – 2009 by Calendar Year (2002 - 2009 Filers)	11
Chart 2 -- Cash Investment Received by 419 QHTBs for 2000 – 2009 by QHTB Category (2002 - 2009 Filers)	11
Chart 3 -- Number of QHTBs with Intellectual Properties (2009 Filers)	24
Chart 4 -- Number of Years QHTBs Have Been Performing Qualifying Activities (2009 Filers)	25

I. EXECUTIVE SUMMARY

On June 21, 2007, House Bill 1631 was signed into law as Act 206 (the "Act"). The purpose of the Act is to measure the effectiveness of the high technology business investment tax credit (investment credit) established by Act 178 of 1999, as amended by Act 221 of 2001 and Act 215 of 2004.

Act 206 requires qualified high technology businesses (QHTBs) that accept investments for which State investment credit may be claimed, to complete and file an annual electronic survey prepared by the Department of Taxation (Department). The surveys must be filed on or before June 30 of each year for five years following the year of the investment.

Act 206 also requires the Department to use the survey data for the following:

1. Compile the information in the survey, tax returns, and related documents and submit such information to the Legislature by September 1 annually.
2. Study the effectiveness of the investment credit and to issue a report on its findings to the Legislature by December 1 annually.

The Act applied to QHTBs who received investments after June 30, 2007. It required these QHTBs to report on investments received between calendar year 2000 and 2009. A total of 163 QHTBs filed the survey this year.

This December 2010 report analyzes the following four questions: 1) what is the size of the investment made in QHTBs since the passage of Act 178 in 1999; 2) how much in State tax credits was granted to attract this investment; 3) what type of jobs and how many jobs were created as a result of these investments; and 4) are these investments creating viable companies with the ability to contribute on an on-going basis to the economic diversification of the State.

The findings for these key questions include:

1. Total Investment. The 163 QHTBs that filed reported receiving a total of \$1.335 billion in cash investments between calendar year 2000 and 2009.
2. Tax Credit Costs. The cumulative cost of State tax credits through 2009 is estimated to be \$857.6 million for investments made in QHTBs. However, the total possible additional credits that could be claimed by investors in these companies is \$847.2 million. The State remains obligated to honor these tax credit claims, thus reducing the State's potential revenues over at least the next four years.
3. Number and Types of Jobs. The 163 QHTBs reported creating 1,286 jobs, of which 1,143 were full-time positions. These firms also employed a total of 605 temporary workers and 1,116 independent contractors.
4. Viability of the Companies. The 163 QHTBs reported that their expenses were considerably higher than their revenues (\$316.5 million in expenses; \$148.9 million in revenues). Only 32 companies had revenues greater than expenses in 2009. Sixty three firms have been in business for six years or more. The majority of these QHTB companies did not pay corporate income taxes in Hawaii and reported paying only \$2.0 million in GET taxes to Hawaii in 2009.

II. LEGISLATIVE HISTORY

In 1999 the Hawaii State Legislature passed Act 178 that encouraged Hawaii taxpayers to invest in high technology companies by granting a credit against taxes owed the State. Act 178 limited the amount of the tax credit to 10% of the investment, with a maximum allowable credit of \$500,000 per year.

Act 178 also encouraged taxpayers to invest in research activities by establishing a separate "research activities" tax credit. The research might be conducted by a high technology company or a non-technology firm engaged in a research project. The amount of the credit was limited to 2.5% of the expenses incurred by the firm to actually conduct new research over and above the research the company was already doing (called a base amount). The research credit was nonrefundable and could only be utilized against tax liability; any excess was carried forward until exhausted.

In 2001 Act 221 amended the 1999 law and allowed taxpayers to claim 100% of their investment in a high technology firm, permitting the taxpayers to claim 35% of the amount in the first year, 25% in the second year, 20% in the third year, and 10% in the fourth and fifth tax years after their initial investment. This bill revised the maximum allowable credit to \$700,000 in the first year, with declining amounts in the subsequent four years.

Act 221 also changed the research activities tax credit by deleting the reference to a base amount of research the company was already doing and allowed expenses in any research being done in the State of Hawaii to qualify for the research tax credit. Significantly, the research credit was refundable.¹ The amount of research tax credit that can be claimed each year was equal to 20% of the company's research expenditures.

¹ Pursuant to Act 297, Session Laws of Hawaii (SLH) 2000, the research credit was made refundable. A refundable credit is paid to a taxpayer even if the taxpayer has no tax liability, or is first offset against tax liability with any

In 2004 the original statute was further amended by Act 215 to place a cap on the ratio of credits a taxpayer could claim for a high technology tax investment. If a taxpayer was claiming \$1.50 in credits for \$1.00 invested in a technology firm, then the tax claim would likely not be reviewed by the Department of Taxation. If the taxpayer claimed a higher amount (such as \$2.00 in credits for each \$1 invested), this Act stated that those investments would be subject to review by the Department of Taxation.

Act 215 also changed the research activities tax credit by limiting it to only qualified high technology businesses, effective July 1, 2004.

In 2009 the Legislature further amended Act 178 and Act 221 by limiting the fiscal impacts of the credits for the period between May 1, 2009 and December 31, 2010 when Act 221 is scheduled to expire. Act 178 of 2009 limited the use of the investment tax credit to 80% of the tax liability of the filer for taxable years beginning on January 1, 2009 and ending December 31, 2010. The Act also disallowed certain tax credit carryover provisions for investments made between May 1, 2009 and the date Act 221 expires. Finally, this newest legislation limited the credits to no more than a 1 to 1 ratio for investments made after May 1, 2009.

This report was prepared pursuant to Act 206, Session Laws of Hawaii (SLH) 2007. The purpose of this Act is to measure the effectiveness of Act 178/221 high technology business investment tax credits, as amended, by requiring:

- "(1) Qualified high technology businesses receiving an investment for which a credit may be claimed under Section 235-110.9, Hawaii Revised Statutes, to submit investment, employment, job creation, wage, revenue, expense, and other information to the department of taxation;*
- (2) The department of taxation to annually report this information in aggregate form to the*

excess refunded to the taxpayer. However, Act 297 only allowed a refundable credit of 2.5% of the qualifying Hawaii research expenses over and above the research the company was already doing (i.e., base period).

legislature; and

- (3) *The department of taxation to use the information to study the effectiveness of the tax credit and report the department's findings to the legislature.”*

In September 2010 the Department of Taxation reported on (1) the amounts invested in the qualified high technology businesses (QHTBs), (2) the number of QHTBs in each industry sector, (3) the salaries/wages the QHTBs paid to their employees, and (4) the activities the QHTBs performed.² The study conducted for this report utilized data from the September 2010 report, and aggregate tax return data available to the Department of Taxation.

² See the report *Descriptive Statistics on the Operations of Qualified High Technology Businesses From 2002 Through 2009*, Department of Taxation, State of Hawaii, September 2010.

III. BACKGROUND ON THE HIGH TECHNOLOGY BUSINESS INVESTMENT TAX CREDIT AND THE RESEARCH ACTIVITIES TAX CREDIT

The investment credit is a nonrefundable credit claimed by persons investing in QHTBs who owe Hawaii State taxes in one of three categories: Hawaii income taxes (§235-110.9, HRS), Hawaii franchise taxes (§241-4.8, HRS), and Hawaii insurance premiums taxes (§431.7-209, HRS). In its present form, investors may claim 100% of their qualifying cash investments, up to a maximum of \$2 million per QHTB. The tax credits can be claimed over a five year period. The credit is computed as a percentage of the cash investment made: 35% in the year the investment is made, 25% in the second year, 20% in the third year, and 10% in both the fourth and fifth years. Because it is a nonrefundable credit, the amount of the allowable credit used cannot exceed the taxpayer's tax liability for that year. However, any excess unused credit may be carried forward to future years until it is used in its entirety, unless the investment was made on or after May 1, 2009³.

The research activities tax credit is a refundable credit. Refundable means the amount of the allowable credit used can exceed the amount of taxes owed by the QHTB for that year. As stated earlier, the credit equals 20% of the QHTB's qualified research expenditures in Hawaii.

In enacting these two tax credit programs, the Legislature stated that the primary purpose of the legislation was to "encourage the continued growth and development of high technology businesses and associate industries" in Hawaii.

³ Act 178, Session Laws of Hawaii 2009, amends section 235-110.9, Hawaii Revised Statutes (HRS), also known as the High Technology Business Investment Tax Credit. For investments made on or after May 1, 2009 and on or before December 31, 2010, the Act limits claims of the high technology business investment tax credit to 80% of tax liability, allows only a one-to-one credit allocation ratio, and eliminates certain carryovers. The amendments also apply to claims for this credit under Chapters 241 and 431:7, HRS.

IV. DATA SOURCES

Each year qualified high technology businesses are required to file Department of Taxation Form N-317, "Statement by Qualified High Technology Business." The QHTBs are asked to provide data for the previous calendar year. The deadline to file is June 30th of each year. QHTBs began filing the N-317 form for calendar year 2002 operations. The form was significantly improved for the calendar year 2007 reporting period to include more detail on the operations of high technology firms qualifying for tax credit investments. The form was slightly amended for the calendar year 2008 reporting period to capture data on general excise taxes paid by QHTBs. The form for calendar year 2009 was modified to capture cash investment received on or after May 1, 2009 and average salary for full-time employees in 2009.

As shown in Table 1, a total of 419 QHTBs have filed Form N-317 since the form was introduced for the 2002 reporting period. Of these, 31.7% specified that their qualifying activity was computer software development, 23.6% specified multiple activities, 21.2% specified performing arts activities, 7.4% stated they were involved in biotechnology activities, 7.4% were involved in non-fossil fuel energy-related technology activities, and 1.4% were involved in ocean sciences activities.

Table 1. Cash Investment Received by 419 QHTBs, by Year

Activity	Number of QHTBs Filing N-317		Cash Investment	
	2002 - 2009	2009	2000 - 2009	2009
Research as in IRC Sec. 41(d)	30	12	\$124,555,928	\$5,540,000
Biotechnology	31	15	\$79,838,645	4,278,104
Computer Software	133	35	\$236,347,023	14,308,279
Non-fossil Fuel Energy	31	15	\$137,329,612	9,805,808
Performing Arts	89	44	\$659,946,370	105,148,104
Ocean Sciences	6	2	\$26,215,752	260,000
Multiple Activities & Others	99	40	\$440,613,054	18,156,100
TOTAL	419	163	\$1,704,846,384	\$157,496,395

V. INVESTMENT IN HAWAII

A total of 419 qualified high technology businesses who filed the N-317 form since 2002 reported receiving \$1.7 billion in cash investments from calendar years 2000 through 2009. The 163 qualified high technology businesses who filed the 2009 N-317 form this year reported receiving \$1.3 billion in cash investments from calendar years 2000 through 2009. About \$157.5 million in investments occurred in 2009.

As shown in Chart 1, calendar year 2007 is the peak investment year with a total of \$334.4 million invested in qualified high technology businesses, followed by calendar year 2006 with \$279.9 million invested, and calendar year 2008 with \$273.6 million invested. Investments in 2009 dropped by 42.4% compared to investments in 2008. This decline could be due to the restrictions imposed by Act 178, SLH 2009 and the state of the economy in 2009.

Chart 1. Cash Investment Received by 419 QHTBs for 2000 - 2009 by Calendar Year (2002 - 2009 Filers)

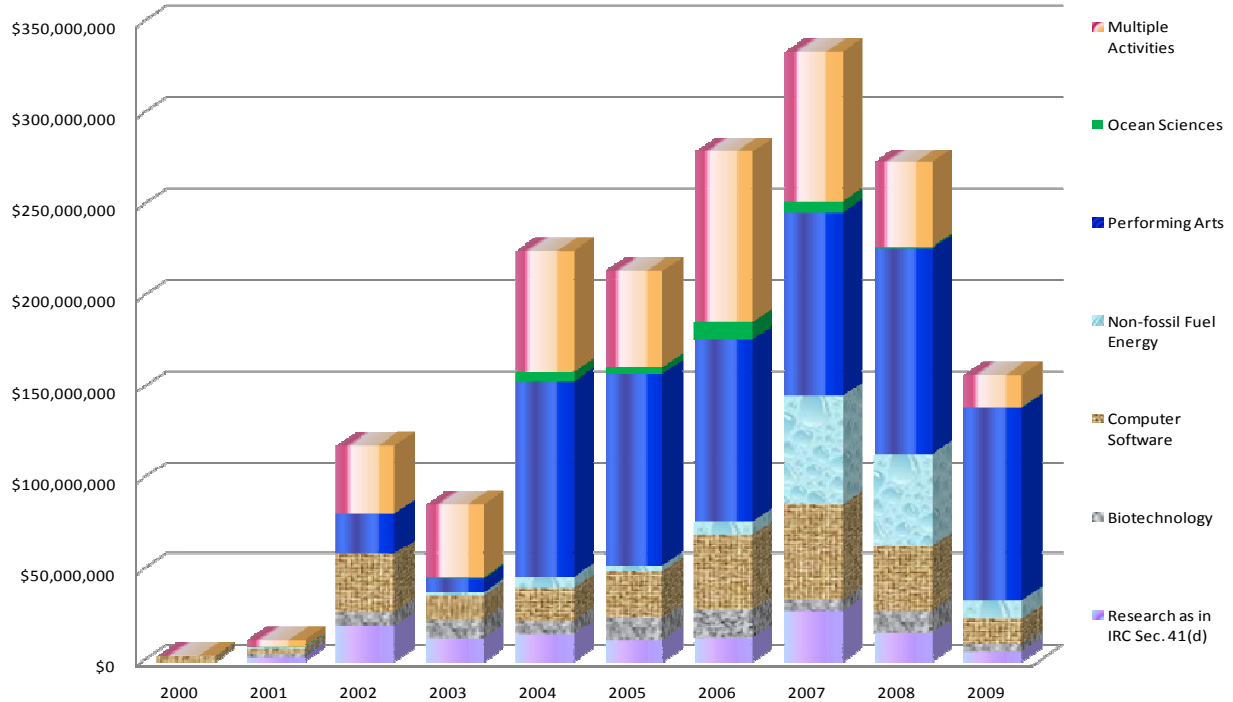
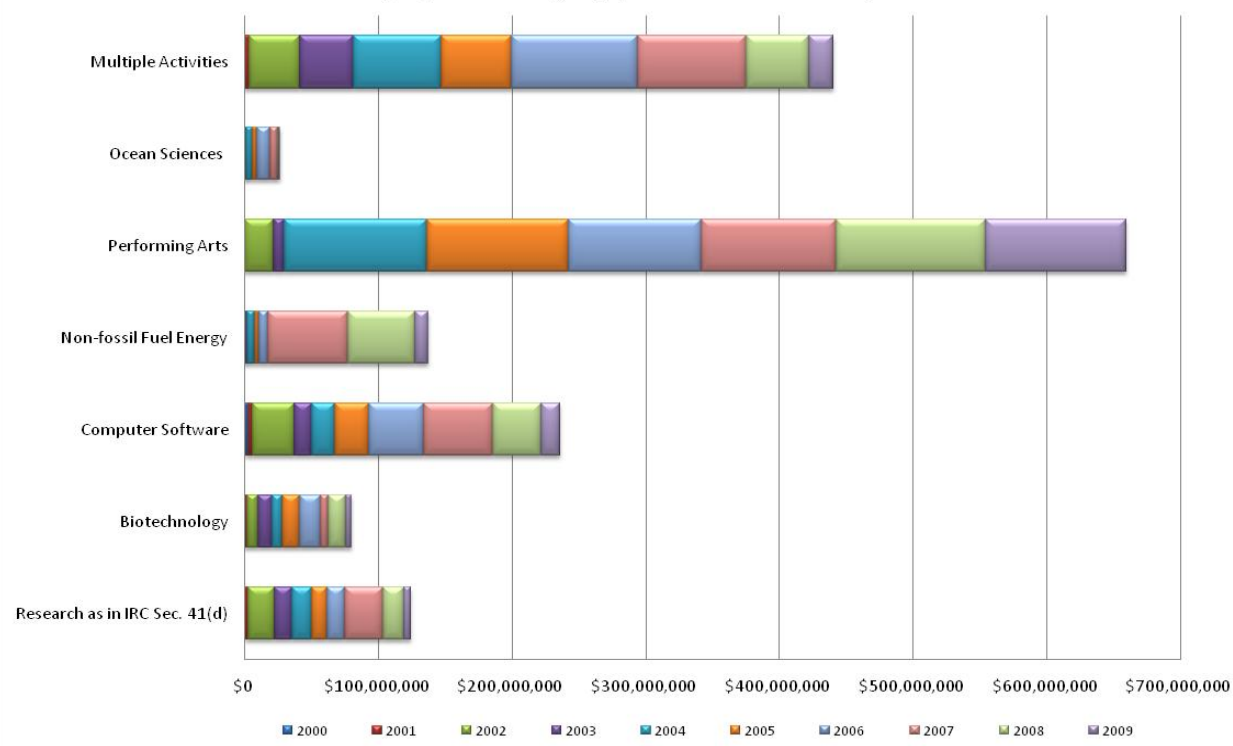


Chart 2. Cash Investment Received by 419 QHTBs for 2000 - 2009, by QHTB Category (2002 - 2009 Filers)



QHTBs involved in performing arts received 38.7% of the total funds invested over the ten year period covered in the Chart 2 data, a cumulative total of \$659.9 million. Performing arts entities have received the lion's share of Act 221 investments since 2004, in part because the ability to recoup one's investment in these types of activities occurs over a shorter period of time. QHTBs reporting that they were involved in multiple high technology activities received 25.8% of the investments (\$440.6 million). Computer software firms received investments totaling \$236.3 million, or 13.9% of the total. Non-fossil fuel energy-related technology firms have shown the most dramatic growth in investments in recent years and received \$137.3 million or 8.1% of the total. Companies engaged in IRC Section 41(d) research received \$124.6 million, or 7.3% of the total. Companies engaged in biotechnology received \$79.8 million, 4.7% of the total. Companies engaged in Ocean Sciences received \$26.2 million, or 1.5% of the total during the ten year period.

VI. COSTS IN STATE TAX CREDITS TO ATTRACT HIGH TECHNOLOGY INVESTMENTS

a. Cumulative Costs for Investments Through 2008

For investments in QHTBs made through 2009, it is estimated that the investment credit will cost the State of Hawaii a cumulative amount of \$857.6 million in lost tax revenues (Table 2). This amount is comprised of: (a) \$559.6 million actually claimed from tax years 1999 through 2008, (b) \$119.2 million in estimated claims for tax year 2009 (this amount is estimated because the deadline to claim the 2009 credit is December 31, 2010), and (c) \$178.8 million in estimated credits to be claimed in 2010 through 2013 since taxpayers may claim these credits over a five year period, or may carry over prior year credits that they did not use because their tax liability was lower than the amount of credits in the taxable year, for investments made prior to May 1, 2009.

Table 2. Estimated Investment Tax Credit Claims for Tax Years 1999 - 2010

Cumulative Investment Tax Credit Claimed, Tax Years 1999 - 2008	\$559,559,247
Estimated Investment Tax Credit Claims, Tax Year 2009	\$119,200,000
Estimated Investment Tax Credit Claims, Tax Year 2010 *	\$178,800,000
Total Investment Tax Credit Claims, Tax Years 1999 - 2010	\$857,559,247

* This \$178.8 million is an estimate of carryovers and years 2 to 5 credits for investment made prior 2010. This estimate does not include new investments that may be made in the same companies in calendar year 2010.

Table 3. High Technology Business Investment Tax Credits Claimed¹ for Tax Years 1999 through 2007

Year	Total No. of Claims	Total Credit	Individuals	Corporations	Financial Corporations ²	Insurance Underwriters	Fiduciaries	Exempt Organizations
1999	23	\$162,208	N/A	N/A	N/A	N/A	N/A	N/A
2000	103	393,633	N/A	N/A	N/A	N/A	N/A	N/A
2001	268	9,579,923	\$3,334,260	\$225,205	\$4,209	\$6,013,757	\$2,492	N/A
2002	493	26,185,181	11,191,036	1,710,041	N/A	13,057,896	226,208	N/A
2003	652	38,870,301	13,360,232	3,855,197	2,100,658	19,391,764	162,450	N/A
2004	1,040	50,543,285	26,858,573	994,571	1,599,658	20,714,206	376,277	N/A
2005	1,216	69,827,709	38,111,997	3,428,405	2,286,892	25,293,046	700,845	\$6,524
2006	1,842	105,407,136	59,622,619	8,471,761	10,146,111	26,732,870	431,802	1,973
2007	2,235	140,139,109	82,717,224	9,478,054	15,669,335	29,913,337	2,336,416	24,743
2008 ³	2,488	121,200,553	67,361,978	9,605,761	10,737,197	30,193,343	3,298,623	3,651
Totals	10,360	\$562,309,038	\$302,557,919	\$37,768,995	\$42,544,060	\$171,310,219	\$7,535,113	\$36,891

Source: Tax Research and Planning Office.

¹ Tax credits actually used (deducted from Hawaii income taxes due).

² Financial corporations are defined as corporations that file Form F-1, the Franchise Tax return.

³ Unaudited data.

b. Who Made Investments in QHTBs and Claimed the Investment Credit

In tax year 2008, the latest year for which complete data is currently available, 2,488 taxpayers claimed investment credits of \$121.2 million (Table 3). More importantly, from 1999 through 2008, \$562.3 million in tax credits have been awarded to support high technology in Hawaii. This is a significant loss of revenue to the State Treasury and demonstrates a high fiscal commitment to this industry sector as a result of laws enacted over the past eleven years.

Of the \$562.3 million that has been claimed in ten years, individual tax filers claimed 53.8%, corporations including banks claimed 14.3%, and the remaining taxpayers including insurance underwriters and fiduciaries claimed 31.8% in credits.

For the most recent complete calendar year (2008), individual tax filers (2,330 returns) claimed an average of \$28,911 in tax credits during tax year 2008 (see Table 4). However, when this data is broken down by the income level of the taxpayer, over 94% of the total amount of credits claimed was by individuals with adjusted gross incomes of \$200,000 or more (1,429 returns). The average claim of these higher income filers was \$44,450 per tax return (see Table 5).

Table 4. Returns Claiming the Investment Credit: 2008

Type of Returns	Number of Returns	Tax Credits Claims	Average Credits per Return
Individuals	2,330	\$67,361,978	\$28,911
Corporations	72	\$9,605,761	\$133,413
Financial Corporation *	4	\$10,737,197	\$2,684,299
Insurance	41	\$30,193,343	\$736,423
Fiduciary	39	\$3,298,623	\$84,580
Exempt	2	\$3,651	\$1,826
Totals	2,488	\$121,200,553	\$48,714

Source: Tax Research and Planning Office.

* Financial corporations are defined as corporations that file Form F-1, the Franchise Tax return.

Table 5. Individual Claiming the Investment Credit by Hawaii AGI: 2008

Adjusted Gross Income		High Tech Investment Credit	
At least	But less than	Number of Returns	Total Credit Claimed
	\$5,000	11	\$9,199
\$5,000	\$10,000	12	\$886
\$10,000	\$20,000	18	\$5,600
\$20,000	\$30,000	22	\$13,638
\$30,000	\$40,000	26	\$29,305
\$40,000	\$50,000	52	\$89,352
\$50,000	\$60,000	52	\$107,706
\$60,000	\$70,000	65	\$156,758
\$70,000	\$80,000	67	\$184,039
\$80,000	\$90,000	52	\$162,029
\$90,000	\$100,000	46	\$154,685
\$100,000	\$150,000	240	\$1,178,630
\$150,000	\$200,000	238	\$1,750,938
\$200,000		1,429	\$63,519,213
TOTAL		2,330	\$67,361,978

c. The Research Activities Tax Credit

Cumulative claims of the research credit totaled \$112.5 million from tax years 2000 through 2009 (Table 6). As stated in the introduction section of this report, the research tax credit is a refundable credit available to qualified high technology businesses that engage in research activities as defined by the Internal Revenue Code in Hawaii.

Table 6. Estimated Research Credit Claims for Tax Years 2000 - 2009

Cumulative Research Credit Claimed, Tax Years 2000 - 2008	\$101,696,516
Estimated Research Credit Claims, Tax Year 2009 1/	\$10,850,275
Total Research Credit Claims, Tax Years 2000 - 2009	\$112,546,791

1/ Research Credit Claims as reported by 163 QHTBs in the 2009 Form N-317s.

VII. JOB CREATION

a. Jobs Reported by QHTBs

Data from the 163 QHTBs that filed Form N-317 for calendar year 2009 show that these firms paid wages to 1,891 Hawaii workers in calendar year 2009, including full-time, part-time, and temporary workers. Full-time workers earned an average annual wage of \$68,861 and part-time workers earned an average annual wage of \$30,280. The number of full-time jobs decreased from 1,450 to 1,142 full-time jobs. Part-time jobs decreased from 169 to 143. Temporary jobs substantially increased from 242 to 605. In aggregate, this data reflects a steady workforce of 1,861 in 2008 and 1,891 in 2009 (Tables 7A and 7B).

These 163 firms reported spending \$116.8 million to hire 1,116 independent contractors in Hawaii in 2009 (Table 8). This is a decrease from the prior year of total of 2,840 independent contractors used by high technology firms in 2008. The bulk of the contractor payroll occurred in the performing arts sector (63.1%, or \$73.7 million) and it should be noted that this sector expended only \$6.5 million for non-contractor employment in 2009.

Table 7A. Average Wages for QHTB Full Time Employees (2009 Filers)

Activity	Number of Full-Time Employees Earning a Salary of				Total as of the week of 12/12/09	Average Salary for Full-Time Employees (2009)
	\$0 - \$30,000	\$30,000 - \$60,000	\$60,000 - \$100,000	\$100,000 or more		
Research as in IRC Section 41(d)	2	41	46	13	102	\$79,420
Biotechnology	5	20	13	5	43	54,747
Computer Software	26	150	142	43	361	66,636
Non-fossil Fuel Energy	0	28	13	8	49	58,890
Performing Arts	8	17	4	1	30	53,488
Ocean Science s	0	1	3	0	4	83,922
Multiple Activities	9	174	209	162	554	84,923
TOTAL	50	431	430	232	1,143	\$68,861

Table 7B. Average Wages for QHTB Part Time and Temporary Employees (2009 Filers)

Salary Range	Part Time		Temporary	
	Jobs	Wages*	Jobs	Wages
Under \$30,000 ¹	97	\$1,455,000	n/a	n/a
\$30,000 to \$59,999 ²	32	\$1,440,000	n/a	n/a
\$60,000 - \$99,999 ³	7	\$560,000	n/a	n/a
\$100,000 and over ⁴	7	\$875,000	n/a	n/a
TOTAL	143	\$4,330,000	605	n/a
AVERAGE WAGE		\$30,280		n/a

* Wages = Jobs multiplied by average wages in the respective category

¹ Assume average wages of \$15,000

² Assume average wages of \$45,000

³ Assume average wages of \$80,000

⁴ Assume average wages of \$125,000

Table 8. Hawaii Payroll Expenses, Research Credits, and Contractors Hired and Expenses (2009 Filers)

Activity	No. of QHTBs	Payroll	Research Credit Claimed	Independent Contractors Hired	Contractor Expenses
Research as in IRC Sec. 41(d)	12	\$8,254,487	\$1,362,548	83	\$11,563,633
Biotechnology	15	\$2,930,370	\$565,062	41	\$2,232,766
Computer Software	35	\$27,740,074	\$1,772,084	151	\$3,886,199
Non-fossil Fuel Energy	15	\$3,423,819	\$212,127	42	\$11,992,577
Performing Arts	44	\$6,492,195	\$0	481	\$73,656,861
Ocean Sciences	2	\$394,397	\$100,474	11	\$298,990
Multiple Activities & Others	40	\$54,897,331	\$6,837,980	307	\$13,180,492
TOTAL	163	\$104,132,673	\$10,850,275	1,116	\$116,811,518

b. Estimated Impact of the High Technology Business Investment Tax Credit and the Tax Credit for Research Activities on Technology Employment in Hawaii

As noted last year, the HISciTech Institute in 2007 issued a report on the number of technology jobs in Hawaii in a report titled "Innovation and Technology in Hawaii: An Economic and Workforce Profile."⁴ The HISciTech Report estimated that Hawaii's technology sector employed 31,106 people earning an average annual salary of \$68,935. Of the 31,106 total technology positions, the HISciTech Report estimated 23,985 of these jobs were with private sector companies and 7,121 positions were in public sector agencies.

Notably, between 2002 and 2007, the HISciTech Report estimated that the number of technology jobs in Hawaii increased by 3,557 in the private sector and 601 in the public sector, or a total increase of 4,158 positions in technology fields. The HISciTech Report utilized data from Economic Modeling Specialists Inc. (EMSI) that is based upon U. S. Bureau of Economic Analysis (BEA) data. The technology jobs identified by the HISciTech Report covered private, county, State, and civilian federal government positions, jobs in the military, and self-employed individuals,

⁴ The study by HISciTech is available at http://www.hiscitech.org/_data/n_0001/resources/live/Innovation+Tech+Hawaii+Report+Sept30.pdf.

as well as other positions not covered by unemployment insurance (UI), usually certain owners or part-time employees working less than 20 hours per week.

Overlaying the 1,891 jobs reported by the 163 QHTBs with the 3,557 jobs in the HISciTech Report implies that these 163 QHTBs were responsible for 53% of total private sector technology job creation in Hawaii between 2002 and 2009. What is useful to note at this juncture is the employment in high technology companies filing reports in 2009 who received Act 221 credits remained similar when comparing 2009 employment data to 2008. The high technology sector hired less independent contractors for a net decrease of 154% over the 2008 levels.

It is discouraging to see a net decrease in the total number of individuals receiving some form of employment between 2008 and 2009 (4,701 contractors, full, part, and temporary employees in 2008 compared to 3,007 in 2009), and these jobs were made at a cost of \$121.2 million in tax credits.

VIII. VIABILITY AND SUSTAINABILITY OF QHTBs

To measure the viability of the QHTBs, the Department reviewed the QHTBs' revenues, expenses, and the length of time a QHTB has been in business.

Qualified high technology companies, in aggregate, are experiencing negative cash flows. In 2009, the Hawaii gross revenue of the QHTBs totaled \$148.9 million, which was substantially less than their Hawaii total expenses (excluding capital expenditures) of \$316.5 million. It should be noted that losses are not unusual for businesses in the early stages of their development (Table 9A).

Of the 163 filers of Form N-317 for calendar year 2009, 87 were engaged in their qualifying activity for more than three years and 63 were engaged in the qualifying activity for more than 5 years. QHTBs performing non-fossil fuel energy-related technology consisted of relatively newer firms compared to QHTBs performing other activities. QHTBs performing research as defined in IRC section 41(d) and computer software activities consisted of relatively older firms compared to QHTBs performing other activities (Table 10 and Chart 4).

Of the 163 filers in 2009, only 32 had revenues greater than or equal to their expenses during 2009 and 500 of the total full time jobs reported by QHTB firms were associated with companies that made a profit last year. This is 43.7% of the reported full time jobs.

It should be noted that firms, even those experiencing a negative cash flow, may hold assets of value, such as patents not yet commercialized or copyrights that could be sold or licensed at a future date in or outside Hawaii. Of the 131 filers with revenues less than expenses, 60 filers reported owning copyrights, 54 filers reported owning trade-secrets, 69 filers reported owning licenses, and 51 filers reported owning trademarks (Table 9B and Chart 3).

Table 9A. 2009 Hawaii Revenues, Expenses, Cash Investment, and Jobs (2009 Filers)

A. QHTBs with Hawaii Revenue Greater than or Equal to Hawaii Expenses

	Number of QHTBs	Hawaii Revenues (2009)	Hawaii Expenses (2009)	Cash Investment (2009)	Cash Investment (2000 - 2009)	Number of Full Time Jobs	Number of Part Time Jobs	Number of Temporary Jobs	Number of Independent Contractor
Research as in IRC Sec 41(d)	1	\$963,498	\$450,401	\$0	\$1,346,498	8	0	0	0
Biotechnology	2	\$1,357,545	\$719,329	\$0	\$4,200,000	6	0	0	9
Computer Software	10	\$18,301,420	\$13,460,021	\$754,100	\$25,719,399	108	6	4	11
Non-fossil Fuel Energy	3	\$4,583,005	\$2,246,048	\$239,900	\$563,300	18	0	0	3
Performing Arts	6	\$1,892,042	\$1,082,702	\$1,000	\$12,686,347	1	3	0	12
Ocean Sciences	0	\$0	\$0	\$0	\$0	0	1	2	3
Multiple Activities & Others	10	\$75,298,079	\$57,999,134	\$0	\$54,351,241	359	27	14	161
TOTAL	32	\$102,395,589	\$75,957,635	\$995,000	\$98,866,785	500	37	20	199

B. QHTBs with Hawaii Revenue Less than Hawaii Expenses

	Number of QHTBs	Hawaii Revenues (2009)	Hawaii Expenses (2009)	Cash Investment (2009)	Cash Investment (2000 - 2009)	Number of Full Time Jobs	Number of Part Time Jobs	Number of Temporary Jobs	Number of Independent Contractor
Research as in IRC Sec 41(d)	11	\$5,956,919	\$22,691,643	\$5,540,000	\$107,628,384	94	3	11	83
Biotechnology	13	\$1,252,713	\$7,854,221	\$4,278,104	\$55,355,570	37	17	0	32
Computer Software	25	\$19,503,956	\$41,246,932	\$13,554,179	\$138,973,794	253	37	10	140
Non-fossil Fuel Energy	12	\$2,907,657	\$13,320,106	\$9,565,908	\$66,792,925	31	1	0	39
Performing Arts	38	\$1,063,970	\$108,218,386	\$105,147,104	\$581,082,186	29	5	547	469
Ocean Sciences	2	\$330,765	\$431,269	\$260,000	\$0	4	4	0	11
Multiple Activities & Others	30	\$15,449,255	\$46,750,197	\$18,156,100	\$284,373,297	195	40	19	146
TOTAL	131	\$46,465,235	\$240,512,754	\$156,501,395	\$1,234,206,156	643	107	587	920

C. ALL QHTBs that Filed in 2009

	Number of QHTBs	Hawaii Revenues (2009)	Hawaii Expenses (2009)	Cash Investment (2009)	Cash Investment (2000 - 2009)	Number of Full Time Jobs	Number of Part Time Jobs	Number of Temporary Jobs	Number of Independent Contractor
Research as in IRC Sec 41(d)	12	\$6,920,417	\$23,142,044	\$5,540,000	\$108,974,882	102	3	11	83
Biotechnology	15	\$2,610,258	\$8,573,550	\$4,278,104	\$59,555,570	43	17	0	41
Computer Software	35	\$37,805,376	\$54,706,953	\$14,308,279	\$164,693,193	361	43	14	151
Non-fossil Fuel Energy	15	\$7,490,662	\$15,566,154	\$9,805,808	\$67,356,225	49	1	0	42
Performing Arts	44	\$2,956,012	\$109,301,088	\$105,148,104	\$593,768,533	30	8	547	481
Ocean Science s	2	\$330,765	\$431,269	\$260,000	\$0	4	5	2	14
Multiple Activities & Others	40	\$90,747,334	\$104,749,331	\$18,156,100	\$338,724,538	554	67	33	307
TOTAL	163	\$148,860,824	\$316,470,389	\$157,496,395	\$1,333,072,941	1,143	144	607	1,119

Table 9B. 2009 Hawaii Revenues, Expenses, Cash Investment, and Intellectual Properties (2009 Filers)

A. QHTBs with Hawaii Revenue Greater than or Equal to Hawaii Expenses

	Number of QHTBs	Hawaii Revenues (2009)	Hawaii Expenses (2009)	Cash Investment (2009)	Cash Investment (2000 - 2009)	Number of QHTBs with			
						Copy-right	Trade-Secrets	Licenses	Trade-marks
Research as in IRC Sec 41(d)	1	\$963,498	\$450,401	\$0	\$1,346,498	0	0	0	0
Biotechnology	2	\$1,357,545	\$719,329	\$0	\$4,200,000	0	1	1	1
Computer Software	10	\$18,301,420	\$13,460,021	\$754,100	\$25,719,399	5	5	6	5
Non-fossil Fuel Energy	3	\$4,583,005	\$2,246,048	\$239,900	\$563,300	1	3	1	2
Performing Arts	6	\$1,892,042	\$1,082,702	\$1,000	\$12,686,347	6	2	4	1
Ocean Sciences	0	\$0	\$0	\$0	\$0	0	1	2	3
Multiple Activities & Others	10	\$75,298,079	\$57,999,134	\$0	\$54,351,241	6	7	2	6
TOTAL	32	\$102,395,589	\$75,957,635	\$995,000	\$98,866,785	18	19	16	18

B. QHTBs with Hawaii Revenue Less than Hawaii Expenses

	Number of QHTBs	Hawaii Revenues (2009)	Hawaii Expenses (2009)	Cash Investment (2009)	Cash Investment (2000 - 2009)	Number of QHTBs with			
						Copy-right	Trade-Secrets	Licenses	Trade-marks
Research as in IRC Sec 41(d)	11	\$5,956,919	\$22,691,643	\$5,540,000	\$107,628,384	3	3	6	4
Biotechnology	13	\$1,252,713	\$7,854,221	\$4,278,104	\$55,355,570	2	7	7	6
Computer Software	25	\$19,503,956	\$41,246,932	\$13,554,179	\$138,973,794	13	12	16	11
Non-fossil Fuel Energy	12	\$2,907,657	\$13,320,106	\$9,565,908	\$66,792,925	1	4	4	1
Performing Arts	38	\$1,063,970	\$108,218,386	\$105,147,104	\$581,082,186	25	4	20	14
Ocean Sciences	2	\$330,765	\$431,269	\$260,000	\$0	1	2	0	1
Multiple Activities & Others	30	\$15,449,255	\$46,750,197	\$18,156,100	\$284,373,297	15	22	16	14
TOTAL	131	\$46,465,235	\$240,512,754	\$156,501,395	\$1,234,206,156	60	54	69	51

C. ALL QHTBs that Filed in 2009

	Number of QHTBs	Hawaii Revenues (2009)	Hawaii Expenses (2009)	Cash Investment (2009)	Cash Investment (2000 - 2009)	Number of QHTBs with			
						Copy-right	Trade-Secrets	Licenses	Trade-marks
Research as in IRC Sec 41(d)	12	\$6,920,417	\$23,142,044	\$5,540,000	\$108,974,882	3	3	6	4
Biotechnology	15	\$2,610,258	\$8,573,550	\$4,278,104	\$59,555,570	2	8	8	7
Computer Software	35	\$37,805,376	\$54,706,953	\$14,308,279	\$164,693,193	18	17	22	16
Non-fossil Fuel Energy	15	\$7,490,662	\$15,566,154	\$9,805,808	\$67,356,225	2	7	5	3
Performing Arts	44	\$2,956,012	\$109,301,088	\$105,148,104	\$593,768,533	31	6	24	15
Ocean Sciences	2	\$330,765	\$431,269	\$260,000	\$0	1	3	2	4
Multiple Activities & Others	40	\$90,747,334	\$104,749,331	\$18,156,100	\$338,724,538	21	29	18	20
TOTAL	163	\$148,860,824	\$316,470,389	\$157,496,395	\$1,333,072,941	78	73	85	69

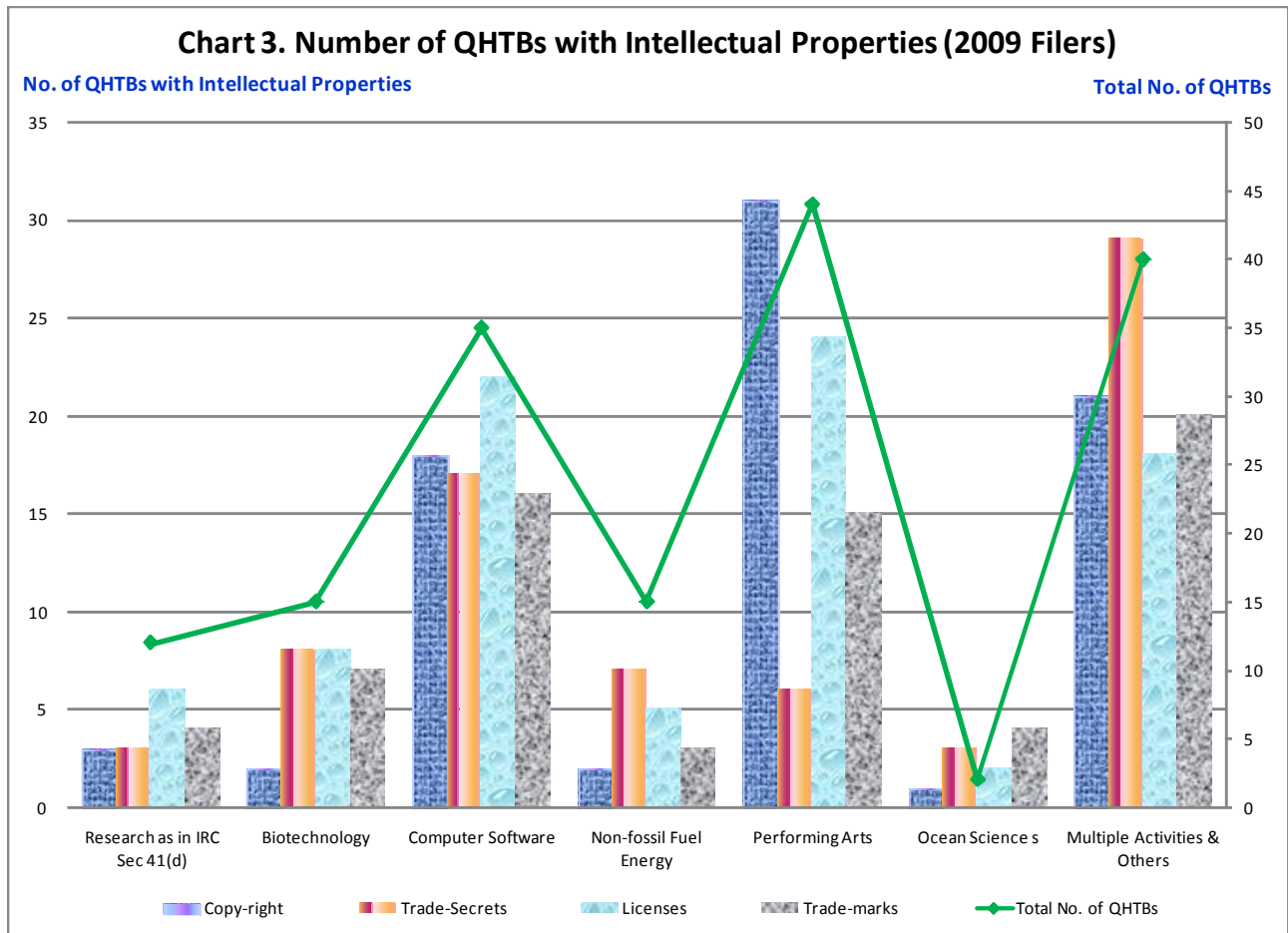
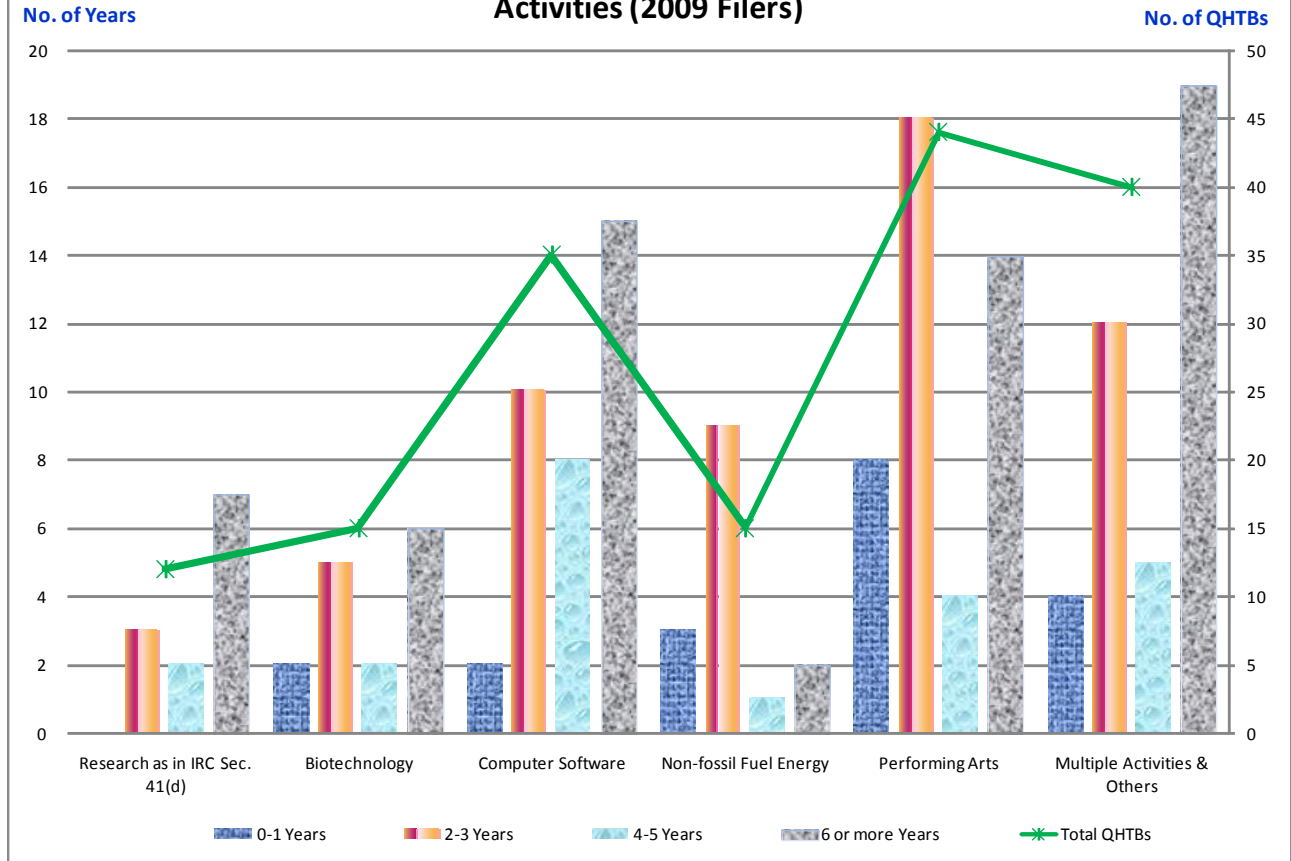


Table 10. Number of QHTBs Performing Qualifying Activities and Duration of Activity (2009 Filers)

Activity	Number of Years the QHTB Performed the Qualifying Activity				Total QHTBs
	0-1 Years	2-3 Years	4-5 Years	6 or more Years	
Research as in IRC Sec. 41(d)	0	3	2	7	12
Biotechnology	2	5	2	6	15
Computer Software	2	10	8	15	35
Non-fossil Fuel Energy	3	9	1	2	15
Performing Arts	8	18	4	14	44
Multiple Activities & Others	4	12	5	19	40
TOTAL	19	57	24	63	163

Chart 4. Number of Years QHTBs Have Been in Performing Qualifying Activities (2009 Filers)



IX. CONCLUSION

To the extent Act 178, as amended by Act 221, is intended as a capital raising tool for Hawaii QHTBs, those filing in 2009 reported raising \$157.5 million in 2009 and a total of \$1.705 billion in cash investments from 2000 to 2009 in more than 400 companies.

Losses in tax revenues to the State of Hawaii for all QHTB investments to date total \$857.6 million in *investment* tax credits claimed and likely to be claimed in future years and \$112.5 million in *research* tax credits. The global and national recession in 2009 seemed to contribute to the decline in investments in high technology companies. The State continued to experience a significant tax revenue loss of \$121.2 million.

While Act 178, as amended, is intended to support the creation of higher-paying technology jobs reported, full time employment declined from 1,450 jobs in 2008 to 1,143 jobs in 2009. However, part-time and particularly temporary jobs increased. Companies, particularly performing arts companies, showed a significant decline in the use of independent contractors from 2,121 contractors in 2008 to 481 contractors in 2009. Based on the combined numbers of contractor and direct jobs, the Act 221 impacts on employment remain disappointing.

To the extent Act 178, as amended by Act 221, is intended to create viable high technology companies contributing long-term to the diversity of Hawaii's economy, 63 of the 163 QHTBs have been in business for more than five years and 32 had revenues greater than expenses. Future year data will be needed to determine if some portion of high technology businesses in Hawaii remain as sustainable, on-going operations and contribute to the future economy development.