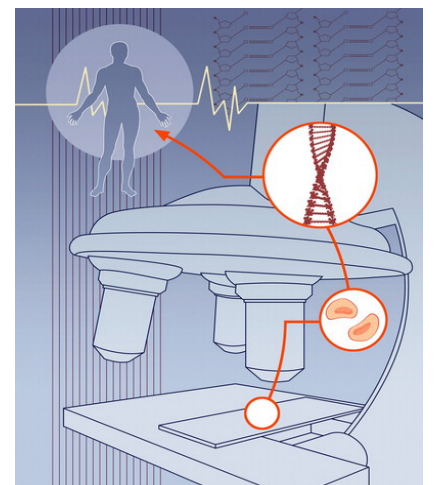
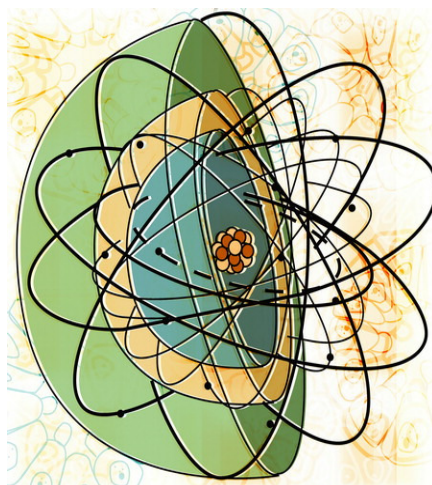
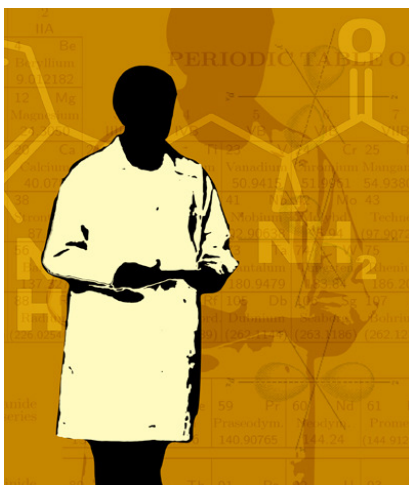
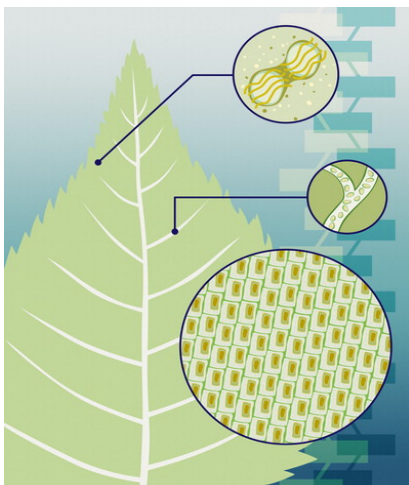


# *Scientific Activities of the Government of Alberta 2008/2009 Actual and 2009/2010 Preliminary Survey*

A report prepared for the Department of Advanced Education and Technology  
By the Science and Technology Surveys Section, Business Special Surveys and Technology Statistics Division, Statistics Canada  
April 2010





# SCIENTIFIC ACTIVITIES OF THE GOVERNMENT OF ALBERTA 2008/2009 AND 2009/2010 SURVEY RESULTS

**A report prepared for:**

**Department of Advanced Education & Technology, former Innovation and Science**

**By:** Science and Technology Surveys Section  
Business Special Surveys and Technology Statistics Division  
Statistics Canada  
April 2010

## Foreword

This report presents a summary of the results of the 2008/09 and 2009/2010<sup>P</sup> annual survey of the Government of Alberta scientific activities. The survey was conducted by Daniel Bahta under the supervision of Jonathan Ellison of Statistics Canada as well as the sponsorship, co-operation and assistance of the Alberta Department of Advanced Education and Technology under the direction of Dale Miles.

The statistical data presented here provide a broad perspective of the Government of Alberta's involvement in science and technology (S&T). The report contains indicators of science expenditures and personnel for various aspects such as: department or agency, type of activity, sector of performance, source of funds and science type.

Please note that the Alberta Research Council and iCORE Inc. are both incorporated as not-for-profit businesses under the Alberta Business Corporations Act. These two organizations are reported under the Department of Advanced Education and Technology as part of the ministry.

Research investments made by the Alberta Heritage Foundation for Medical Research (AHFMR) and the Alberta Heritage Foundation for Science and Engineering Research, operating as the Alberta Ingenuity Fund, are also reported within the Department of Advanced Education and Technology research and development activities, as these bodies, while independent foundations, report to the Government through the Minister of Advanced Education and Technology.

Currently the provinces being surveyed are: British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, New Brunswick, Prince Edward Island, and Newfoundland and Labrador. In Québec, a survey of only research and development (R&D) statistics is conducted by the Institut de la statistique du Québec and shared with Statistics Canada. Detailed results of provincial surveys remain the property and responsibility of participating provinces. Reports for the provinces surveyed are available upon request from the provincial Department or Ministry sponsoring the survey. A list of contacts is provided at the end of this report. Statistics Canada also makes available an annual bulletin 88-001-X **Scientific and Technological Activities of Provincial Governments and Provincial Research Organizations** which publishes science and technological data available for our participating provinces.

Surveys of the scientific activities of provincial governments serve several purposes. They provide an essential database for analysis and the formulation of provincial science policy. They also provide data for the development of a national aggregate R&D series Gross Domestic Expenditures on Research and Development in Canada and the provinces (GERD). Statistics Canada makes available the annual report 88-221-XIE, **Gross domestic expenditures on research and development in Canada (GERD), and the provinces** which includes an historical account of all research and development data available at the provincial level. National aggregates are also needed to complete the international questionnaires for the *Organization for Economic Co-operation and Development* (OECD) and the *United Nations Educational, Scientific and Cultural Organization* (UNESCO).

Science surveys, like many other surveys, are based on respondents' interpretations of definitions and methods of calculation. The accounting records available rarely use a science-based classification. Recognizing the fact that the data are estimates, they are still a good representation of the current science expenditures and employment data for the province of Alberta. A continuing effort has been made in this year's survey to improve on the quality of reporting by Departments.

The success of this survey is largely due to the goodwill and efforts of co-ordinators and officials at the responding departments and agencies. The assistance provided by Dale Miles of the Department of Advanced Education and Technology is gratefully acknowledged and appreciated.

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**The following symbols are used in this report:**

- nil or zero
- amount too small to be expressed
- .. figures not available
- ... figures are not appropriate or not applicable
- e estimated figures
- r revised figureS

## Definitions

This report covers those scientific and technological activities which involve the generation, dissemination and application of new scientific and technological knowledge.

There are two different **science types** that are identified by this survey, the natural sciences and engineering and the social sciences and humanities.

**Natural sciences and engineering** consist of disciplines concerned with understanding, exploring, developing or utilizing the natural world. Included are the engineering, mathematical, environmental, life and physical sciences.

**Social sciences and humanities** include all disciplines involving the study of human actions and conditions and the social, economic and institutional mechanisms affecting humans. Included are such disciplines as anthropology, business administration and commerce, communications, criminology, demography, economics, geography, history, languages, literature and linguistics, law, library services, philosophy, political sciences, psychology, religious studies, social work, sociology and urban and regional studies.

In this report, the term **natural sciences** is synonymous with **natural sciences and engineering**, and **social sciences** with **social sciences and humanities**.

The central activity is **research and experimental development** (R&D). In addition, there are a number of activities closely related to R&D and referred to as **related scientific activities** (RSA).

**R&D** is creative work undertaken on a systematic basis in order to increase the stock of scientific and technical knowledge as well as knowledge of humans, their culture and society, and the use of this knowledge to devise new applications. The central characteristic of R&D is an appreciable element of novelty and uncertainty. It requires the acquisition of knowledge and not just information. New knowledge involves the integration of newly acquired information into existing hypotheses, the formulation and testing of new hypotheses or the re-evaluation of existing observations.

**Related scientific activities** are those activities which complement and extend R&D by contributing to the generation, dissemination and application of scientific and technological knowledge. The kinds of related scientific activities are described below.

**Education support** are grants to individuals or institutions which are intended to support the post-secondary education of students in the natural sciences and the social sciences. General operating or capital grants are excluded. Grants intended primarily to support the research of individuals at universities are either R&D grants or research fellowships.

**Technical surveys** are activities directed towards the exploration and systematic description of the earth and its natural resources. The activities include gathering, processing, collating and analyzing data on natural phenomena except when part of a research project or a museum service. The preparation of maps and survey reports, their printing and their cataloguing are also included.

**Statistical surveys** are activities directed towards the collecting, processing and disseminating of statistics on people and their economic and social activities. Included are the development of technical methodology, statistical analysis and vital statistics.

**Information services** are activities directed to recording, classifying, translating and disseminating scientific and technological information.

### **Special services and studies**

- In the natural sciences the activities are directed towards the establishment of national and provincial standards for materials, devices, products and processes; the calibration of secondary standards; non-routine quality testing; feasibility studies and demonstration projects.
- In the social sciences the activities comprise of systematic investigations carried out in order to provide information needed for planning or policy formulation, including feasibility studies, and demonstration projects.

### **Museum services**

- In the natural sciences the activities comprise of collecting, cataloguing, and displaying of specimens of the natural world or representations of natural phenomena. The scientific activities of natural history museums, zoological and botanical gardens, aquaria, planetaria, and nature reserves are included.
- In the social sciences the activities comprise of collecting, cataloguing, and displaying of specimens and representations relating to human history, social organization and creations.

Six **performing sectors** are identified below.

**Intramural** refers to units of the provincial government performing scientific activities usually within their own facilities.

**Business enterprise** consists largely of private corporations but also includes crown corporations with a commercial function (e.g. power utilities) and industrial research institutes not controlled by another institution. Consultants providing scientific and engineering services are also included.

**Higher education** covers post-secondary educational institutions and affiliated teaching and research facilities. Also included are industrial research institutes affiliated with a university.

**Hospitals and health organizations** are health organizations such as the Heart Foundation and hospitals which do not belong to the higher education sector.

**Provincial Research Organizations** are organizations which have been established by their respective provincial and territorial governments, with a variety of enabling legislation and powers, to provide technical support to primary and secondary industries, to assist in the exploitation of provincial and territorial natural resources and to enhance the economy of their provinces and territories.

**Other** includes non-resident performers of scientific activities funded by the provincial government, as well as recipients not covered elsewhere such as the federal government, municipal governments, individuals and foreign.

Expenditures are either current or capital. **Current expenditures** include costs of personnel, transportation and communications, information, professional and special services, rentals, purchased repair and upkeep, utilities, materials and supplies used to support scientific activities. **Capital expenditures** are incurred for the construction and acquisition of land, buildings, machinery and equipment. **Total expenditures** comprise current plus capital expenditures.

**Departmental Personnel** data are requested by activity and category of employment in full-time equivalent (FTE). A person working entirely full-time on a scientific activity is counted as one person-year. Those working only part-time on scientific activities are considered as a fraction of a person-year, according to their involvement. Both permanent and non-permanent employees are included.

**Objectives of expenditures** are requested by activity and performer (intramural and extramural). The objectives listed are intended to cover the major areas of current economic, political and technological interest. Data are to be reported under the objective which is primary to that expenditure. Generally, the objective selected should be consistent with the stated objectives of the reporting department.

## Highlights

In 2008/2009, the government of Alberta's expenditures on science and technology (S&T) amounted to \$622.6 million, a 5.1% increase over 2007/2008 (\$592.2 million). Preliminary data for the province's 2009/2010 S&T spending (\$708.1 million) represent a 13.7% increase over 2008/2009 (text table 3).

Research and development (R&D) expenditures for 2008/2009 accounted for 65.4% (\$407.3 million) of the total S&T. Thirty-seven percent (\$151.2 million) of the total R&D expenditures were invested intramurally. The remaining 63.0% involved extramural expenditures, with the higher education sector receiving most of the investment (\$148.6 million) (text table 5).

Natural sciences accounted for 88.9% (\$553.3 million) of the total S&T in 2008/2009. Seventy-one percent (\$392.3 million) of these activities were R&D, while related scientific activities (RSA) comprised the remaining 29% (\$160.9 million). Overall, R&D expenditures in the natural sciences represented 96.3% of the total R&D invested by the government of Alberta during the fiscal year (text table 3).

The major contributors to activities in the natural sciences included: the Department of Advanced Education & Technology (\$343.5 million), Sustainable Resource Development (\$68.7 million), Environment (\$38.0 million), and Agriculture and Rural Development (\$36.2 million) (table 24).

Activities in the social sciences represented 11.1% (\$69.4 million) of the government of Alberta's total S&T expenditures in 2008/2009. Seventy-eight percent (\$54.4 million) of these expenditures were dedicated to RSA. R&D accounted for the remaining 21.6% (\$15.0 million), with 5.3% invested intramurally (text table 3, table 52).

The major supporters of activities in the social sciences were the Department of Education (\$35.4 million), followed by the Department of Health and Wellness (\$16.5 million) and the Department of Children and Youth Services (\$5.2 million) (table 46).

In 2008/2009, the government of Alberta performed 43.0% (\$267.1 million) of its total scientific activities intramurally. The major intramural performers were the Department of Advanced Education & Technology (\$133.2 million), Agriculture and Rural Development (\$36.2 million), Sustainable Resource Development (\$28.7 million), Education (\$22.6 million) and Environment (\$20.5 million) (text table 5, table 12).

The government of Alberta reported that in 2008/2009, 1,648.8 full-time equivalent (FTE) employees were engaged in scientific activities. The scientific and professional category accounted for 706.9 (42.9%) of the total FTE, while the technical category represented 548.3 (33.3%). Personnel in other support staff comprised the remaining 393.6 FTE (23.9%) (text table 6A).

Objectives of scientific activities for 2008/2009 are listed in text table 7A, with Protection and improvement of human health representing the largest amount of expenditures (\$117.6 million), followed by Production distribution and rational utilization of energy (\$87.1 million), Basic research (\$83.1 million), and Control and care of the environment (\$80.4 million). These major objectives accounted for 59.0% of the Alberta government's total expenditure on scientific activities for the fiscal year (text table 7A).

A similar trend was observed in R&D activities. Twenty-four percent (\$97.1 million) of the activities were primarily focused on Protection and improvement of human health, followed by Basic research 20.2% (\$82.5 million) and Production distribution and rational utilization of energy 20.2% (\$82.4 million), (text table 7B).

Production, distribution and rational utilization of energy (\$41.5 million), Industrial production and technology (\$34.4 million), and Agricultural production and technology (\$25.9 million) comprised 67.5% of the total intramural R&D (text table 7C).

**Text table 1 Government of Alberta, scientific indicators**

Year	GDP implicit price index <sup>1</sup> (2002=100)	Government expenditures on scientific activities		Estimated government expenditures <sup>2</sup>	Scientific activities as a percent of estimated government expenditures
		current dollars	2002 dollars		
		millions of dollars			
1996/1997 <sup>r</sup>	91.6	168.8	184.3	10,373.7	1.6
1997/1998 <sup>r</sup>	92.8	178.4	192.2	11,699.1	1.5
1998/1999 <sup>r</sup>	92.3	214.4	232.3	12,432.9	1.7
1999/2000 <sup>r</sup>	93.9	234.6	249.8	14,527.3	1.6
2000/2001 <sup>r</sup>	97.8	263.8	269.7	16,174.5	1.6
2001/2002 <sup>r</sup>	98.9	317.7	321.2	17,982.8	1.8
2002/2003 <sup>r</sup>	100.0	333.4	333.4	17,146.8	1.9
2003/2004 <sup>r</sup>	103.3	313.5	303.5	19,200.1	1.6
2004/2005 <sup>r</sup>	106.6	362.6	340.2	21,423.2	1.7
2005/2006 <sup>r</sup>	110.1	381.8	346.8	25,547.7	1.5
2006/2007 <sup>r</sup>	112.9	455.9	403.8	26,740.8	1.7
2007/2008 <sup>r</sup>	116.5	592.2	508.3	30,255.8	2.0
2008/2009	121.1	622.6	514.1	33,458.8	1.9
2009/2010 <sup>p</sup>	118.8	708.1	596.0	32,664.6	2.2

1. Source: CANSIM table 380-0056, *Statistics Canada*.

2. Source: Government of Alberta – [www.finance.alberta.ca/publications/budget/estimates/est2008/complete.pdf](http://www.finance.alberta.ca/publications/budget/estimates/est2008/complete.pdf)

**Text table 2A Scientific activities of the Government of Alberta, 2008/2009**

Department or agency	Estimated government expenditures <sup>1</sup>	Science expenditures <sup>2</sup>	Percentage
	thousands of dollars		
<b>Total</b>	<b>33,458,832</b>	<b>622,652</b>	<b>1.9</b>
Advanced Education and Technology	3,342,055	344,202	10.3
Agriculture and Food	555,531	36,226	6.5
Children's Services	1,094,209	5,170	0.5
Culture and Community Spirit	539,297	4,320	0.8
Education	4,224,927	35,440	0.8
Employment, Immigration and Industry	923,492	2,733	0.3
Energy	261,318	24,522	9.4
Environment	248,240	39,089	15.7
Finance	377,138	595	0.2
Health and Wellness	13,217,448	31,873	0.2
Housing and Urban Affairs	550,990	365	0.1
Infrastructure and Transportation	976,770	12,076	1.2
Justice	499,310	2,014	0.4
Municipal Affairs	692,328	165	0.0
Seniors and Community Supports	1,915,632	1,127	0.1
Solicitor General and Public Security	557,845	897	0.2
Sustainable Resource Development	366,632	68,756	18.8
Tourism, Parks and Recreation	246,282	1,489	0.6
Transportation	2,252,311	11,593	0.5
Other departments or agencies	617,077	...	...

1. Source: Government of Alberta – [www.finance.alberta.ca/publications/budget/estimates/est2008/complete.pdf](http://www.finance.alberta.ca/publications/budget/estimates/est2008/complete.pdf)

2. Source: Table 2.

**Text table 2B Scientific activities of the Government of Alberta, 2009/2010<sup>P</sup>**

Department or agency	Estimated government expenditures <sup>1</sup>	Science expenditures <sup>2</sup>	Percentage
	thousands of dollars		
<b>Total</b>	<b>32,664,629</b>	<b>708,148</b>	<b>2.2</b>
Advanced Education and Technology	2,977,132	354113	11.9
Agriculture and Food	622,857	36226	5.8
Children's Services	1,136,277	3200	0.3
Culture and Community Spirit	292,762	4282	1.5
Education	4,298,126	34365	0.8
Employment, Immigration and Industry	1,015,356	2303	0.2
Energy	252,614	126500	50.1
Environment	251,747	45359	18.0
Finance	479,289	675	0.1
Health and Wellness	12,962,471	25067	0.2
Housing and Urban Affairs	532,027	178	0.0
Infrastructure and Transportation	585,195	18183	3.1
Justice	461,653	1949	0.4
Municipal Affairs	593,970	12	0.0
Seniors and Community Supports	1,971,785	417	0.0
Solicitor General and Public Security	601,316	601	0.1
Sustainable Resource Development	335,893	40750	12.1
Tourism, Parks and Recreation	190,761	1180	0.6
Transportation	2,282,706	12,788	0.6
Other departments or agencies	820,692	...	...

1. Source: Government of Alberta – [www.finance.alberta.ca/publication/budget/estimates/est2009/complete.pdf](http://www.finance.alberta.ca/publication/budget/estimates/est2009/complete.pdf)

2. Source: Table 2.

<b>Text table 3 Total expenditures on scientific activities, by science type and activity</b>						
Type and activity	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010 <sup>p</sup>
	thousands of dollars					
<b>Total science and technology</b>	<b>362,633</b>	<b>381,769</b>	<b>455,926</b>	<b>592,173</b>	<b>622,652</b>	<b>708,148</b>
<b>Natural sciences</b>	<b>330,023</b>	<b>356,834</b>	<b>424,710</b>	<b>508,739</b>	<b>553,266</b>	<b>648,412</b>
Research and development	251,888	266,386	307,283	360,136	392,339	515,426
Related scientific activities	78,135	90,448	117,427	148,603	160,927	132,986
<b>Social sciences</b>	<b>32,610</b>	<b>24,935</b>	<b>31,216</b>	<b>83,434</b>	<b>69,386</b>	<b>59,736</b>
Research and development	11,482	8,115	10,739	14,777	15,001	11,957
Related scientific activities	21,128	16,820	20,477	68,657	54,385	47,779

Source: Tables 1, 23 and 45.

<b>Text table 4 Total expenditures on scientific activities, by source of funds, 2008/2009</b>							
Department or agency	Departmental budget	Transfers from other departments or agencies	Transfers from federal government	From trust funds	From business enterprises	From other sources	<b>Total</b>
	thousands of dollars						
<b>Total</b>	<b>364,925</b>	<b>59,500</b>	<b>2,443</b>	-	<b>43,774</b>	<b>152,010</b>	<b>622,652</b>
Advanced Education and Technology	118,762	56,515	1,999	-	40,449	126,477	<b>344,202</b>
Agriculture and Food	29,991	2,910	-	-	3,325	-	<b>36,226</b>
Children's Services	5,170	-	-	-	-	-	<b>5,170</b>
Culture and Community Spirit	4,320	-	-	-	-	-	<b>4,320</b>
Education	35,440	-	-	-	-	-	<b>35,440</b>
Employment, Immigration and Industry	2,321	75	337	-	-	-	<b>2,733</b>
Energy	1,214	-	-	-	-	23,308	<b>24,522</b>
Environment	39,089	-	-	-	-	-	<b>39,089</b>
Finance	595	-	-	-	-	-	<b>595</b>
Health and Wellness	31,873	-	-	-	-	-	<b>31,873</b>
Housing and Urban Affairs	365	-	-	-	-	-	<b>365</b>
Infrastructure and Transportation	12,076	-	-	-	-	-	<b>12,076</b>
Justice	2,014	-	-	-	-	-	<b>2,014</b>
Municipal Affairs	165	-	-	-	-	-	<b>165</b>
Seniors and Community Supports	1,127	-	-	-	-	-	<b>1,127</b>
Solicitor General and Public Security	897	-	-	-	-	-	<b>897</b>
Sustainable Resource Development	66,424	-	107	-	-	2,225	<b>68,756</b>
Tourism, Parks and Recreation	1,489	-	-	-	-	-	<b>1,489</b>
Transportation	11,593	-	-	-	-	-	<b>11,593</b>

Source: Table 7.

<b>Text table 5 Total expenditures on scientific activities, by sector of performance and activity</b>						
<b>Activity</b>	<b>Intramural</b>	<b>Business enterprises</b>	<b>Higher education</b>	<b>Hospitals and health organizations</b>	<b>Other</b>	<b>Total</b>
thousands of dollars						
<b>2008/2009</b>						
<b>Total science and technology</b>	<b>267,130</b>	<b>130,526</b>	<b>150,201</b>	<b>33,644</b>	<b>41,151</b>	<b>622,652</b>
Research and development	151,173	67,074	148,631	17,422	23,040	407,340
Related scientific activities	115,957	63,452	1,570	16,222	18,111	215,312
<b>2009/2010<sup>P</sup></b>						
<b>Total science and technology</b>	<b>266,637</b>	<b>212,152</b>	<b>162,309</b>	<b>23,438</b>	<b>43,612</b>	<b>708,148</b>
Research and development	154,855	172,630	160,695	11,600	27,603	527,383
Related scientific activities	111,782	39,522	1,614	11,838	16,009	180,765
percentage						
<b>2008/2009</b>						
<b>Total science and technology</b>	<b>42.9</b>	<b>21.0</b>	<b>24.1</b>	<b>5.4</b>	<b>6.6</b>	<b>100</b>
Research and development	24.3	10.8	23.9	2.8	3.7	65.4
Related scientific activities	18.6	10.2	0.3	2.6	2.9	34.6
<b>2009/2010<sup>P</sup></b>						
<b>Total science and technology</b>	<b>37.7</b>	<b>30.0</b>	<b>22.9</b>	<b>3.3</b>	<b>6.2</b>	<b>100</b>
Research and development	21.9	24.4	22.7	1.6	3.9	74.5
Related scientific activities	15.8	5.6	0.2	1.7	2.3	25.5

Source: Tables 8 and 16.

<b>Text table 6A Personnel engaged in scientific activities, by science type and category, 2008/2009</b>								
Science type and activity	Scientific and professional		Technical		Other		Total	
	FTE'S	percent	FTE'S	percent	FTE'S	percent	FTE'S	Percent
<b>Total sciences</b>	<b>706.9</b>	<b>42.9</b>	<b>548.3</b>	<b>33.3</b>	<b>393.6</b>	<b>23.9</b>	<b>1648.8</b>	<b>100</b>
Research and development	263.3	38.5	241.4	35.3	178.5	26.1	683.2	41.4
Related scientific activities	340.2	45.0	272.1	36.0	144.3	19.1	756.6	45.9
Administration of extramural programs	103.4	49.5	34.8	16.7	70.8	33.9	209.0	12.7
<b>Total natural sciences</b>	<b>588.8</b>	<b>40.7</b>	<b>529.5</b>	<b>36.6</b>	<b>328.3</b>	<b>22.7</b>	<b>1446.6</b>	<b>100.0</b>
Research and development	261.5	38.4	241.4	35.4	178.5	26.2	681.4	47.1
Related scientific activities	245.4	42.1	256.8	44.1	80.5	13.8	582.7	40.3
Administration of extramural programs	81.9	44.9	31.3	17.2	69.3	38.0	182.5	12.6
<b>Total social sciences</b>	<b>118.1</b>	<b>58.4</b>	<b>18.8</b>	<b>9.3</b>	<b>65.3</b>	<b>32.3</b>	<b>202.2</b>	<b>100.0</b>
Research and development	1.8	0.9	0.0	0.0	0.0	0.0	1.8	0.9
Related scientific activities	94.8	46.9	15.3	7.6	63.8	31.6	173.9	86.0
Administration of extramural programs	21.5	10.6	3.5	1.7	1.5	0.7	26.5	13.1

Source: Tables 6, 28 and 50.

**Text table 6B Personnel engaged in scientific activities, by science type and category, 2009/2010<sup>P</sup>**

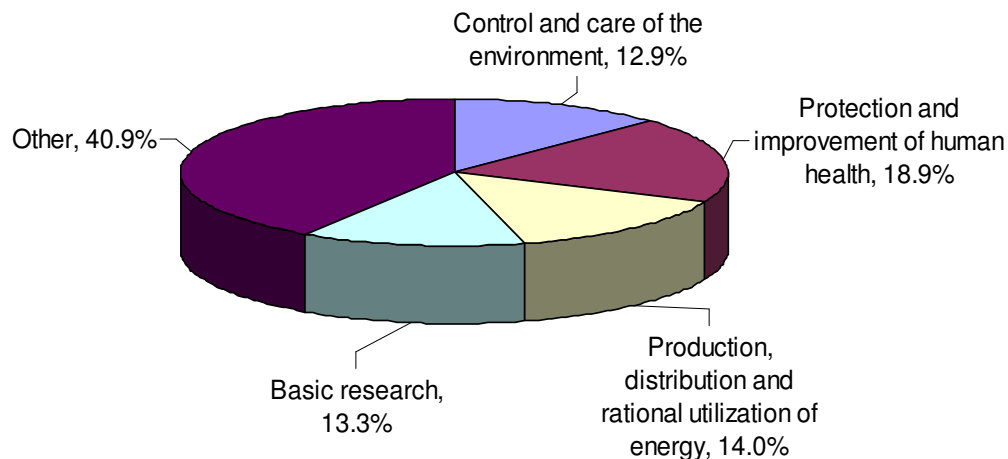
Science type and activity	Scientific and professional		Technical		Other		Total	
	FTE'S	percent	FTE'S	percent	FTE'S	percent	FTE'S	Percent
<b>Total sciences and technology</b>	<b>697.7</b>	<b>42.8</b>	<b>533.7</b>	<b>32.8</b>	<b>397</b>	<b>24.4</b>	<b>1628.4</b>	<b>100</b>
Research and development	261.1	37.6	240.7	34.7	192.5	27.7	694.3	42.6
Related scientific activities	338.6	46.2	255.9	34.9	137.8	18.8	732.3	45.0
Administration of extramural programs	98.0	48.6	37.1	18.4	66.7	33.1	201.8	12.4
<b>Total natural sciences</b>	<b>583</b>	<b>40.8</b>	<b>514.9</b>	<b>36.0</b>	<b>331.7</b>	<b>23.2</b>	<b>1429.6</b>	<b>100</b>
Research and development	260.1	37.5	240.7	34.7	192.5	27.8	693.3	48.5
Related scientific activities	244.9	43.8	240.6	43.0	74.0	13.2	559.5	39.1
Administration of extramural programs	78.0	44.1	33.6	19.0	65.2	36.9	176.8	12.4
<b>Total social sciences</b>	<b>114.7</b>	<b>57.7</b>	<b>18.8</b>	<b>9.5</b>	<b>65.3</b>	<b>32.8</b>	<b>198.8</b>	<b>100</b>
Research and development	1.0	100.0	0.0	0.0	0.0	0.0	1.0	0.5
Related scientific activities	93.7	54.2	15.3	8.9	63.8	36.9	172.8	86.9
Administration of extramural programs	20.0	80.0	3.5	14.0	1.5	6.0	25	12.6

Source: Tables 6, 28 and 50.

Text table 7A Objectives of total science expenditures				
Objective	2008/2009		2009/2010 <sup>P</sup>	
	thousands of dollars	percent	thousands of dollars	percent
<b>Total</b>	<b>622,652</b>	<b>100.0</b>	<b>708,148</b>	<b>100.0</b>
Exploration and exploitation of the Earth	13,441	2.2	15,107	2.1
Infrastructure and general planning of land use				
Transportation systems	11,593	1.9	12,788	1.8
Telecommunications systems	1,500	0.2	1,500	0.2
Other	14,341	2.3	20,916	3.0
Control and care of the environment	80,363	12.9	185,014	26.1
Protection and improvement of human health	117,628	18.9	115,299	16.3
Production, distribution and rational utilization of energy	87,068	14.0	82,571	11.7
Agricultural production and technology	48,203	7.7	46,908	6.6
Fishing	-	-	-	-
Forestry	47,813	7.7	30,507	4.3
Industrial production and technology	43,100	6.9	51,319	7.2
Social structures and relationships	55,683	8.9	46,007	6.5
Exploration and exploitation of space	50	0.0	1514	0.2
Basic research	83,059	13.3	90,597	12.8
Other civil research	18,810	3.0	8,101	1.1

Source: Tables 14 and 21.

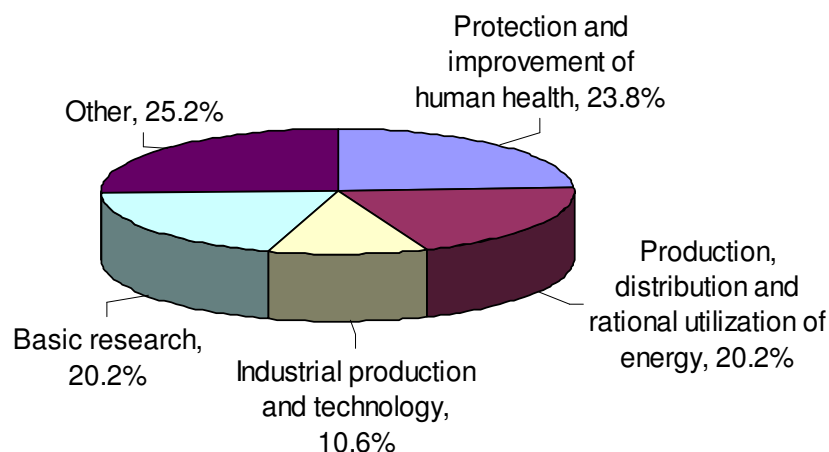
**Chart 1. Objectives of total science expenditures, 2008/2009**



<b>Text table 7B Objectives of total research and development expenditures</b>				
Objective	2008/2009		2009/2010 <sup>P</sup>	
	thousands of dollars	percent	thousands of dollars	percent
<b>Total</b>	<b>407,340</b>	<b>100.0</b>	<b>527,383</b>	<b>100.0</b>
Exploration and exploitation of the Earth	2,180	0.5	3,975	0.8
Infrastructure and general planning of land use				
Transportation systems	932	0.2	1,196	0.2
Telecommunications systems	1,500	0.4	1,500	0.3
Other	8,301	2.0	15,877	3.0
Control and care of the environment	22,240	5.5	130,066	24.7
Protection and improvement of human health	97,100	23.8	99,392	18.8
Production, distribution and rational utilization of energy	82,358	20.2	78,543	14.9
Agricultural production and technology	31,692	7.8	30,400	5.8
Fishing	-	-	-	-
Forestry	18,966	4.7	22,389	4.2
Industrial production and technology	43,100	10.6	39,619	7.5
Social structures and relationships	9,618	2.4	7,314	1.4
Exploration and exploitation of space	50	0.0	-	-
Basic research	82,464	20.2	89,922	17.1
Other civil research	6,839	1.7	7,190	1.4

Source: Tables 15 and 22.

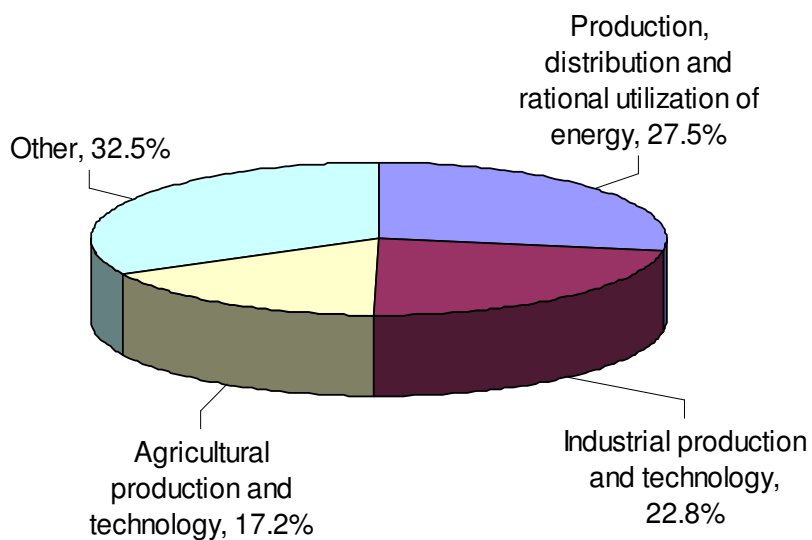
**Chart 2. Objectives of total research and development expenditures, 2008/2009**



<b>Text table 7C Objectives of total intramural research and development expenditures</b>				
Objective	2008/2009		2009/2010 <sup>P</sup>	
	thousands of dollars	percent	thousands of dollars	percent
<b>Total</b>	<b>151,173</b>	<b>100.0</b>	<b>154,855</b>	<b>100.0</b>
Exploration and exploitation of the Earth	-	-	-	-
Infrastructure and general planning of land use				
Transportation systems	202	0.1	370	0.2
Telecommunications systems	-	-	-	-
Other	8,161	5.4	13,767	8.9
Control and care of the environment	13,050	8.6	15,359	9.9
Protection and improvement of human health	9,518	6.3	10,407	6.7
Production, distribution and rational utilization of energy	41,547	27.5	42,287	27.3
Agricultural production and technology	25,977	17.2	26,342	17.0
Fishing	-	-	-	-
Forestry	8,492	5.6	8,390	5.4
Industrial production and technology	34,445	22.8	28,244	18.2
Social structures and relationships	480	0.3	373	0.2
Exploration and exploitation of space	50	0.0	-	-
Basic research	9,061	6.0	9,126	5.9
Other civil research	190	0.1	190	0.1

Source: Tables 15 and 22.

**Chart 3. Objectives of intramural research and development expenditures, 2008/2009**





# **Statistical tables**

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## **Total sciences**

**Table 1 Total expenditures by activity, 2004/2005 to 2009/2010 preliminary**

Activity	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010 <sup>P</sup>
in thousands of dollars						
<b>Research and Development (R&amp;D)</b>						
<b>Current expenditures:</b>						
In-house R&D	47,663	46,765	52,114	64,379	68,289	64,272
R&D contracts	33,430	35,572	48,695	75,741	84,004	185,713
R&D grants and contributions	144,984	148,232	184,750	205,955	224,669	229,897
Research fellowships	3,555	2,335	1,468	816	475	11,697
Administration of extramural R&D	12,446	13,681	14,866	19,594	17,702	20,385
<b>Sub-total current R&amp;D</b>	<b>242,078</b>	<b>246,585</b>	<b>301,893</b>	<b>366,485</b>	<b>395,139</b>	<b>511,964</b>
Capital expenditures	21,292	27,916	16,129	8,428	12,201	15,419
<b>Total R&amp;D</b>	<b>263,370</b>	<b>274,501</b>	<b>318,022</b>	<b>374,913</b>	<b>407,340</b>	<b>527,383</b>
<b>Related scientific activities (RSA)</b>						
Current expenditures	94,965	100,272	126,168	207,482	208,160	171,488
Administration of extramural RSA	3,951	2,649	4,612	5,388	3,712	5,458
<b>Sub-total current RSA</b>	<b>98,916</b>	<b>102,921</b>	<b>130,780</b>	<b>212,870</b>	<b>211,872</b>	<b>176,946</b>
Capital expenditures	347	4,347	7,124	4,390	3,440	3,819
<b>Total RSA</b>	<b>99,263</b>	<b>107,268</b>	<b>137,904</b>	<b>217,260</b>	<b>215,312</b>	<b>180,765</b>
<b>Total</b>	<b>362,633</b>	<b>381,769</b>	<b>455,926</b>	<b>592,173</b>	<b>622,652</b>	<b>708,148</b>

**Table 2 Total expenditures by Department or agency, 2004/2005 to 2009/2010 preliminary**

Department or agency	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010 <sup>P</sup>
	in thousands of dollars					
Aboriginal Affairs and Northern Development	126	101	...	...	...	...
Advanced Education	657	497	...	...	...	...
<b>Advanced Education &amp; Technology</b>						
Post-Secondary Excellence Division	...	...	...	...	449	95
Research Division	...	...	...	...	282	282
Policy and Planning Branch	...	...	327	855	...	...
Technology Commercialization Division	...	...	4,938	8,880	21,553	17,900
University Research and Strategic Investments Branch	...	...	25,319	11,511	21,722	20,661
Alberta Energy Research Institute	...	...	29,276	47,952	26,462	22,596
Alberta ICT Institute	...	...	3,122	3,162	9,139	11,830
Life Sciences Branch	...	...	14,125	10,162	18,989	22,221
Alberta Research Council Inc.	...	...	93,543	104,377	113,779	110,979
iCORE Inc.	...	...	10,866	12,557	12,843	11,523
Alberta Heritage Foundation for Medical Research	...	...	56,559	69,727	72,274	78,554
Alberta Ingenuity Fund	...	...	30,229	36,550	46,710	57,472
<b>Total Advanced Education &amp; Technology</b>	...	...	<b>268,304</b>	<b>305,733</b>	<b>344,202</b>	<b>354,113</b>
Agriculture and Food	...	...	32,131	...	...	...
<b>Agriculture and Rural Development</b>	...	...	...	41,903	36,226	36,226
Agriculture, Food and Rural Development	27,879	28,654	...	...	...	...
<b>Children and Youth Services</b>	...	...	...	5,135	5,170	3,200
Children's Services	1,979	2,253	4,179	...	...	...
Community Development	3,145	3,189	...	...	...	...
<b>Culture and Community Spirit</b>	...	...	...	2,700	4,320	4,282
Economic Development	1,075	2,315	...	...	...	...
<b>Education</b>	493	473	3,241	25,748	35,440	34,365
<b>Employment and Immigration</b>	...	...	...	2,333	2,733	2,303
Employment, Immigration and Industry	...	...	3,185	...	...	...
<b>Energy</b>	227	100	150	22,867	24,522	126,500
<b>Environment</b>	13,261	14,507	25,675	41,096	39,089	45,359
Finance	570	590	565	...	...	...
<b>Finance and Enterprise</b>	...	...	...	710	595	675
Gaming	1,560	1,725	...	...	...	...
<b>Health and Wellness</b>	32,466	28,854	32,007	49,662	31,873	25,067
<b>Housing and Urban Affairs</b>	...	...	...	...	365	178
Human Resources and Employment	2,011	1,701	...	...	...	...
<b>Infrastructure</b>	...	...	...	6,430	12,076	18,183
Infrastructure and Transportation	28,217	37,657	27,358	...	...	...
Innovation and Science	222,125	227,013	...	...	...	...
<b>Justice</b>	...	...	...	...	2,014	1,949
Justice and Attorney General	1,423	1,557	1,591	1,699	...	...
<b>Municipal Affairs</b>	...	219	...	165	165	12
Municipal Affairs and Housing	...	...	60	...	...	...
<b>Seniors and Community Supports</b>	613	418	434	3,873	1,127	417
Solicitor General	202	...	...	...	...	...
<b>Solicitor General and Public Security</b>	...	1,100	2,709	808	897	601
<b>Sustainable Resource Development</b>	24,604	28,846	49,963	67,555	68,756	40,750
<b>Tourism, Parks and Recreation</b>	...	...	...	1,416	1,489	1,180
Tourism, Parks, Recreation and Culture	...	...	4,374	...	...	...
<b>Transportation</b>	...	...	...	12,340	11,593	12,788
<b>Total</b>	<b>362,633</b>	<b>381,769</b>	<b>455,926</b>	<b>592,173</b>	<b>622,652</b>	<b>708,148</b>

**Note(s):** Departments shaded in grey are the active departments reporting scientific and technological activities. The following current departments did not report any scientific and technological activities: Aboriginal Relations; Executive Council; International, Intergovernmental Relations and Urban Affairs; Service Alberta and Treasury Board.

**Table 3 Total expenditures by performing sector, 2004/2005 to 2009/2010 preliminary**

Performing sector	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010 <sup>P</sup>
	thousands of dollars					
Intramural	180,437	197,006	211,839	242,640	267,130	266,637
Business Enterprise	25,583	28,447	54,925	124,476	130,526	212,152
Higher Education	130,124	134,251	132,927	131,513	150,201	162,309
Hospitals and Health organizations	7,208	2,054	19,287	56,380	33,644	23,438
Other	19,281	20,011	36,948	37,164	41,151	43,612
<b>Total</b>	<b>362,633</b>	<b>381,769</b>	<b>455,926</b>	<b>592,173</b>	<b>622,652</b>	<b>708,148</b>

**Table 4 Total expenditures on R&D, by performing sector, 2004/2005 to 2009/2010 preliminary**

Performing sector	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010 <sup>P</sup>
	thousands of dollars					
Intramural	113,700	122,006	124,532	140,693	151,173	154,855
Business Enterprise	8,804	11,354	21,816	63,411	67,074	172,630
Higher Education	127,098	129,725	129,589	130,297	148,631	160,695
Hospitals and Health organizations	6,658	254	17,282	19,872	17,422	11,600
Other	7,110	11,162	24,803	20,640	23,040	27,603
<b>Total</b>	<b>263,370</b>	<b>274,501</b>	<b>318,022</b>	<b>374,913</b>	<b>407,340</b>	<b>527,383</b>

**Table 5 Total expenditures on R&D, by Department or agency, 2004/2005 to 2009/2010 preliminary**

Department or agency	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010 <sup>P</sup>
	thousands of dollars					
<b>Advanced Education &amp; Technology</b>						
Technology Commercialization Division	...	...	2,913	7,680	7,768	6,200
University Research and Strategic Investments Branch	...	...	25,192	11,501	21,722	20,661
Alberta Energy Research Institute	...	...	28,999	47,512	24,921	21,629
Alberta ICT Institute	...	...	3,010	2,836	8,339	11,690
Life Sciences Branch	...	...	13,418	9,758	18,958	22,126
Alberta Research Council Inc.	...	...	83,912	92,937	103,819	99,617
iCORE Inc.	...	...	10,866	12,557	12,843	11,523
Alberta Heritage Foundation for Medical Research	...	...	56,559	68,187	70,131	77,017
Alberta Ingenuity Fund	...	...	30,229	36,550	46,710	57,472
<b>Total Advanced Education &amp; Technology</b>	...	...	<b>255,098</b>	<b>289,518</b>	<b>315,211</b>	<b>327,935</b>
Agriculture and Food	...	...	14,761	...	...	...
<b>Agriculture and Rural Development</b>	...	...	...	21,508	19,733	19,733
Agriculture, Food and Rural Development	11,818	12,243	...	...	...	...
<b>Children and Youth Services</b>	...	...	...	4,326	4,361	2,800
Children's Services	1,295	2,150	4,076	...	...	...
Community Development	40	5	...	...	...	...
<b>Education</b>	...	...	...	2,391	4,182	4,165
<b>Energy</b>	...	...	150	22,867	24,522	126,500
<b>Environment</b>	192	130	1,168	5,794	9,380	15,650
Gaming	1,560	1,620	...	...	...	...
<b>Health and Wellness</b>	18,519	18,129	22,474	12,221	14,538	11,770
<b>Housing and Urban Affairs</b>	...	...	...	...	187	...
<b>Infrastructure</b>	...	...	...	3,389	8,109	13,758
Infrastructure and Transportation	17,745	24,016	11,466	...	...	...
Innovation and Science	210,526	213,316	...	...	...	...
<b>Justice</b>	...	...	...	...	58	...
Justice and Attorney General	...	...	41	57	...	...
<b>Municipal Affairs</b>	...	219	...	...	47	...
Municipal Affairs and Housing	...	...	15	...	...	...
<b>Seniors and Community Supports</b>	133	...	43	3,165	741	196
Solicitor General and Public Security	...	...	1,795	91	301	292
<b>Sustainable Resource Development</b>	1,542	2,673	6,935	7,635	4,978	3,388
<b>Tourism, Parks and Recreation</b>	...	...	...	47	60	...
<b>Transportation</b>	...	...	...	1,904	932	1,196
<b>Total</b>	<b>263,370</b>	<b>274,501</b>	<b>318,022</b>	<b>374,913</b>	<b>407,340</b>	<b>527,383</b>

**Note(s):** Departments shaded in grey are active departments reporting scientific and technological activities. The following current departments did not report any scientific and technological activities: Aboriginal Relations; Executive Council; International, Intergovernmental Relations and Urban Affairs; Service Alberta and Treasury Board.

**Table 6 Personnel engaged in scientific activities, by activity and category, 2004/2005 to 2009/2010 preliminary**

Activity and category	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010 <sup>P</sup>
	full-time equivalent					
<b>Research and development (R&amp;D):</b>						
Scientific and Professional	194.0	201.9	335.7	338.0	263.3	261.1
Technical	226.0	211.5	168.9	243.8	241.4	240.7
Other	161.0	156.0	119.4	143.7	178.5	192.5
Sub-total	581.0	569.4	624.0	725.5	683.2	694.3
<b>Administration of extramural R&amp;D programs</b>						
Scientific and Professional	36.0	50.8	50.7	50.7	48.1	57.6
Technical	10.0	12.2	17.8	16.4	20.0	24.0
Other	38.0	42.5	38.9	47.4	57.3	54.2
Sub-total	84.0	105.5	107.3	114.5	125.4	135.8
Total R&D personnel	665.0	674.9	731.3	840.0	808.6	830.1
<b>Related scientific activities intramural (RSA):</b>						
Scientific and Professional	345.0	379.8	334.0	342.9	340.2	338.6
Technical	170.0	212.1	266.0	239.1	272.1	255.9
Other	21.0	17.0	79.8	107.0	144.3	137.8
Sub-total	536.0	608.9	679.7	689.0	756.6	732.3
<b>Administration of extramural RSA programs</b>						
Scientific and Professional	41.0	35.1	42.0	30.3	55.3	40.4
Technical	12.0	5.7	8.5	6.7	14.8	13.1
Other	4.0	4.6	18.4	13.6	13.5	12.5
Sub-total	57.0	45.4	68.9	50.6	83.6	66.0
Total RSA personnel	593.0	654.3	748.6	739.6	840.2	798.3
<b>Total science activities</b>						
Scientific and Professional	616.0	667.6	762.3	761.9	706.9	697.7
Technical	418.0	441.5	461.1	506.0	548.3	533.7
Other	224.0	220.1	256.5	311.7	393.6	397.0
<b>Total scientific personnel</b>	<b>1,258.0</b>	<b>1,329.2</b>	<b>1,479.9</b>	<b>1,579.6</b>	<b>1,648.8</b>	<b>1,628.4</b>

**Table 7 Total expenditures by Department or agency and source of funds, 2008/2009**

Department or agency	Departmental budget	Transfers from other departments or agencies	Transfers from federal governments	From trust funds	From business enterprises	From other sources	Total
thousands of dollars							
Advanced Education & Technology							
Post-Secondary Excellence Division	449	-	-	-	-	-	449
Research Division	282	-	-	-	-	-	282
Technology Commercialization Division	21,553	-	-	-	-	-	21,553
University Research and Strategic Investments Branch	21,722	-	-	-	-	-	21,722
Alberta Energy Research Institute	3,462	23,000	-	-	-	-	26,462
Alberta ICT Institute	9,139	-	-	-	-	-	9,139
Life Sciences Branch	18,989	-	-	-	-	-	18,989
Alberta Research Council Inc.	30,360	33,515	1,999	-	40,449	7,456	113,779
iCORE Inc.	12,806	-	-	-	-	37	12,843
Alberta Heritage Foundation for Medical Research	-	-	-	-	-	72,274	72,274
Alberta Ingenuity Fund	-	-	-	-	-	46,710	46,710
<b>Total Advanced Education &amp; Technology</b>	<b>118,762</b>	<b>56,515</b>	<b>1,999</b>	<b>-</b>	<b>40,449</b>	<b>126,477</b>	<b>344,202</b>
Agriculture and Rural Development	29,991	2,910	-	-	3,325	-	36,226
Children and Youth Services	5,170	-	-	-	-	-	5,170
Culture and Community Spirit	4,320	-	-	-	-	-	4,320
Education	35,440	-	-	-	-	-	35,440
Employment and Immigration	2,321	75	337	-	-	-	2,733
Energy	1,214	-	-	-	-	23,308	24,522
Environment	39,089	-	-	-	-	-	39,089
Finance and Enterprise	595	-	-	-	-	-	595
Health and Wellness	31,873	-	-	-	-	-	31,873
Housing and Urban Affairs	365	-	-	-	-	-	365
Infrastructure	12,076	-	-	-	-	-	12,076
Justice	2,014	-	-	-	-	-	2,014
Municipal Affairs	165	-	-	-	-	-	165
Seniors and Community Supports	1,127	-	-	-	-	-	1,127
Solicitor General and Public Security	897	-	-	-	-	-	897
Sustainable Resource Development	66,424	-	107	-	-	2,225	68,756
Tourism, Parks and Recreation	1,489	-	-	-	-	-	1,489
Transportation	11,593	-	-	-	-	-	11,593
<b>Total</b>	<b>364,925</b>	<b>59,500</b>	<b>2,443</b>	<b>-</b>	<b>43,774</b>	<b>152,010</b>	<b>622,652</b>

**Table 8 Total expenditures by activity and performing sector, 2008/2009**

Activity	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Other	Total
thousands of dollars						
<b>Research and Development (R&amp;D)</b>						
Current expenditures:						
In-house R&D	68,289	...	...	...	...	<b>68,289</b>
R&D contracts	52,981	26,434	1,771	489	2,329	<b>84,004</b>
R&D grants and contributions	...	40,640	146,385	16,933	20,711	<b>224,669</b>
Research fellowships	-	-	475	-	-	<b>475</b>
Administration of extramural R&D	17,702	...	...	...	...	<b>17,702</b>
Sub-total current R&D	138,972	67,074	148,631	17,422	23,040	<b>395,139</b>
Capital expenditures	12,201	...	...	...	...	<b>12,201</b>
<b>Total R&amp;D</b>	<b>151,173</b>	<b>67,074</b>	<b>148,631</b>	<b>17,422</b>	<b>23,040</b>	<b>407,340</b>
Related scientific activities (RSA)						
Current expenditures	108,805	63,452	1,570	16,222	18,111	<b>208,160</b>
Administration of extramural RSA	3,712	...	...	...	...	<b>3,712</b>
Sub-total current RSA	112,517	63,452	1,570	16,222	18,111	<b>211,872</b>
Capital expenditures	3,440	...	...	...	...	<b>3,440</b>
<b>Total RSA</b>	<b>115,957</b>	<b>63,452</b>	<b>1,570</b>	<b>16,222</b>	<b>18,111</b>	<b>215,312</b>
<b>Total</b>	<b>267,130</b>	<b>130,526</b>	<b>150,201</b>	<b>33,644</b>	<b>41,151</b>	<b>622,652</b>

**Table 9 Total expenditures by Department or agency and performing sector, 2008/2009**

Department or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Other	Total
thousands of dollars						
Advanced Education & Technology						
Post-Secondary Excellence Division	46	403	-	-	-	<b>449</b>
Research Division	32	250	-	-	-	<b>282</b>
Technology Commercialization Division	600	13,535	6,568	-	850	<b>21,553</b>
University Research and Strategic Investments Branch	861	-	20,361	-	500	<b>21,722</b>
Alberta Energy Research Institute	2,923	21,270	2,269	-	-	<b>26,462</b>
Alberta ICT Institute	530	8,562	47	-	-	<b>9,139</b>
Life Sciences Branch	2,070	3,754	6,707	-	6,458	<b>18,989</b>
Alberta Research Council Inc.	113,779	-	-	-	-	<b>113,779</b>
iCORE Inc.	1,420	-	11,423	-	-	<b>12,843</b>
Alberta Heritage Foundation for Medical Research	4,624	2,254	62,655	2,741	-	<b>72,274</b>
Alberta Ingenuity Fund	6,305	5,345	35,060	-	-	<b>46,710</b>
<b>Total Advanced Education &amp; Technology</b>	<b>133,190</b>	<b>55,373</b>	<b>145,090</b>	<b>2,741</b>	<b>7,808</b>	<b>344,202</b>
Agriculture and Rural Development	36,226	-	-	-	-	<b>36,226</b>
Children and Youth Services	909	35	-	-	4,226	<b>5,170</b>
Culture and Community Spirit	3,693	-	-	-	627	<b>4,320</b>
Education	22,576	1,184	548	-	11,132	<b>35,440</b>
Employment and Immigration	1,125	1,237	-	-	371	<b>2,733</b>
Energy	400	24,122	-	-	-	<b>24,522</b>
Environment	20,543	6,517	1,749	-	10,280	<b>39,089</b>
Finance and Enterprise	595	-	-	-	-	<b>595</b>
Health and Wellness	928	-	540	30,405	-	<b>31,873</b>
Housing and Urban Affairs	298	67	-	-	-	<b>365</b>
Infrastructure	12,076	-	-	-	-	<b>12,076</b>
Justice	1,504	52	-	-	458	<b>2,014</b>
Municipal Affairs	28	29	60	-	48	<b>165</b>
Seniors and Community Supports	225	398	-	498	6	<b>1,127</b>
Solicitor General and Public Security	703	194	-	-	-	<b>897</b>
Sustainable Resource Development	28,726	31,843	2,051	-	6,136	<b>68,756</b>
Tourism, Parks and Recreation	335	993	113	-	48	<b>1,489</b>
Transportation	3,050	8,482	50	-	11	<b>11,593</b>
<b>Total</b>	<b>267,130</b>	<b>130,526</b>	<b>150,201</b>	<b>33,644</b>	<b>41,151</b>	<b>622,652</b>

**Table 10 Total expenditures by Department or agency and activity, 2008/2009**

Department or agency	Research and development			Related scientific activities			Total
	Current	AEP <sup>1</sup>	Capital	Current	AEP <sup>1</sup>	Capital	
thousands of dollars							
Advanced Education & Technology							
Post-Secondary Excellence Division	-	-	-	409	40	-	<b>449</b>
Research Division	-	-	-	272	10	-	<b>282</b>
Technology Commercialization Division	7,368	400	-	13,585	200	-	<b>21,553</b>
University Research and Strategic Investments Branch	20,861	861	-	-	-	-	<b>21,722</b>
Alberta Energy Research Institute	22,625	2,296	-	1,430	111	-	<b>26,462</b>
Alberta ICT Institute	8,149	190	-	780	20	-	<b>9,139</b>
Life Sciences Branch	16,888	2,070	-	31	-	-	<b>18,989</b>
Alberta Research Council Inc.	99,898	-	3,921	9,829	-	131	<b>113,779</b>
iCORE Inc.	11,423	1,420	-	-	-	-	<b>12,843</b>
Alberta Heritage Foundation for Medical Research	67,650	2,481	-	2,143	-	-	<b>72,274</b>
Alberta Ingenuity Fund	40,405	5,984	321	-	-	-	<b>46,710</b>
<b>Total Advanced Education &amp; Technology</b>	<b>295,267</b>	<b>15,702</b>	<b>4,242</b>	<b>28,479</b>	<b>381</b>	<b>131</b>	<b>344,202</b>
Agriculture and Rural Development	19,733	-	-	16,493	-	-	<b>36,226</b>
Children and Youth Services	4,261	100	-	809	-	-	<b>5,170</b>
Culture and Community Spirit	-	-	-	4,320	-	-	<b>4,320</b>
Education	4,110	72	-	28,254	1,224	1,780	<b>35,440</b>
Employment and Immigration	-	-	-	2,170	563	-	<b>2,733</b>
Energy	24,122	400	-	-	-	-	<b>24,522</b>
Environment	8,527	853	-	27,279	1,002	1,428	<b>39,089</b>
Finance and Enterprise	-	-	-	570	-	25	<b>595</b>
Health and Wellness	14,354	184	-	17,106	229	-	<b>31,873</b>
Housing and Urban Affairs	187	-	-	178	-	-	<b>365</b>
Infrastructure	150	-	7,959	3,967	-	-	<b>12,076</b>
Justice	58	-	-	1,956	-	-	<b>2,014</b>
Municipal Affairs	40	7	-	97	21	-	<b>165</b>
Seniors and Community Supports	611	130	-	347	39	-	<b>1,127</b>
Solicitor General and Public Security	285	16	-	596	-	-	<b>897</b>
Sustainable Resource Development	4,877	101	-	63,702	-	76	<b>68,756</b>
Tourism, Parks and Recreation	60	-	-	1,429	-	-	<b>1,489</b>
Transportation	795	137	-	10,408	253	-	<b>11,593</b>
<b>Total</b>	<b>377,437</b>	<b>17,702</b>	<b>12,201</b>	<b>208,160</b>	<b>3,712</b>	<b>3,440</b>	<b>622,652</b>

1. Administration of extramural programs

**Table 11 Total expenditures on R&D by Department or agency and performing sector, 2008/2009**

Department or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Other	Total
thousands of dollars						
Advanced Education & Technology						
Technology Commercialization Division	400	-	6,518	-	850	<b>7,768</b>
University Research and Strategic Investments Branch	861	-	20,361	-	500	<b>21,722</b>
Alberta Energy Research Institute	2,296	20,474	2,151	-	-	<b>24,921</b>
Alberta ICT Institute	190	8,102	47	-	-	<b>8,339</b>
Life Sciences Branch	2,070	3,723	6,707	-	6,458	<b>18,958</b>
Alberta Research Council Inc.	103,819	-	-	-	-	<b>103,819</b>
iCORE Inc.	1,420	-	11,423	-	-	<b>12,843</b>
Alberta Heritage Foundation for Medical Research	2,481	2,254	62,655	2,741	-	<b>70,131</b>
Alberta Ingenuity Fund	6,305	5,345	35,060	-	-	<b>46,710</b>
<b>Total Advanced Education &amp; Technology</b>	<b>119,842</b>	<b>39,898</b>	<b>144,922</b>	<b>2,741</b>	<b>7,808</b>	<b>315,211</b>
Agriculture and Rural Development	19,733	-	-	-	-	<b>19,733</b>
Children and Youth Services	100	35	-	-	4,226	<b>4,361</b>
Education	72	478	-	-	3,632	<b>4,182</b>
Energy	400	24,122	-	-	-	<b>24,522</b>
Environment	853	232	1,666	-	6,629	<b>9,380</b>
Health and Wellness	184	-	162	14,192	-	<b>14,538</b>
Housing and Urban Affairs	120	67	-	-	-	<b>187</b>
Infrastructure	8,109	-	-	-	-	<b>8,109</b>
Justice	-	-	-	-	58	<b>58</b>
Municipal Affairs	7	-	40	-	-	<b>47</b>
Seniors and Community Supports	130	122	-	489	-	<b>741</b>
Solicitor General and Public Security	188	113	-	-	-	<b>301</b>
Sustainable Resource Development	1,233	1,277	1,781	-	687	<b>4,978</b>
Tourism, Parks and Recreation	-	-	60	-	-	<b>60</b>
Transportation	202	730	-	-	-	<b>932</b>
<b>Total</b>	<b>151,173</b>	<b>67,074</b>	<b>148,631</b>	<b>17,422</b>	<b>23,040</b>	<b>407,340</b>

**Table 12 Intramural expenditures by Department or agency and type of expenditure, 2008/2009**

Department or agency	Current expenditures		Capital expenditures	Total
	Personnel costs	Other costs		
thousands of dollars				
Advanced Education & Technology				
Post-Secondary Excellence Division	46	-	-	46
Research Division	32	-	-	32
Technology Commercialization Division	550	50	-	600
University Research and Strategic Investments Branch	632	229	-	861
Alberta Energy Research Institute	1,989	934	-	2,923
Alberta ICT Institute	530	-	-	530
Life Sciences Branch	1,279	791	-	2,070
Alberta Research Council Inc.	56,688	53,039	4,052	113,779
iCORE Inc.	845	575	-	1,420
Alberta Heritage Foundation for Medical Research	3,227	1,397	-	4,624
Alberta Ingenuity Fund	3,350	2,634	321	6,305
<b>Total Advanced Education &amp; Technology</b>	<b>69,168</b>	<b>59,649</b>	<b>4,373</b>	<b>133,190</b>
Agriculture and Rural Development	32,603	3,623	-	36,226
Children and Youth Services	450	459	-	909
Culture and Community Spirit	2,954	739	-	3,693
Education	18,607	2,189	1,780	22,576
Employment and Immigration	900	225	-	1,125
Energy	400	-	-	400
Environment	11,017	8,098	1,428	20,543
Finance and Enterprise	570	-	25	595
Health and Wellness	928	-	-	928
Housing and Urban Affairs	298	-	-	298
Infrastructure	870	3,247	7,959	12,076
Justice	1,504	-	-	1,504
Municipal Affairs	28	-	-	28
Seniors and Community Supports	117	108	-	225
Solicitor General and Public Security	703	-	-	703
Sustainable Resource Development	20,700	7,950	76	28,726
Tourism, Parks and Recreation	290	45	-	335
Transportation	2,508	542	-	3,050
<b>Total</b>	<b>164,615</b>	<b>86,874</b>	<b>15,641</b>	<b>267,130</b>

**Table 13.1 Personnel engaged in scientific activities, by Department or agency and activities, 2008/2009—Intramural scientific activities**

Department or agency	Scientific & professional		Technical		Other		Total	
	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities
full-time equivalent								
Advanced Education & Technology								
Post-Secondary Excellence Division	-	0.1	-	-	-	-	-	0.1
Research Division	-	0.2	-	-	-	-	-	0.2
Technology Commercialization Division	-	-	-	-	-	-	-	-
University Research and Strategic Investments Branch	-	-	-	-	-	-	-	-
Alberta Energy Research Institute	-	-	-	1.0	-	1.0	-	2.0
Alberta ICT Institute	-	6.4	-	-	-	-	-	6.4
Life Sciences Branch	-	-	-	-	-	-	-	-
Alberta Research Council Inc.	194.0	10.0	142.0	44.0	178.0	19.0	514.0	73.0
iCORE Inc.	-	-	-	-	-	-	-	-
Alberta Heritage Foundation for Medical Research	-	8.0	-	-	-	3.0	-	11.0
Alberta Ingenuity Fund	-	-	-	-	-	-	-	-
<b>Total Advanced Education &amp; Technology</b>	<b>194.0</b>	<b>24.7</b>	<b>142.0</b>	<b>45.0</b>	<b>178.0</b>	<b>23.0</b>	<b>514.0</b>	<b>92.7</b>
Agriculture and Rural Development	53.5	50.1	98.9	101.6	-	-	152.4	151.7
Children and Youth Services	-	3.0	-	-	-	-	-	3.0
Culture and Community Spirit	-	45.9	-	-	-	-	-	45.9
Education	-	26.5	-	14.0	-	59.5	-	100.0
Employment and Immigration	-	7.5	-	-	-	-	-	7.5
Energy	-	-	-	-	-	-	-	-
Environment	-	14.7	-	21.5	-	49.2	-	85.4
Finance and Enterprise	-	6.0	-	1.0	-	-	-	7.0
Health and Wellness	-	6.8	-	0.2	-	0.5	-	7.5
Housing and Urban Affairs	0.9	2.3	-	-	-	0.6	0.9	2.9
Infrastructure	2.5	12.0	-	-	-	-	2.5	12.0
Justice	-	16.2	-	-	-	-	-	16.2
Municipal Affairs	-	-	-	-	-	-	-	-
Seniors and Community Supports	-	0.7	-	-	-	-	-	0.7
Solicitor General and Public Security	0.9	5.8	-	-	-	-	0.9	5.8
Sustainable Resource Development	11.2	109.0	0.5	78.8	0.5	11.5	12.2	199.3
Tourism, Parks and Recreation	-	3.5	-	-	-	-	-	3.5
Transportation	0.3	5.5	-	10.0	-	-	0.3	15.5
<b>Total</b>	<b>263.3</b>	<b>340.2</b>	<b>241.4</b>	<b>272.1</b>	<b>178.5</b>	<b>144.3</b>	<b>683.2</b>	<b>756.6</b>

**Table 13.2 Personnel engaged in scientific activities, by Department or agency and activities, 2008/2009— Administration of extramural programs**

Department or agency	Scientific & professional		Technical		Other		Total	
	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities
	full-time equivalent							
Advanced Education & Technology								
Post-Secondary Excellence Division	-	0.7	-	-	-	-	-	0.7
Research Division	-	0.1	-	-	-	-	-	0.1
Technology Commercialization Division	3.0	1.0	-	-	1.0	1.0	4.0	2.0
University Research and Strategic Investments Branch	4.0	-	-	-	3.0	-	7.0	-
Alberta Energy Research Institute	11.3	1.0	-	-	4.6	-	15.9	1.0
Alberta ICT Institute	1.5	0.5	-	-	.5	-	2.0	0.5
Life Sciences Branch	6.0	-	2.0	-	3.0	-	11.0	-
Alberta Research Council Inc.	-	-	-	-	-	-	-	-
iCORE Inc.	2.0	-	-	-	5.0	-	7.0	-
Alberta Heritage Foundation for Medical Research	-	-	3.0	-	26.0	-	29.0	-
Alberta Ingenuity Fund	8.0	-	12.0	-	10.0	-	30.0	-
<b>Total Advanced Education &amp; Technology</b>	<b>35.8</b>	<b>3.3</b>	<b>17.0</b>	<b>-</b>	<b>53.1</b>	<b>1.0</b>	<b>105.9</b>	<b>4.3</b>
Agriculture and Rural Development	-	-	-	-	-	-	-	-
Children and Youth Services	1.0	-	-	-	-	-	1.0	-
Culture and Community Spirit	-	-	-	-	-	-	-	-
Education	0.7	5.5	-	3.5	-	1.5	0.7	10.5
Employment and Immigration	-	7.5	-	-	-	-	-	7.5
Energy	3.0	-	1.0	-	-	-	4.0	-
Environment	2.0	1.0	2.0	3.0	4.0	6.0	8.0	10.0
Finance and Enterprise	-	-	-	-	-	-	-	-
Health and Wellness	2.6	3.4	-	0.1	-	-	2.6	3.5
Housing and Urban Affairs	-	-	-	-	-	-	-	-
Infrastructure	-	-	-	-	-	-	-	-
Justice	-	-	-	-	-	-	-	-
Municipal Affairs	0.1	0.3	-	-	-	-	0.1	0.3
Seniors and Community Supports	0.3	0.3	-	-	-	-	0.3	0.3
Solicitor General and Public Security	0.2	-	-	-	-	-	0.2	-
Sustainable Resource Development	0.9	30.2	-	6.7	0.2	5.0	1.1	41.9
Tourism, Parks and Recreation	-	-	-	-	-	-	-	-
Transportation	1.5	3.8	-	1.5	-	-	1.5	5.3
<b>Total</b>	<b>48.1</b>	<b>55.3</b>	<b>20.0</b>	<b>14.8</b>	<b>57.3</b>	<b>13.5</b>	<b>125.4</b>	<b>83.6</b>

**Table 13.3 Personnel engaged in scientific activities, by Department or agency and activities, 2008/2009 total scientific activities**

Department or agency	Scientific & professional		Technical		Other		Total	
	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities
full-time equivalent								
Advanced Education & Technology								
Post-Secondary Excellence Division	-	0.8	-	-	-	-	-	<b>0.8</b>
Research Division	-	0.3	-	-	-	-	-	<b>0.3</b>
Technology Commercialization Division	3.0	1.0	-	-	1.0	1.0	<b>4.0</b>	<b>2.0</b>
University Research and Strategic Investments Branch	4.0	-	-	-	3.0	-	<b>7.0</b>	-
Alberta Energy Research Institute	11.3	1.0	-	1.0	4.6	1.0	<b>15.9</b>	<b>3.0</b>
Alberta ICT Institute	1.5	6.9	-	-	.5	-	<b>2.0</b>	<b>6.9</b>
Life Sciences Branch	6.0	-	2.0	-	3.0	-	<b>11.0</b>	-
Alberta Research Council Inc.	194.0	10.0	142.0	44.0	178.0	19.0	<b>514.0</b>	<b>73.0</b>
iCORE Inc.	2.0	-	-	-	5.0	-	<b>7.0</b>	-
Alberta Heritage Foundation for Medical Research	-	8.0	3.0	-	26.0	3.0	<b>29.0</b>	<b>11.0</b>
Alberta Ingenuity Fund	8.0	-	12.0	-	10.0	-	<b>30.0</b>	-
<b>Total Advanced Education &amp; Technology</b>	<b>229.8</b>	<b>28.0</b>	<b>159.0</b>	<b>45.0</b>	<b>231.1</b>	<b>24.0</b>	<b>619.9</b>	<b>97.0</b>
Agriculture and Rural Development	53.5	50.1	98.9	101.6	-	-	<b>152.4</b>	<b>151.7</b>
Children and Youth Services	1.0	3.0	-	-	-	-	<b>1.0</b>	<b>3.0</b>
Culture and Community Spirit	-	45.9	-	-	-	-	-	<b>45.9</b>
Education	0.7	32.0	-	17.5	-	61.0	<b>0.7</b>	<b>110.5</b>
Employment and Immigration	-	15.0	-	-	-	-	-	<b>15.0</b>
Energy	3.0	-	1.0	-	-	-	<b>4.0</b>	-
Environment	2.0	15.7	2.0	24.5	4.0	55.2	<b>8.0</b>	<b>95.4</b>
Finance and Enterprise	-	6.0	-	1.0	-	-	-	<b>7.0</b>
Health and Wellness	2.6	10.2	-	0.3	-	0.5	<b>2.6</b>	<b>11.0</b>
Housing and Urban Affairs	0.9	2.3	-	-	-	0.6	<b>0.9</b>	<b>2.9</b>
Infrastructure	2.5	12.0	-	-	-	-	<b>2.5</b>	<b>12.0</b>
Justice	-	16.2	-	-	-	-	-	<b>16.2</b>
Municipal Affairs	0.1	0.3	-	-	-	-	<b>0.1</b>	<b>0.3</b>
Seniors and Community Supports	0.3	1.0	-	-	-	-	<b>0.3</b>	<b>1.0</b>
Solicitor General and Public Security	1.1	5.8	-	-	-	-	<b>1.1</b>	<b>5.8</b>
Sustainable Resource Development	12.1	139.2	0.5	85.5	0.7	16.5	<b>13.3</b>	<b>241.2</b>
Tourism, Parks and Recreation	-	3.5	-	-	-	-	-	<b>3.5</b>
Transportation	1.8	9.3	-	11.5	-	-	<b>1.8</b>	<b>20.8</b>
<b>Total</b>	<b>311.4</b>	<b>395.5</b>	<b>261.4</b>	<b>286.9</b>	<b>235.8</b>	<b>157.8</b>	<b>808.6</b>	<b>840.2</b>

**Table 14 Objectives of expenditures by Department or agency, 2008/2009**

Department or agency	Exploration and exploitation of the earth	Infrastructure and general planning of land use			Control and care of the environment	Protection and improvement of human health	Production distribution and rational utilization of energy	Agriculture production and technology
		Transportation systems	Telecommunications systems	Other				
thousands of dollars								
Advanced Education & Technology								
Post-Secondary Excellence Division	-	-	-	-	-	-	-	-
Research Division	-	-	-	-	-	-	-	-
Technology Commercialization Division	-	-	-	-	525	5,113	-	800
University Research and Strategic Investments Branch	-	-	-	-	-	-	-	-
Alberta Energy Research Institute	2,505	-	-	-	-	-	20,201	-
Alberta ICT Institute	-	-	1,500	-	-	-	-	-
Life Sciences Branch	-	-	-	-	-	745	-	5,798
Alberta Research Council Inc.	-	-	-	-	18,549	6,427	42,345	5,379
iCORE Inc.	-	-	-	-	-	-	-	-
Alberta Heritage Foundation for Medical Research	-	-	-	-	-	72,274	-	-
Alberta Ingenuity Fund	-	-	-	-	-	-	-	-
<b>Total Advanced Education &amp; Technology</b>	<b>2,505</b>	<b>-</b>	<b>1,500</b>	<b>-</b>	<b>19,074</b>	<b>84,559</b>	<b>62,546</b>	<b>11,977</b>
Agriculture and Rural Development	-	-	-	-	-	-	-	36,226
Children and Youth Services	-	-	-	-	-	-	-	-
Culture and Community Spirit	-	-	-	-	-	-	-	-
Education	-	-	-	-	-	-	-	-
Employment and Immigration	-	-	-	-	-	-	-	-
Energy	-	-	-	-	-	-	24,522	-
Environment	-	-	-	-	38,024	1,065	-	-
Finance and Enterprise	-	-	-	-	-	-	-	-
Health and Wellness	-	-	-	-	-	31,873	-	-
Housing and Urban Affairs	-	-	-	-	-	-	-	-
Infrastructure	-	-	-	12,076	-	-	-	-
Justice	-	-	-	-	-	-	-	-
Municipal Affairs	-	-	-	165	-	-	-	-
Seniors and Community Supports	-	-	-	-	-	131	-	-
Solicitor General and Public Security	-	-	-	13	-	-	-	-
Sustainable Resource Development	10,936	-	-	2,087	22,847	-	-	-
Tourism, Parks and Recreation	-	-	-	-	418	-	-	-
Transportation	-	11,593	-	-	-	-	-	-
<b>Total</b>	<b>13,441</b>	<b>11,593</b>	<b>1,500</b>	<b>14,341</b>	<b>80,363</b>	<b>117,628</b>	<b>87,068</b>	<b>48,203</b>

**Table 14 Objectives of expenditures by Department or agency, 2008/2009** (continued)

Department or agency	Fishing	Forestry	Industrial production and technology	Social structure and relationships	Exploration and exploitation of space	Basic research	Other civil research	Total
thousands of dollars								
Advanced Education & Technology								
Post-Secondary Excellence Division	-	-	-	449	-	-	-	449
Research Division	-	-	-	282	-	-	-	282
Technology Commercialization Division	-	-	1,805	3,160	50	-	10,100	21,553
University Research and Strategic Investments Branch	-	-	-	-	-	21,722	-	21,722
Alberta Energy Research Institute	-	-	1,605	-	-	2,151	-	26,462
Alberta ICT Institute	-	-	-	-	-	-	7,639	9,139
Life Sciences Branch	-	8,193	-	-	-	4,253	-	18,989
Alberta Research Council Inc.	-	6,734	34,345	-	-	-	-	113,779
iCORE Inc.	-	-	-	-	-	12,843	-	12,843
Alberta Heritage Foundation for Medical Research	-	-	-	-	-	-	-	72,274
Alberta Ingenuity Fund	-	-	5,345	-	-	41,365	-	46,710
<b>Total Advanced Education &amp; Technology</b>	-	<b>14,927</b>	<b>43,100</b>	<b>3,891</b>	<b>50</b>	<b>82,334</b>	<b>17,739</b>	<b>344,202</b>
Agriculture and Rural Development	-	-	-	-	-	-	-	36,226
Children and Youth Services	-	-	-	5,170	-	-	-	5,170
Culture and Community Spirit	-	-	-	4,320	-	-	-	4,320
Education	-	-	-	35,440	-	-	-	35,440
Employment and Immigration	-	-	-	2,733	-	-	-	2,733
Energy	-	-	-	-	-	-	-	24,522
Environment	-	-	-	-	-	-	-	39,089
Finance and Enterprise	-	-	-	-	-	595	-	595
Health and Wellness	-	-	-	-	-	-	-	31,873
Housing and Urban Affairs	-	-	-	365	-	-	-	365
Infrastructure	-	-	-	-	-	-	-	12,076
Justice	-	-	-	2,014	-	-	-	2,014
Municipal Affairs	-	-	-	-	-	-	-	165
Seniors and Community Supports	-	-	-	996	-	-	-	1,127
Solicitor General and Public Security	-	-	-	754	-	130	-	897
Sustainable Resource Development	-	32,886	-	-	-	-	-	68,756
Tourism, Parks and Recreation	-	-	-	-	-	-	1,071	1,489
Transportation	-	-	-	-	-	-	-	11,593
<b>Total</b>	-	<b>47,813</b>	<b>43,100</b>	<b>55,683</b>	<b>50</b>	<b>83,059</b>	<b>18,810</b>	<b>622,652</b>

**Table 15 Objectives of expenditures by activity, 2008/2009**

Objectives	Intramural		Extramural		Total
	Research and development	Related scientific activities	Research and development	Related scientific activities	
thousands of dollars					
Exploration and exploitation of the earth	-	4,503	2,180	6,758	<b>13,441</b>
Infrastructure and general planning of land Use					
Transportation systems	202	2,848	730	7,813	<b>11,593</b>
Telecommunications systems	-	-	1,500	-	<b>1,500</b>
Other	8,161	4,501	140	1,539	<b>14,341</b>
Control and care of the environment	13,050	42,205	9,190	15,918	<b>80,363</b>
Protection and improvement of human health	9,518	3,887	87,582	16,641	<b>117,628</b>
Production, distribution and rational utilization of energy	41,547	4,121	40,811	589	<b>87,068</b>
Agricultural production and technology	25,977	16,493	5,715	18	<b>48,203</b>
Fishing	-	-	-	-	-
Forestry	8,492	5,494	10,474	23,353	<b>47,813</b>
Industrial production and technology	34,445	-	8,655	-	<b>43,100</b>
Social structure and relationships	480	30,554	9,138	15,511	<b>55,683</b>
Exploration and exploitation of space	50	-	-	-	<b>50</b>
Basic research	9,061	595	73,403	-	<b>83,059</b>
Other civil research	190	756	6,649	11,215	<b>18,810</b>
<b>Total</b>	<b>151,173</b>	<b>115,957</b>	<b>256,167</b>	<b>99,355</b>	<b>622,652</b>

**Table 16 Total expenditures by activity and performing sector, 2009/2010 preliminary**

Activity	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Other	Total
thousands of dollars						
<b>Research and Development (R&amp;D)</b>						
Current expenditures:						
In-house R&D	64,272	...	...	...	...	<b>64,272</b>
R&D contracts	54,779	126,868	1,707	25	2,334	<b>185,713</b>
R&D grants and contributions	...	34,262	158,791	11,575	25,269	<b>229,897</b>
Research fellowships	-	11,500	197	-	-	<b>11,697</b>
Administration of extramural R&D	20,385	...	...	...	...	<b>20,385</b>
Sub-total current R&D	139,436	172,630	160,695	11,600	27,603	<b>511,964</b>
Capital expenditures	15,419	...	...	...	...	<b>15,419</b>
<b>Total R&amp;D</b>	<b>154,855</b>	<b>172,630</b>	<b>160,695</b>	<b>11,600</b>	<b>27,603</b>	<b>527,383</b>
Related scientific activities (RSA)						
Current expenditures	102,505	39,522	1,614	11,838	16,009	<b>171,488</b>
Administration of extramural RSA	5,458	...	...	...	...	<b>5,458</b>
Sub-total current RSA	107,963	39,522	1,614	11,838	16,009	<b>176,946</b>
Capital expenditures	3,819	...	...	...	...	<b>3,819</b>
<b>Total RSA</b>	<b>111,782</b>	<b>39,522</b>	<b>1,614</b>	<b>11,838</b>	<b>16,009</b>	<b>180,765</b>
<b>Total</b>	<b>266,637</b>	<b>212,152</b>	<b>162,309</b>	<b>23,438</b>	<b>43,612</b>	<b>708,148</b>

**Table 17 Total expenditures by Department or agency and performing sector, 2009/2010 preliminary**

Department or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Other	Total
thousands of dollars						
Advanced Education & Technology						
Post-Secondary Excellence Division	95	-	-	-	-	95
Research Division	32	250	-	-	-	282
Technology Commercialization Division	600	11,300	6,000	-	-	17,900
University Research and Strategic Investments Branch	861	-	19,300	-	500	20,661
Alberta Energy Research Institute	2,794	17,798	2,004	-	-	22,596
Alberta ICT Institute	330	11,500	-	-	-	11,830
Life Sciences Branch	2,283	8,258	3,883	-	7,797	22,221
Alberta Research Council Inc.	110,979	-	-	-	-	110,979
iCORE Inc.	1,735	-	9,788	-	-	11,523
Alberta Heritage Foundation for Medical Research	4,233	1,778	71,843	700	-	78,554
Alberta Ingenuity Fund	6,145	6,900	44,427	-	-	57,472
<b>Total Advanced Education &amp; Technology</b>	<b>130,087</b>	<b>57,784</b>	<b>157,245</b>	<b>700</b>	<b>8,297</b>	<b>354,113</b>
Agriculture and Rural Development	36,226	-	-	-	-	36,226
Children and Youth Services	500	-	-	-	2,700	3,200
Culture and Community Spirit	3,679	-	-	-	603	4,282
Education	21,815	1,100	550	-	10,900	34,365
Employment and Immigration	975	957	-	-	371	2,303
Energy	1,500	125,000	-	-	-	126,500
Environment	21,113	6,517	1,749	-	15,980	45,359
Finance and Enterprise	595	80	-	-	-	675
Health and Wellness	1,054	-	1,309	22,704	-	25,067
Housing and Urban Affairs	178	-	-	-	-	178
Infrastructure	18,183	-	-	-	-	18,183
Justice	1,504	45	-	-	400	1,949
Municipal Affairs	7	-	-	-	5	12
Seniors and Community Supports	179	178	26	34	-	417
Solicitor General and Public Security	483	118	-	-	-	601
Sustainable Resource Development	24,074	11,049	1,372	-	4,255	40,750
Tourism, Parks and Recreation	435	586	58	-	101	1,180
Transportation	4,050	8,738	-	-	-	12,788
<b>Total</b>	<b>266,637</b>	<b>212,152</b>	<b>162,309</b>	<b>23,438</b>	<b>43,612</b>	<b>708,148</b>

**Table 18 Total expenditures by Department or agency and activity, 2009/2010 preliminary**

Department or agency	Research and development			Related scientific activities			Total
	Current	AEP <sup>1</sup>	Capital	Current	AEP <sup>1</sup>	Capital	
thousands of dollars							
Advanced Education & Technology							
Post-Secondary Excellence Division	-	-	-	95	-	-	
Research Division	-	-	-	272	10	-	<b>282</b>
Technology Commercialization Division	6,000	200	-	11,300	400	-	<b>17,900</b>
University Research and Strategic Investments Branch	19,800	861	-	-	-	-	<b>20,661</b>
Alberta Energy Research Institute	18,965	2,664	-	837	130	-	<b>22,596</b>
Alberta ICT Institute	11,500	190	-	50	20	70	<b>11,830</b>
Life Sciences Branch	19,843	2,283	-	95	-	-	<b>22,221</b>
Alberta Research Council Inc.	97,956	-	1,661	11,036	-	326	<b>110,979</b>
iCORE Inc.	9,788	1,735	-	-	-	-	<b>11,523</b>
Alberta Heritage Foundation for Medical Research	74,321	2,696	-	1,537	-	-	<b>78,554</b>
Alberta Ingenuity Fund	51,327	5,995	150	-	-	-	<b>57,472</b>
<b>Total Advanced Education &amp; Technology</b>	<b>309,500</b>	<b>16,624</b>	<b>1,811</b>	<b>25,222</b>	<b>560</b>	<b>396</b>	<b>354,113</b>
Agriculture and Rural Development	19,733	-	-	16,493	-	-	<b>36,226</b>
Children and Youth Services	2,700	100	-	400	-	-	<b>3,200</b>
Culture and Community Spirit	-	-	-	4,282	-	-	<b>4,282</b>
Education	4,100	65	-	27,450	1,100	1,650	<b>34,365</b>
Employment and Immigration	-	-	-	1,816	487	-	<b>2,303</b>
Energy	125,000	1,500	-	-	-	-	<b>126,500</b>
Environment	14,227	1,423	-	27,279	1,002	1,428	<b>45,359</b>
Finance and Enterprise	-	-	-	650	-	25	<b>675</b>
Health and Wellness	11,586	184	-	13,068	229	-	<b>25,067</b>
Housing and Urban Affairs	-	-	-	178	-	-	<b>178</b>
Infrastructure	150	-	13,608	4,425	-	-	<b>18,183</b>
Justice	-	-	-	1,949	-	-	<b>1,949</b>
Municipal Affairs	-	-	-	5	7	-	<b>12</b>
Seniors and Community Supports	131	65	-	221	-	-	<b>417</b>
Solicitor General and Public Security	284	8	-	309	-	-	<b>601</b>
Sustainable Resource Development	3,242	146	-	35,213	2,073	76	<b>40,750</b>
Tourism, Parks and Recreation	-	-	-	1,180	-	-	<b>1,180</b>
Transportation	926	270	-	11,348	-	244	<b>12,788</b>
<b>Total</b>	<b>491,579</b>	<b>20,385</b>	<b>15,419</b>	<b>171,488</b>	<b>5,458</b>	<b>3,819</b>	<b>708,148</b>

1. Administration of extramural programs

**Table 19 Total expenditures on R&D by Department or agency and performing sector, 2009/2010 preliminary**

Department or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Other	Total
thousands of dollars						
Advanced Education & Technology						
Technology Commercialization Division	200	-	6,000	-	-	<b>6,200</b>
University Research and Strategic Investments Branch	861	-	19,300	-	500	<b>20,661</b>
Alberta Energy Research Institute	2,664	16,986	1,979	-	-	<b>21,629</b>
Alberta ICT Institute	190	11,500	-	-	-	<b>11,690</b>
Life Sciences Branch	2,283	8,163	3,883	-	7,797	<b>22,126</b>
Alberta Research Council Inc.	99,617	-	-	-	-	<b>99,617</b>
iCORE Inc.	1,735	-	9,788	-	-	<b>11,523</b>
Alberta Heritage Foundation for Medical Research	2,696	1,778	71,843	700	-	<b>77,017</b>
Alberta Ingenuity Fund	6,145	6,900	44,427	-	-	<b>57,472</b>
<b>Total Advanced Education &amp; Technology</b>	<b>116,391</b>	<b>45,327</b>	<b>157,220</b>	<b>700</b>	<b>8,297</b>	<b>327,935</b>
Agriculture and Rural Development	19,733	-	-	-	-	<b>19,733</b>
Children and Youth Services	100	-	-	-	2,700	<b>2,800</b>
Education	65	450	-	-	3,650	<b>4,165</b>
Energy	1,500	125,000	-	-	-	<b>126,500</b>
Environment	1,423	232	1,666	-	12,329	<b>15,650</b>
Health and Wellness	184	-	711	10,875	-	<b>11,770</b>
Infrastructure	13,758	-	-	-	-	<b>13,758</b>
Seniors and Community Supports	135	10	26	25	-	<b>196</b>
Solicitor General and Public Security	192	100	-	-	-	<b>292</b>
Sustainable Resource Development	1,004	685	1,072	-	627	<b>3,388</b>
Transportation	370	826	-	-	-	<b>1,196</b>
<b>Total</b>	<b>154,855</b>	<b>172,630</b>	<b>160,695</b>	<b>11,600</b>	<b>27,603</b>	<b>527,383</b>

**Table 20.1 Personnel engaged in scientific activities, by Department or agency and activities, 2009/2010 preliminary — Intramural scientific activities**

Department or agency	Scientific & professional		Technical		Other		Total	
	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities
full-time equivalent								
Advanced Education & Technology								
Post-Secondary Excellence Division	-	0.7	-	-	-	-	-	0.7
Research Division	-	0.1	-	-	-	-	-	0.1
Technology Commercialization Division	-	-	-	-	-	-	-	-
University Research and Strategic Investments Branch	-	-	-	-	-	-	-	-
Alberta Energy Research Institute	-	-	-	-	-	-	-	-
Alberta ICT Institute	-	1.0	-	-	-	-	-	1.0
Life Sciences Branch	-	-	-	-	-	-	-	-
Alberta Research Council Inc.	195.0	9.0	141.0	40.0	192.0	19.0	528.0	68.0
iCORE Inc.	-	-	-	-	-	-	-	-
Alberta Heritage Foundation for Medical Research	-	9.0	-	-	-	-	-	9.0
Alberta Ingenuity Fund	-	-	-	-	-	-	-	-
<b>Total Advanced Education &amp; Technology</b>	<b>195.0</b>	<b>19.8</b>	<b>141.0</b>	<b>40.0</b>	<b>192.0</b>	<b>19.0</b>	<b>528.0</b>	<b>78.8</b>
Agriculture and Rural Development	53.5	50.1	98.9	101.6	-	-	152.4	151.7
Children and Youth Services	-	4.0	-	-	-	-	-	4.0
Culture and Community Spirit	-	43.9	-	-	-	-	-	43.9
Education	-	26.5	-	14.0	-	59.5	-	100.0
Employment and Immigration	-	6.5	-	-	-	-	-	6.5
Energy	-	-	-	-	-	-	-	-
Environment	-	14.7	-	21.5	-	49.2	-	85.4
Finance and Enterprise	-	6.0	-	1.0	-	-	-	7.0
Health and Wellness	-	7.6	-	0.2	-	0.5	-	8.3
Housing and Urban Affairs	-	2.3	-	-	-	0.6	-	2.9
Infrastructure	2.5	12.0	-	-	-	-	2.5	12.0
Justice	-	16.2	-	-	-	-	-	16.2
Municipal Affairs	-	-	-	-	-	-	-	-
Seniors and Community Supports	0.7	0.7	-	-	-	-	0.7	0.7
Solicitor General and Public Security	0.3	5.4	-	-	-	-	0.3	5.4
Sustainable Resource Development	8.1	107.1	0.8	66.6	0.5	9.0	9.4	182.7
Tourism, Parks and Recreation	-	8.0	-	-	-	-	-	8.0
Transportation	1.0	7.8	-	11.0	-	-	1.0	18.8
<b>Total</b>	<b>261.1</b>	<b>338.6</b>	<b>240.7</b>	<b>255.9</b>	<b>192.5</b>	<b>137.8</b>	<b>694.3</b>	<b>732.3</b>

**Table 20.2 Personnel engaged in scientific activities, by Department or agency and activities, 2009/2010 preliminary — Administration of extramural programs**

Department or agency	Scientific & professional		Technical		Other		Total	
	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities
	full-time equivalent							
Advanced Education & Technology								
Post-Secondary Excellence Division	-	-	-	-	-	-	-	-
Research Division	-	0.2	-	-	-	-	-	0.2
Technology Commercialization Division	2.0	4.0	-	-	-	-	-	4.0
University Research and Strategic Investments Branch	4.0	-	3.0	-	-	-	7.0	-
Alberta Energy Research Institute	8.6	-	-	1.0	5.5	-	14.1	1.0
Alberta ICT Institute	1.5	0.5	-	-	0.5	-	2.0	0.5
Life Sciences Branch	6.0	-	2.0	-	3.0	-	11.0	-
Alberta Research Council Inc.	-	-	-	-	-	-	-	-
iCORE Inc.	2.0	-	-	-	5.0	-	7.0	-
Alberta Heritage Foundation for Medical Research	-	-	4.0	-	26.0	-	30.0	-
Alberta Ingenuity Fund	8.0	-	12.0	-	10.0	-	30.0	-
<b>Total Advanced Education &amp; Technology</b>	<b>32.1</b>	<b>4.7</b>	<b>21.0</b>	<b>1.0</b>	<b>50.0</b>	<b>-</b>	<b>103.1</b>	<b>5.7</b>
Agriculture and Rural Development	-	-	-	-	-	-	-	-
Children and Youth Services	1.0	-	-	-	-	-	1.0	-
Culture and Community Spirit	-	-	-	-	-	-	-	-
Education	0.7	5.5	-	3.5	-	1.5	0.7	10.5
Employment and Immigration	-	6.5	-	-	-	-	-	6.5
Energy	14.0	-	1.0	-	-	-	15.0	-
Environment	2.0	1.0	2.0	3.0	4.0	6.0	8.0	10.0
Finance and Enterprise	-	-	-	-	-	-	-	-
Health and Wellness	2.6	3.4	-	0.1	-	-	2.6	3.5
Housing and Urban Affairs	-	-	-	-	-	-	-	-
Infrastructure	-	-	-	-	-	-	-	-
Justice	-	-	-	-	-	-	-	-
Municipal Affairs	-	0.1	-	-	-	-	-	0.1
Seniors and Community Supports	0.9	-	-	-	-	-	0.9	-
Solicitor General and Public Security	-	-	-	-	-	-	-	-
Sustainable Resource Development	1.4	16.6	-	4.5	0.2	5.0	1.6	26.1
Tourism, Parks and Recreation	-	-	-	-	-	-	-	-
Transportation	2.9	2.6	-	1.0	-	-	2.9	3.6
<b>Total</b>	<b>57.6</b>	<b>40.4</b>	<b>24.0</b>	<b>13.1</b>	<b>54.2</b>	<b>12.5</b>	<b>135.8</b>	<b>66.0</b>

**Table 20.3 Personnel engaged in scientific activities, by Department or agency and activities, 2009/2010 preliminary — Total scientific activities**

Department or agency	Scientific & professional		Technical		Other		Total	
	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities
full-time equivalent								
Advanced Education & Technology								
Post-Secondary Excellence Division	-	0.7	-	-	-	-	-	0.7
Research Division	-	0.3	-	-	-	-	-	0.3
Technology Commercialization Division	2.0	4.0	-	-	-	-	2.0	4.0
University Research and Strategic Investments Branch	4.0	-	3.0	-	-	-	7.0	-
Alberta Energy Research Institute	8.6	-	-	1.0	5.5	-	14.1	1.0
Alberta ICT Institute	1.5	1.5	-	-	.5	-	2.0	1.5
Life Sciences Branch	6.0	-	2.0	-	3.0	-	11.0	-
Alberta Research Council Inc.	195.0	9.0	141.0	40.0	192.0	19.0	528.0	68.0
iCORE Inc.	2.0	-	-	-	5.0	-	7.0	-
Alberta Heritage Foundation for Medical Research	-	9.0	4.0	-	26.0	-	30.0	9.0
Alberta Ingenuity Fund	8.0	-	12.0	-	10.0	-	30.0	-
<b>Total Advanced Education &amp; Technology</b>	<b>227.1</b>	<b>24.5</b>	<b>162.0</b>	<b>41.0</b>	<b>242.0</b>	<b>19.0</b>	<b>631.1</b>	<b>84.5</b>
Agriculture and Rural Development	53.5	50.1	98.9	101.6	-	-	152.4	151.7
Children and Youth Services	1.0	4.0	-	-	-	-	1.0	4.0
Culture and Community Spirit	-	43.9	-	-	-	-	-	43.9
Education	0.7	32.0	-	17.5	-	61.0	0.7	110.5
Employment and Immigration	-	13.0	-	-	-	-	-	13.0
Energy	14.0	-	1.0	-	-	-	15.0	-
Environment	2.0	15.7	2.0	24.5	4.0	55.2	8.0	95.4
Finance and Enterprise	-	6.0	-	1.0	-	-	-	7.0
Health and Wellness	2.6	11.0	-	0.3	-	0.5	2.6	11.8
Housing and Urban Affairs	-	2.3	-	-	-	0.6	-	2.9
Infrastructure	2.5	12.0	-	-	-	-	2.5	12.0
Justice	-	16.2	-	-	-	-	-	16.2
Municipal Affairs	-	0.1	-	-	-	-	-	0.1
Seniors and Community Supports	1.6	0.7	-	-	-	-	1.6	0.7
Solicitor General and Public Security	0.3	5.4	-	-	-	-	0.3	5.4
Sustainable Resource Development	9.5	123.7	0.8	71.1	0.7	14.0	11.0	208.8
Tourism, Parks and Recreation	-	8.0	-	-	-	-	-	8.0
Transportation	3.9	10.4	-	12.0	-	-	3.9	22.4
<b>Total</b>	<b>318.7</b>	<b>379.0</b>	<b>264.7</b>	<b>269.0</b>	<b>246.7</b>	<b>150.3</b>	<b>830.1</b>	<b>798.3</b>

**Table 21 Objectives of expenditures by Department or agency, 2009/2010 preliminary**

Department or agency	Exploration and exploitation of the earth	Infrastructure and general planning of land use			Control and care of the environment	Protection and improvement of human health	Production distribution and rational utilization of energy	Agriculture production and technology
		Transportation systems	Telecommunications systems	Other				
thousands of dollars								
Advanced Education & Technology								
Post-Secondary Excellence Division	-	-	-	-	-	-	-	-
Research Division	-	-	-	-	-	-	-	-
Technology Commercialization Division	-	-	-	-	-	3,100	-	-
University Research and Strategic Investments Branch	-	-	-	-	-	-	-	-
Alberta Energy Research Institute	4,572	-	-	-	280	-	14,290	-
Alberta ICT Institute	-	-	1,500	2,000	-	-	-	-
Life Sciences Branch	-	-	-	-	-	440	-	4,834
Alberta Research Council Inc.	-	-	-	-	20,456	6,926	42,881	5,848
iCORE Inc.	-	-	-	-	-	-	-	-
Alberta Heritage Foundation for Medical Research	-	-	-	-	-	78,554	-	-
Alberta Ingenuity Fund	-	-	-	-	-	-	-	-
<b>Total Advanced Education &amp; Technology</b>	<b>4,572</b>	<b>-</b>	<b>1,500</b>	<b>2,000</b>	<b>20,736</b>	<b>89,020</b>	<b>57,171</b>	<b>10,682</b>
Agriculture and Rural Development	-	-	-	-	-	-	-	36,226
Children and Youth Services	-	-	-	-	-	-	-	-
Culture and Community Spirit	-	-	-	-	-	-	-	-
Education	-	-	-	-	-	-	-	-
Employment and Immigration	-	-	-	-	-	-	-	-
Energy	-	-	-	-	101,100	-	25,400	-
Environment	-	-	-	-	44,294	1,065	-	-
Finance and Enterprise	-	-	-	-	-	-	-	-
Health and Wellness	-	-	-	-	-	25,067	-	-
Housing and Urban Affairs	-	-	-	-	-	-	-	-
Infrastructure	-	-	-	18,183	-	-	-	-
Justice	-	-	-	-	-	-	-	-
Municipal Affairs	-	-	-	12	-	-	-	-
Seniors and Community Supports	-	-	-	-	-	147	-	-
Solicitor General and Public Security	-	-	-	-	-	-	-	-
Sustainable Resource Development	10,535	-	-	721	18,475	-	-	-
Tourism, Parks and Recreation	-	-	-	-	409	-	-	-
Transportation	-	12,788	-	-	-	-	-	-
<b>Total</b>	<b>15,107</b>	<b>12,788</b>	<b>1,500</b>	<b>20,916</b>	<b>185,014</b>	<b>115,299</b>	<b>82,571</b>	<b>46,908</b>

**Table 21 Objectives of expenditures by Department or agency, 2009/2010 preliminary (continued)**

Department or agency	Fishing	Forestry	Industrial production and technology	Social structure and relationships	Exploration and exploitation of space	Basic research	Other civil research	Total
thousands of dollars								
Advanced Education & Technology								
Post-Secondary Excellence Division	-	-	-	95	-	-	-	95
Research Division	-	-	-	282	-	-	-	282
Technology Commercialization Division	-	-	14,800	-	-	-	-	17,900
University Research and Strategic Investments Branch	-	-	-	-	-	20,661	-	20,661
Alberta Energy Research Institute	-	-	1,475	-	-	1,979	-	22,596
Alberta ICT Institute	-	-	-	-	-	1,000	7,330	11,830
Life Sciences Branch	-	12,764	-	-	-	4,183	-	22,221
Alberta Research Council Inc.	-	6,724	28,144	-	-	-	-	110,979
iCORE Inc.	-	-	-	-	-	11,523	-	11,523
Alberta Heritage Foundation for Medical Research	-	-	-	-	-	-	-	78,554
Alberta Ingenuity Fund	-	-	6,900	-	-	50,572	-	57,472
<b>Total Advanced Education &amp; Technology</b>	-	<b>19,488</b>	<b>51,319</b>	<b>377</b>	-	<b>89,918</b>	<b>7,330</b>	<b>354,113</b>
Agriculture and Rural Development	-	-	-	-	-	-	-	36,226
Children and Youth Services	-	-	-	3,200	-	-	-	3,200
Culture and Community Spirit	-	-	-	2,768	1,514	-	-	4,282
Education	-	-	-	34,365	-	-	-	34,365
Employment and Immigration	-	-	-	2,303	-	-	-	2,303
Energy	-	-	-	-	-	-	-	126,500
Environment	-	-	-	-	-	-	-	45,359
Finance and Enterprise	-	-	-	-	-	675	-	675
Health and Wellness	-	-	-	-	-	-	-	25,067
Housing and Urban Affairs	-	-	-	178	-	-	-	178
Infrastructure	-	-	-	-	-	-	-	18,183
Justice	-	-	-	1,949	-	-	-	1,949
Municipal Affairs	-	-	-	-	-	-	-	12
Seniors and Community Supports	-	-	-	270	-	-	-	417
Solicitor General and Public Security	-	-	-	597	-	4	-	601
Sustainable Resource Development	-	11,019	-	-	-	-	-	40,750
Tourism, Parks and Recreation	-	-	-	-	-	-	771	1,180
Transportation	-	-	-	-	-	-	-	12,788
<b>Total</b>	-	<b>30,507</b>	<b>51,319</b>	<b>46,007</b>	<b>1,514</b>	<b>90,597</b>	<b>8,101</b>	<b>708,148</b>

**Table 22 Objectives of expenditures by activity, 2009/2010 preliminary**

Objectives	Intramural		Extramural		Total
	Research and development	Related scientific activities	Research and development	Related scientific activities	
	thousands of dollars				
Exploration and exploitation of the earth	-	4,400	3,975	6,732	<b>15,107</b>
Infrastructure and general planning of land use					
Transportation systems	370	3,680	826	7,912	<b>12,788</b>
Telecommunications systems	-	-	1,500	-	<b>1,500</b>
Other	13,767	4,860	2,110	179	<b>20,916</b>
Control and care of the environment	15,359	41,216	114,707	13,732	<b>185,014</b>
Protection and improvement of human health	10,407	3,410	88,985	12,497	<b>115,299</b>
Production, distribution and rational utilization of energy	42,287	3,788	36,256	240	<b>82,571</b>
Agricultural production and technology	26,342	16,493	4,058	15	<b>46,908</b>
Fishing	-	-	-	-	<b>-</b>
Forestry	8,390	3,593	13,999	4,525	<b>30,507</b>
Industrial production and technology	28,244	400	11,375	11,300	<b>51,319</b>
Social structure and relationships	373	28,025	6,941	10,668	<b>46,007</b>
Exploration and exploitation of space	-	911	-	603	<b>1,514</b>
Basic research	9,126	595	80,796	80	<b>90,597</b>
Other civil research	190	411	7,000	500	<b>8,101</b>
<b>Total</b>	<b>154,855</b>	<b>111,782</b>	<b>372,528</b>	<b>68,983</b>	<b>708,148</b>



**Statistical tables**

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**Natural sciences**

**Table 23 Total expenditures in the natural sciences, by activity, 2004/2005 to 2009/2010 preliminary**

Activity	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010 <sup>P</sup>
thousands of dollars						
<b>Research and Development (R&amp;D)</b>						
<b>Current expenditures:</b>						
In-house R&D	47,663	46,765	51,917	63,258	68,097	64,018
R&D contracts	33,370	35,452	46,761	74,280	82,527	184,974
R&D grants and contributions	133,562	140,416	176,507	194,292	211,845	219,361
Research fellowships	3,555	2,335	1,468	816	475	11,697
Administration of extramural R&D	12,446	13,502	14,502	19,063	17,194	19,957
<b>Sub-total current R&amp;D</b>	<b>230,596</b>	<b>238,470</b>	<b>291,155</b>	<b>351,709</b>	<b>380,138</b>	<b>500,007</b>
Capital expenditures	21,292	27,916	16,128	8,427	12,201	15,419
<b>Total R&amp;D</b>	<b>251,888</b>	<b>266,386</b>	<b>307,283</b>	<b>360,136</b>	<b>392,339</b>	<b>515,426</b>
<b>Related scientific activities (RSA)</b>						
<b>Current expenditures:</b>						
Education support	204	80	592	980	510	103
Technical Surveys	36,244	37,588	66,897	80,342	85,588	61,988
Information services	15,317	17,376	19,206	24,090	31,342	28,003
Special services and studies	22,351	28,209	19,151	32,299	33,971	34,278
Museum services	2,100	2,200	1,797	2,825	6,204	2,768
Administration of extramural RSA	1,597	668	2,769	3,698	1,684	3,709
<b>Sub-total current RSA</b>	<b>77,813</b>	<b>86,121</b>	<b>110,412</b>	<b>144,234</b>	<b>159,299</b>	<b>130,849</b>
Capital expenditures	322	4,327	7,015	4,369	1,628	2,137
<b>Total RSA</b>	<b>78,135</b>	<b>90,448</b>	<b>117,427</b>	<b>148,603</b>	<b>160,927</b>	<b>132,986</b>
<b>Total</b>	<b>330,023</b>	<b>356,834</b>	<b>424,710</b>	<b>508,739</b>	<b>553,266</b>	<b>648,412</b>

**Table 24 Total expenditures in the natural sciences, by Department or agency, 2004/2005 to 2009/2010 preliminary**

Department or agency	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010 <sup>P</sup>
	thousands of dollars					
<b>Advanced Education &amp; Technology</b>						
Technology Commercialization Division	...	...	4,938	8,880	21,553	17,900
University Research and Strategic Investments Branch	...	...	25,319	11,511	21,722	20,661
Alberta Energy Research Institute	...	...	29,276	47,952	26,462	22,596
Alberta ICT Institute	...	...	3,122	3,162	9,139	11,830
Life Sciences Branch	...	...	14,125	10,162	18,989	22,221
Alberta Research Council Inc.	...	...	93,543	104,377	113,779	110,979
iCORE Inc.	...	...	10,866	12,557	12,843	11,523
Alberta Heritage Foundation for Medical Research	...	...	56,559	69,727	72,274	78,554
Alberta Ingenuity Fund	...	...	30,229	36,550	46,710	57,472
<b>Total Advanced Education &amp; Technology</b>	...	...	<b>267,977</b>	<b>304,878</b>	<b>343,471</b>	<b>353,736</b>
Agriculture and Food	...	...	32,131	...	...	...
<b>Agriculture and Rural Development</b>	...	...	...	41,903	36,226	36,226
Agriculture, Food and Rural Development	27,879	28,654	...	...	...	...
Community Development	2,605	2,684	...	...	...	...
<b>Culture and Community Spirit</b>	...	...	...	2,700	2,688	2,768
<b>Energy</b>	...	...	150	22,867	24,522	126,500
<b>Environment</b>	13,261	14,507	24,646	36,985	38,024	44,294
<b>Health and Wellness</b>	12,772	17,308	19,699	12,595	15,399	12,853
<b>Infrastructure</b>	...	...	...	6,430	12,076	18,183
Infrastructure and Transportation	28,217	37,657	27,358	...	...	...
Innovation and Science	220,685	226,959	...	...	...	...
<b>Municipal Affairs</b>	...	219	...	121	165	12
Municipal Affairs and Housing	...	...	15	...	...	...
<b>Sustainable Resource Development</b>	24,604	28,846	49,963	67,491	68,721	40,680
<b>Tourism, Parks and Recreation</b>	...	...	...	429	381	372
Tourism, Parks, Recreation and Culture	...	...	2,771	...	...	...
<b>Transportation</b>	...	...	...	12,340	11,593	12,788
<b>Total</b>	<b>330,023</b>	<b>356,834</b>	<b>424,710</b>	<b>508,739</b>	<b>553,266</b>	<b>648,412</b>

**Note(s):** Departments shaded in grey are the active departments reporting scientific and technological activities. The following current departments did not report any scientific and technological activities: Aboriginal Relations; Executive Council; International, Intergovernmental Relations and Urban Affairs; Service Alberta and Treasury Board.

**Table 25 Total expenditures in the natural sciences, by performing sector, 2004/2005 to 2009/2010 preliminary**

Performing sector	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010 <sup>P</sup>
	thousands of dollars					
Intramural	173,523	190,588	203,564	215,319	235,949	237,126
Business Enterprise	21,330	26,014	51,080	118,663	125,879	208,850
Higher Education	125,836	128,275	125,180	130,046	149,313	160,824
Hospitals and Health organizations	565	200	17,542	18,181	17,862	13,075
Other	8,769	11,757	27,344	26,530	24,263	28,537
<b>Total</b>	<b>330,023</b>	<b>356,834</b>	<b>424,710</b>	<b>508,739</b>	<b>553,266</b>	<b>648,412</b>

**Table 26 Total expenditures on R&D, in the natural sciences, by performing sector, 2004/2005 to 2009/2010 preliminary**

Performing sector	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010 <sup>P</sup>
thousands of dollars						
Intramural	113,700	121,827	123,970	138,568	150,373	154,173
Business Enterprise	7,469	11,354	21,808	62,545	66,186	171,942
Higher Education	125,040	126,611	123,922	129,395	148,469	160,058
Hospitals and Health organizations	565	200	16,942	13,311	12,187	8,000
Other	5,114	6,394	20,641	16,317	15,124	21,253
<b>Total</b>	<b>251,888</b>	<b>266,386</b>	<b>307,283</b>	<b>360,136</b>	<b>392,339</b>	<b>515,426</b>

**Table 27 Total expenditures on R&D, in the natural sciences, by Department or agency, 2004/2005 to 2009/2010 preliminary**

Department or agency	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010 <sup>P</sup>
thousands of dollars						
<b>Advanced Education &amp; Technology</b>						
Technology Commercialization Division	...	...	2,913	7,680	7,768	6,200
University Research and Strategic Investments Branch	...	...	25,192	11,501	21,722	20,661
Alberta Energy Research Institute	...	...	28,999	47,512	24,921	21,629
Alberta ICT Institute	...	...	3,010	2,836	8,339	11,690
Life Sciences Branch	...	...	13,418	9,758	18,958	22,126
Alberta Research Council Inc.	...	...	83,912	92,937	103,819	99,617
iCORE Inc.	...	...	10,866	12,557	12,843	11,523
Alberta Heritage Foundation for Medical Research	...	...	56,559	68,187	70,131	77,017
Alberta Ingenuity Fund	...	...	30,229	36,550	46,710	57,472
<b>Total Advanced Education &amp; Technology</b>	...	...	<b>255,098</b>	<b>289,518</b>	<b>315,211</b>	<b>327,935</b>
Agriculture and Food	...	...	14,761	...	...	...
<b>Agriculture and Rural Development</b>	...	...	...	21,508	19,733	19,733
Agriculture, Food and Rural Development	11,818	12,243	...	...	...	...
<b>Energy</b>	...	...	150	22,867	24,522	126,500
<b>Environment</b>	192	130	801	5,682	9,316	15,586
<b>Health and Wellness</b>	10,065	13,789	18,057	7,650	9,446	7,400
<b>Infrastructure</b>	...	...	...	3,389	8,109	13,758
Infrastructure and Transportation	17,745	24,016	11,466	...	...	...
Innovation and Science	210,526	213,316	...	...	...	...
<b>Municipal Affairs</b>	...	219	...	...	47	...
Municipal Affairs and Housing	...	...	15	...	...	...
<b>Sustainable Resource Development</b>	1,542	2,673	6,935	7,571	4,963	3,318
<b>Tourism, Parks and Recreation</b>	...	...	...	47	60	...
<b>Transportation</b>	...	...	...	1,904	932	1,196
<b>Total</b>	<b>251,888</b>	<b>266,386</b>	<b>307,283</b>	<b>360,136</b>	<b>392,339</b>	<b>515,426</b>

**Note(s):** Departments shaded in grey are the active departments reporting scientific and technological activities. The following current departments did not report any scientific and technological activities: Aboriginal Relations; Executive Council; International, Intergovernmental Relations and Urban Affairs; Service Alberta and Treasury Board.

**Table 28 Personnel engaged in the natural sciences, by activity and category, 2004/2005 to 2009/2010 preliminary**

Activity and category	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010 <sup>P</sup>
	full-time equivalent					
<b>Research and development (R&amp;D):</b>						
Scientific and Professional	194.0	201.9	333.4	329.8	261.5	260.1
Technical	226.0	211.5	168.9	240.2	241.4	240.7
Other	161.0	156.0	118.9	142.8	178.5	192.5
Sub-total	581.0	569.4	621.2	712.8	681.4	693.3
<b>Administration of extramural R&amp;D programs</b>						
Scientific and Professional	36.0	49.4	45.8	46.2	43.3	52.4
Technical	10.0	12.2	17.6	16.0	20.0	24.0
Other	38.0	42.5	38.9	47.0	57.3	54.2
Sub-total	84.0	104.1	102.2	109.2	120.6	130.6
Total R&D personnel	665.0	673.5	723.4	822.0	802.0	823.9
<b>Related scientific activities intramural (RSA):</b>						
Scientific and Professional	317.0	343.6	267.1	270.7	245.4	244.9
Technical	169.0	211.1	264.5	232.1	256.8	240.6
Other	20.0	16.0	79.8	47.3	80.5	74.0
Sub-total	506.0	570.7	611.3	550.1	582.7	559.5
<b>Administration of extramural RSA programs</b>						
Scientific and Professional	8.0	5.6	21.1	16.0	38.6	25.6
Technical	6.0	5.5	8.3	4.0	11.3	9.6
Other	1.0	1.0	10.8	11.0	12.0	11.0
Sub-total	15.0	12.1	40.2	31.0	61.9	46.2
Total RSA personnel	521.0	582.8	651.5	581.1	644.6	605.7
<b>Total science activities</b>						
Scientific and Professional	555.0	600.5	667.3	662.7	588.8	583.0
Technical	411.0	440.3	459.2	492.3	529.5	514.9
Other	220.0	215.5	248.4	248.1	328.3	331.7
<b>Total scientific personnel</b>	<b>1,186.0</b>	<b>1,256.3</b>	<b>1,374.9</b>	<b>1,403.1</b>	<b>1,446.6</b>	<b>1,429.6</b>

**Table 29 Total expenditures in the natural sciences, by Department or agency and source of funds, 2008/2009**

Department or agency	Departmental budget	Transfers from other departments or agencies	Transfers from federal governments	From trust funds	From business enterprises	From other sources	Total
thousands of dollars							
Advanced Education & Technology							
Technology Commercialization Division	21,553	-	-	-	-	-	<b>21,553</b>
University Research and Strategic Investments Branch	21,722	-	-	-	-	-	<b>21,722</b>
Alberta Energy Research Institute	3,462	23,000	-	-	-	-	<b>26,462</b>
Alberta ICT Institute	9,139	-	-	-	-	-	<b>9,139</b>
Life Sciences Branch	18,989	-	-	-	-	-	<b>18,989</b>
Alberta Research Council Inc.	30,360	33,515	1,999	-	40,449	7,456	<b>113,779</b>
iCORE Inc.	12,806	-	-	-	-	37	<b>12,843</b>
Alberta Heritage Foundation for Medical Research	-	-	-	-	-	72,274	<b>72,274</b>
Alberta Ingenuity Fund	-	-	-	-	-	46,710	<b>46,710</b>
<b>Total Advanced Education &amp; Technology</b>	<b>118,031</b>	<b>56,515</b>	<b>1,999</b>	<b>-</b>	<b>40,449</b>	<b>126,477</b>	<b>343,471</b>
Agriculture and Rural Development	29,991	2,910	-	-	3,325	-	<b>36,226</b>
Culture and Community Spirit	2,688	-	-	-	-	-	<b>2,688</b>
Energy	1,214	-	-	-	-	23,308	<b>24,522</b>
Environment	38,024	-	-	-	-	-	<b>38,024</b>
Health and Wellness	15,399	-	-	-	-	-	<b>15,399</b>
Infrastructure	12,076	-	-	-	-	-	<b>12,076</b>
Municipal Affairs	165	-	-	-	-	-	<b>165</b>
Sustainable Resource Development	66,389	-	107	-	-	2,225	<b>68,721</b>
Tourism, Parks and Recreation	381	-	-	-	-	-	<b>381</b>
Transportation	11,593	-	-	-	-	-	<b>11,593</b>
<b>Total</b>	<b>295,951</b>	<b>59,425</b>	<b>2,106</b>	<b>-</b>	<b>43,774</b>	<b>152,010</b>	<b>553,266</b>

**Table 30 Total expenditures in the natural sciences, by activity and performing sector, 2008/2009**

Activity	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Other	Total
thousands of dollars						
<b>Research and Development (R&amp;D)</b>						
Current expenditures:						
In-house R&D	68,097	...	...	...	...	<b>68,097</b>
R&D contracts	52,881	25,546	1,771	-	2,329	<b>82,527</b>
R&D grants and contributions	...	40,640	146,223	12,187	12,795	<b>211,845</b>
Research fellowships	-	-	475	-	-	<b>475</b>
Administration of extramural R&D	17,194	...	...	...	...	<b>17,194</b>
Sub-total current R&D	138,172	66,186	148,469	12,187	15,124	<b>380,138</b>
Capital expenditures	12,201	...	...	...	...	<b>12,201</b>
<b>Total R&amp;D</b>	<b>150,373</b>	<b>66,186</b>	<b>148,469</b>	<b>12,187</b>	<b>15,124</b>	<b>392,339</b>
<b>Related scientific activities (RSA)</b>						
Current expenditures:						
Education support	-	460	50	-	-	<b>510</b>
Technical Surveys	37,379	39,998	265	-	7,946	<b>85,588</b>
Information services	15,573	15,245	141	-	383	<b>31,342</b>
Special services and studies	23,108	3,990	388	5,675	810	<b>33,971</b>
Museum services	6,204	-	-	-	-	<b>6,204</b>
Administration of extramural RSA	1,684	...	...	...	...	<b>1,684</b>
Sub-total current RSA	83,948	59,693	844	5,675	9,139	<b>159,299</b>
Capital expenditures	1,628	...	...	...	...	<b>1,628</b>
<b>Total RSA</b>	<b>85,576</b>	<b>59,693</b>	<b>844</b>	<b>5,675</b>	<b>9,139</b>	<b>160,927</b>
<b>Total</b>	<b>235,949</b>	<b>125,879</b>	<b>149,313</b>	<b>17,862</b>	<b>24,263</b>	<b>553,266</b>

**Table 31 Total expenditures in the natural sciences, by Department or agency and performing sector, 2008/2009**

Department or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Other	Total
thousands of dollars						
Advanced Education & Technology						
Technology Commercialization Division	600	13,535	6,568	-	850	<b>21,553</b>
University Research and Strategic Investments Branch	861	-	20,361	-	500	<b>21,722</b>
Alberta Energy Research Institute	2,923	21,270	2,269	-	-	<b>26,462</b>
Alberta ICT Institute	530	8,562	47	-	-	<b>9,139</b>
Life Sciences Branch	2,070	3,754	6,707	-	6,458	<b>18,989</b>
Alberta Research Council Inc.	113,779	-	-	-	-	<b>113,779</b>
iCORE Inc.	1,420	-	11,423	-	-	<b>12,843</b>
Alberta Heritage Foundation for Medical Research	4,624	2,254	62,655	2,741	-	<b>72,274</b>
Alberta Ingenuity Fund	6,305	5,345	35,060	-	-	<b>46,710</b>
<b>Total Advanced Education &amp; Technology</b>	<b>133,112</b>	<b>54,720</b>	<b>145,090</b>	<b>2,741</b>	<b>7,808</b>	<b>343,471</b>
Agriculture and Rural Development	36,226	-	-	-	-	<b>36,226</b>
Culture and Community Spirit	2,688	-	-	-	-	<b>2,688</b>
Energy	400	24,122	-	-	-	<b>24,522</b>
Environment	19,546	6,449	1,749	-	10,280	<b>38,024</b>
Health and Wellness	78	-	200	15,121	-	<b>15,399</b>
Infrastructure	12,076	-	-	-	-	<b>12,076</b>
Municipal Affairs	28	29	60	-	48	<b>165</b>
Sustainable Resource Development	28,726	31,828	2,051	-	6,116	<b>68,721</b>
Tourism, Parks and Recreation	19	249	113	-	-	<b>381</b>
Transportation	3,050	8,482	50	-	11	<b>11,593</b>
<b>Total</b>	<b>235,949</b>	<b>125,879</b>	<b>149,313</b>	<b>17,862</b>	<b>24,263</b>	<b>553,266</b>

**Table 32 Total expenditures in the natural sciences, by department or agency and activity, 2008/2009**

Department or agency	Research & development			Related scientific activities						Total	
	Current	AEP <sup>1</sup>	Capital	Education support	Technical surveys	Information services	Special services & studies	Museum services	AEP <sup>1</sup>		Capital
thousands of dollars											
Advanced Education & Technology											
Technology Commercialization Division	7,368	400	-	50	-	13,535	-	-	200	-	<b>21,553</b>
University Research and Strategic Investments Branch	20,861	861	-	-	-	-	-	-	-	-	<b>21,722</b>
Alberta Energy Research Institute	22,625	2,296	-	-	-	516	914	-	111	-	<b>26,462</b>
Alberta ICT Institute	8,149	190	-	460	-	-	320	-	20	-	<b>9,139</b>
Life Sciences Branch	16,888	2,070	-	-	-	-	31	-	-	-	<b>18,989</b>
Alberta Research Council Inc.	99,898	-	3,921	-	-	-	9,829	-	-	131	<b>113,779</b>
iCORE Inc.	11,423	1,420	-	-	-	-	-	-	-	-	<b>12,843</b>
Alberta Heritage Foundation for Medical Research	67,650	2,481	-	-	-	483	1,660	-	-	-	<b>72,274</b>
Alberta Ingenuity Fund	40,405	5,984	321	-	-	-	-	-	-	-	<b>46,710</b>
<b>Total Advanced Education &amp; Technology</b>	<b>295,267</b>	<b>15,702</b>	<b>4,242</b>	<b>510</b>	<b>-</b>	<b>14,534</b>	<b>12,754</b>	<b>-</b>	<b>331</b>	<b>131</b>	<b>343,471</b>
Agriculture and Rural Development	19,733	-	-	-	1,649	14,020	824	-	-	-	<b>36,226</b>
Culture and Community Spirit	-	-	-	-	-	-	-	2,688	-	-	<b>2,688</b>
Energy	24,122	400	-	-	-	-	-	-	-	-	<b>24,522</b>
Environment	8,469	847	-	-	13,636	1,004	11,646	-	1,001	1,421	<b>38,024</b>
Health and Wellness	9,446	-	-	-	-	-	5,875	-	78	-	<b>15,399</b>
Infrastructure	150	-	7,959	-	3,817	-	150	-	-	-	<b>12,076</b>
Municipal Affairs	40	7	-	-	-	-	97	-	21	-	<b>165</b>
Sustainable Resource Development	4,862	101	-	-	57,327	1,784	1,060	3,511	-	76	<b>68,721</b>
Tourism, Parks and Recreation	60	-	-	-	321	-	-	-	-	-	<b>381</b>
Transportation	795	137	-	-	8,838	-	1,565	5	253	-	<b>11,593</b>
<b>Total</b>	<b>362,944</b>	<b>17,194</b>	<b>12,201</b>	<b>510</b>	<b>85,588</b>	<b>31,342</b>	<b>33,971</b>	<b>6,204</b>	<b>1,684</b>	<b>1,628</b>	<b>553,266</b>

1. Administration of extramural programs

**Table 33 Total expenditures on R&D in the natural sciences, by Department or agency and performing sector, 2008/2009**

Department or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Other	Total
thousands of dollars						
Advanced Education & Technology						
Technology Commercialization Division	400	-	6,518	-	850	<b>7,768</b>
University Research and Strategic Investments Branch	861	-	20,361	-	500	<b>21,722</b>
Alberta Energy Research Institute	2,296	20,474	2,151	-	-	<b>24,921</b>
Alberta ICT Institute	190	8,102	47	-	-	<b>8,339</b>
Life Sciences Branch	2,070	3,723	6,707	-	6,458	<b>18,958</b>
Alberta Research Council Inc.	103,819	-	-	-	-	<b>103,819</b>
iCORE Inc.	1,420	-	11,423	-	-	<b>12,843</b>
Alberta Heritage Foundation for Medical Research	2,481	2,254	62,655	2,741	-	<b>70,131</b>
Alberta Ingenuity Fund	6,305	5,345	35,060	-	-	<b>46,710</b>
<b>Total Advanced Education &amp; Technology</b>	<b>119,842</b>	<b>39,898</b>	<b>144,922</b>	<b>2,741</b>	<b>7,808</b>	<b>315,211</b>
Agriculture and Rural Development	19,733	-	-	-	-	<b>19,733</b>
Energy	400	24,122	-	-	-	<b>24,522</b>
Environment	847	174	1,666	-	6,629	<b>9,316</b>
Health and Wellness	-	-	-	9,446	-	<b>9,446</b>
Infrastructure	8,109	-	-	-	-	<b>8,109</b>
Municipal Affairs	7	-	40	-	-	<b>47</b>
Sustainable Resource Development	1,233	1,262	1,781	-	687	<b>4,963</b>
Tourism, Parks and Recreation	-	-	60	-	-	<b>60</b>
Transportation	202	730	-	-	-	<b>932</b>
<b>Total</b>	<b>150,373</b>	<b>66,186</b>	<b>148,469</b>	<b>12,187</b>	<b>15,124</b>	<b>392,339</b>

**Table 34 Intramural expenditures in the natural sciences, by Department or agency and type of expenditure, 2008/2009**

Department or agency	Current expenditures		Capital expenditures	Total
	Personnel costs	Other costs		
thousands of dollars				
Advanced Education & Technology				
Technology Commercialization Division	550	50	-	600
University Research and Strategic Investments Branch	632	229	-	861
Alberta Energy Research Institute	1,989	934	-	2,923
Alberta ICT Institute	530	-	-	530
Life Sciences Branch	1,279	791	-	2,070
Alberta Research Council Inc.	56,688	53,039	4,052	113,779
iCORE Inc.	845	575	-	1,420
Alberta Heritage Foundation for Medical Research	3,227	1,397	-	4,624
Alberta Ingenuity Fund	3,350	2,634	321	6,305
<b>Total Advanced Education &amp; Technology</b>	<b>69,090</b>	<b>59,649</b>	<b>4,373</b>	<b>133,112</b>
Agriculture and Rural Development	32,603	3,623	-	36,226
Culture and Community Spirit	2,150	538	-	2,688
Energy	400	-	-	400
Environment	10,466	7,659	1,421	19,546
Health and Wellness	78	-	-	78
Infrastructure	870	3,247	7,959	12,076
Municipal Affairs	28	-	-	28
Sustainable Resource Development	20,700	7,950	76	28,726
Tourism, Parks and Recreation	19	-	-	19
Transportation	2,508	542	-	3,050
<b>Total</b>	<b>138,912</b>	<b>83,208</b>	<b>13,829</b>	<b>235,949</b>

**Table 35.1 Personnel engaged in the natural sciences, by Department or agency and activities, 2008/2009— Intramural scientific activities**

Department or agency	Scientific & professional		Technical		Other		Total	
	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities
full-time equivalent								
Advanced Education & Technology								
Post-Secondary Excellence Division	-	-	-	-	-	-	-	-
Research Division	-	-	-	-	-	-	-	-
Technology Commercialization Division	-	-	-	-	-	-	-	-
University Research and Strategic Investments Branch	-	-	-	-	-	-	-	-
Alberta Energy Research Institute	-	-	-	1.0	-	1.0	-	2.0
Alberta ICT Institute	-	6.4	-	-	-	-	-	6.4
Life Sciences Branch	-	-	-	-	-	-	-	-
Alberta Research Council Inc.	194.0	10.0	142.0	44.0	178.0	19.0	514.0	73.0
iCORE Inc.	-	-	-	-	-	-	-	-
Alberta Heritage Foundation for Medical Research	-	8.0	-	-	-	3.0	-	11.0
Alberta Ingenuity Fund	-	-	-	-	-	-	-	-
<b>Total Advanced Education &amp; Technology</b>	<b>194.0</b>	<b>24.4</b>	<b>142.0</b>	<b>45.0</b>	<b>178.0</b>	<b>23.0</b>	<b>514.0</b>	<b>92.4</b>
Agriculture and Rural Development	53.5	50.1	98.9	101.6	-	-	152.4	151.7
Children and Youth Services	-	-	-	-	-	-	-	-
Culture and Community Spirit	-	30.9	-	-	-	-	-	30.9
Education	-	-	-	-	-	-	-	-
Employment and Immigration	-	-	-	-	-	-	-	-
Energy	-	-	-	-	-	-	-	-
Environment	-	13.0	-	21.4	-	46.0	-	80.4
Finance and Enterprise	-	-	-	-	-	-	-	-
Health and Wellness	-	-	-	-	-	-	-	-
Housing and Urban Affairs	-	-	-	-	-	-	-	-
Infrastructure	2.5	12.0	-	-	-	-	2.5	12.0
Justice	-	-	-	-	-	-	-	-
Municipal Affairs	-	-	-	-	-	-	-	-
Seniors and Community Supports	-	-	-	-	-	-	-	-
Solicitor General and Public Security	-	-	-	-	-	-	-	-
Sustainable Resource Development	11.2	109.0	0.5	78.8	0.5	11.5	12.2	199.3
Tourism, Parks and Recreation	-	0.5	-	-	-	-	-	0.5
Transportation	0.3	5.5	-	10.0	-	-	0.3	15.5
<b>Total</b>	<b>261.5</b>	<b>245.4</b>	<b>241.4</b>	<b>256.8</b>	<b>178.5</b>	<b>80.5</b>	<b>681.4</b>	<b>582.7</b>

**Table 35.2 Personnel engaged in the natural sciences, by Department or agency and activities, 2008/2009— Administration of extramural programs**

Department or agency	Scientific & professional		Technical		Other		Total	
	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities
	full-time equivalent							
Advanced Education & Technology								
Post-Secondary Excellence Division	-	-	-	-	-	-	-	-
Research Division	-	-	-	-	-	-	-	-
Technology Commercialization Division	3.0	1.0	-	-	1.0	1.0	4.0	2.0
University Research and Strategic Investments Branch	4.0	-	-	-	3.0	-	7.0	-
Alberta Energy Research Institute	11.3	1.0	-	-	4.6	-	15.9	1.0
Alberta ICT Institute	1.5	0.5	-	-	0.5	-	2.0	0.5
Life Sciences Branch	6.0	-	2.0	-	3.0	-	11.0	-
Alberta Research Council Inc.	-	-	-	-	-	-	-	-
iCORE Inc.	2.0	-	-	-	5.0	-	7.0	-
Alberta Heritage Foundation for Medical Research	-	-	3.0	-	26.0	-	29.0	-
Alberta Ingenuity Fund	8.0	-	12.0	-	10.0	-	30.0	-
<b>Total Advanced Education &amp; Technology</b>	<b>35.8</b>	<b>2.5</b>	<b>17.0</b>	<b>-</b>	<b>53.1</b>	<b>1.0</b>	<b>105.9</b>	<b>3.5</b>
Agriculture and Rural Development	-	-	-	-	-	-	-	-
Children and Youth Services	-	-	-	-	-	-	-	-
Culture and Community Spirit	-	-	-	-	-	-	-	-
Education	-	-	-	-	-	-	-	-
Employment and Immigration	-	-	-	-	-	-	-	-
Energy	3.0	-	1.0	-	-	-	4.0	-
Environment	2.0	1.0	2.0	3.0	4.0	6.0	8.0	10.0
Finance and Enterprise	-	-	-	-	-	-	-	-
Health and Wellness	-	0.8	-	0.1	-	-	-	0.9
Housing and Urban Affairs	-	-	-	-	-	-	-	-
Infrastructure	-	-	-	-	-	-	-	-
Justice	-	-	-	-	-	-	-	-
Municipal Affairs	0.1	0.3	-	-	-	-	0.1	0.3
Seniors and Community Supports	-	-	-	-	-	-	-	-
Solicitor General and Public Security	-	-	-	-	-	-	-	-
Sustainable Resource Development	0.9	30.2	-	6.7	0.2	5.0	1.1	41.9
Tourism, Parks and Recreation	-	-	-	-	-	-	-	-
Transportation	1.5	3.8	-	1.5	-	-	1.5	5.3
<b>Total</b>	<b>43.3</b>	<b>38.6</b>	<b>20.0</b>	<b>11.3</b>	<b>57.3</b>	<b>12.0</b>	<b>120.6</b>	<b>61.9</b>

**Table 35.3 Personnel engaged in the natural sciences, by Department or agency and activities, 2008/2009— Total scientific activities**

Department or agency	Scientific & professional		Technical		Other		Total	
	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities
full-time equivalent								
Advanced Education & Technology								
Post-Secondary Excellence Division	-	-	-	-	-	-	-	-
Research Division	-	-	-	-	-	-	-	-
Technology Commercialization Division	3.0	1.0	-	-	1.0	1.0	4.0	2.0
University Research and Strategic Investments Branch	4.0	-	-	-	3.0	-	7.0	-
Alberta Energy Research Institute	11.3	1.0	-	1.0	4.6	1.0	15.9	3.0
Alberta ICT Institute	1.5	6.9	-	-	0.5	-	2.0	6.9
Life Sciences Branch	6.0	-	2.0	-	3.0	-	11.0	-
Alberta Research Council Inc.	194.0	10.0	142.0	44.0	178.0	19.0	514.0	73.0
iCORE Inc.	2.0	-	-	-	5.0	-	7.0	-
Alberta Heritage Foundation for Medical Research	-	8.0	3.0	-	26.0	3.0	29.0	11.0
Alberta Ingenuity Fund	8.0	-	12.0	-	10.0	-	30.0	-
<b>Total Advanced Education &amp; Technology</b>	<b>229.8</b>	<b>26.9</b>	<b>159.0</b>	<b>45.0</b>	<b>231.1</b>	<b>24.0</b>	<b>619.9</b>	<b>95.9</b>
Agriculture and Rural Development	53.5	50.1	98.9	101.6	-	-	152.4	151.7
Children and Youth Services	-	-	-	-	-	-	-	-
Culture and Community Spirit	-	30.9	-	-	-	-	-	30.9
Education	-	-	-	-	-	-	-	-
Employment and Immigration	-	-	-	-	-	-	-	-
Energy	3.0	-	1.0	-	-	-	4.0	-
Environment	2.0	14.0	2.0	24.4	4.0	52.0	8.0	90.4
Finance and Enterprise	-	-	-	-	-	-	-	-
Health and Wellness	-	0.8	-	0.1	-	-	-	0.9
Housing and Urban Affairs	-	-	-	-	-	-	-	-
Infrastructure	2.5	12.0	-	-	-	-	2.5	12.0
Justice	-	-	-	-	-	-	-	-
Municipal Affairs	0.1	0.3	-	-	-	-	0.1	0.3
Seniors and Community Supports	-	-	-	-	-	-	-	-
Solicitor General and Public Security	-	-	-	-	-	-	-	-
Sustainable Resource Development	12.1	139.2	0.5	85.5	0.7	16.5	13.3	241.2
Tourism, Parks and Recreation	-	0.5	-	-	-	-	-	0.5
Transportation	1.8	9.3	-	11.5	-	-	1.8	20.8
<b>Total</b>	<b>304.8</b>	<b>284.0</b>	<b>261.4</b>	<b>268.1</b>	<b>235.8</b>	<b>92.5</b>	<b>802.0</b>	<b>644.6</b>

**Table 36 Objectives of expenditures in the natural sciences, by Department or agency, 2008/2009**

Department or agency	Exploration and exploitation of the earth	Infrastructure and general planning of land use			Control and care of the environment	Protection and improvement of human health	Production distribution and rational utilization of energy	Agriculture production and technology
		Transportation systems	Telecommunications systems	Other				
thousands of dollars								
Advanced Education & Technology								
Post-Secondary Excellence Division	-	-	-	-	-	-	-	-
Research Division	-	-	-	-	-	-	-	-
Technology Commercialization Division	-	-	-	-	525	5,113	-	800
University Research and Strategic Investments Branch	-	-	-	-	-	-	-	-
Alberta Energy Research Institute	2,505	-	-	-	-	-	20,201	-
Alberta ICT Institute	-	-	1,500	-	-	-	-	-
Life Sciences Branch	-	-	-	-	-	745	-	5,798
Alberta Research Council Inc.	-	-	-	-	18,549	6,427	42,345	5,379
iCORE Inc.	-	-	-	-	-	-	-	-
Alberta Heritage Foundation for Medical Research	-	-	-	-	-	72,274	-	-
Alberta Ingenuity Fund	-	-	-	-	-	-	-	-
<b>Total Advanced Education &amp; Technology</b>	<b>2,505</b>	<b>-</b>	<b>1,500</b>	<b>-</b>	<b>19,07</b>	<b>84,559</b>	<b>62,546</b>	<b>11,977</b>
Agriculture and Rural Development	-	-	-	-	-	-	-	36,226
Children and Youth Services	-	-	-	-	-	-	-	-
Culture and Community Spirit Education	-	-	-	-	-	-	-	-
Employment and Immigration	-	-	-	-	-	-	-	-
Energy	-	-	-	-	-	-	24,522	-
Environment	-	-	-	-	38,024	-	-	-
Finance and Enterprise	-	-	-	-	-	-	-	-
Health and Wellness	-	-	-	-	-	15,399	-	-
Housing and Urban Affairs	-	-	-	-	-	-	-	-
Infrastructure	-	-	-	12,076	-	-	-	-
Justice	-	-	-	-	-	-	-	-
Municipal Affairs	-	-	-	165	-	-	-	-
Seniors and Community Supports	-	-	-	-	-	-	-	-
Solicitor General and Public Security	-	-	-	-	-	-	-	-
Sustainable Resource Development	10,936	-	-	2,072	22,827	-	-	-
Tourism, Parks and Recreation	-	-	-	-	381	-	-	-
Transportation	-	11,593	-	-	-	-	-	-
<b>Total</b>	<b>13,441</b>	<b>11,593</b>	<b>1,500</b>	<b>14,313</b>	<b>80,306</b>	<b>99,958</b>	<b>87,068</b>	<b>48,203</b>

**Table 36 Objectives of expenditures in the natural sciences, by Department or agency, 2008/2009** (continued)

Department or agency	Fishing	Forestry	Industrial production and technology	Social structure and relationships	Exploration and exploitation of space	Basic research	Other civil research	Total
thousands of dollars								
Advanced Education & Technology								
Post-Secondary Excellence Division	-	-	-	-	-	-	-	-
Research Division	-	-	-	-	-	-	-	-
Technology Commercialization Division	-	-	1,805	3,160	50	-	10,100	21,553
University Research and Strategic Investments Branch	-	-	-	-	-	21,722	-	21,722
Alberta Energy Research Institute	-	-	1,605	-	-	2,151	-	26,462
Alberta ICT Institute	-	-	-	-	-	-	7,639	9,139
Life Sciences Branch	-	8,193	-	-	-	4,253	-	18,989
Alberta Research Council Inc.	-	6,734	34,345	-	-	-	-	113,779
iCORE Inc.	-	-	-	-	-	12,843	-	12,843
Alberta Heritage Foundation for Medical Research	-	-	-	-	-	-	-	72,274
Alberta Ingenuity Fund	-	-	5,345	-	-	41,365	-	46,710
<b>Total Advanced Education &amp; Technology</b>	<b>-</b>	<b>14,927</b>	<b>43,100</b>	<b>3,160</b>	<b>50</b>	<b>82,334</b>	<b>17,739</b>	<b>343,471</b>
Agriculture and Rural Development	-	-	-	-	-	-	-	36,226
Children and Youth Services	-	-	-	-	-	-	-	-
Culture and Community Spirit Education	-	-	-	2,688	-	-	-	2,688
Employment and Immigration	-	-	-	-	-	-	-	-
Energy	-	-	-	-	-	-	-	24,522
Environment	-	-	-	-	-	-	-	38,024
Finance and Enterprise	-	-	-	-	-	-	-	-
Health and Wellness	-	-	-	-	-	-	-	15,399
Housing and Urban Affairs	-	-	-	-	-	-	-	-
Infrastructure	-	-	-	-	-	-	-	12,076
Justice	-	-	-	-	-	-	-	-
Municipal Affairs	-	-	-	-	-	-	-	165
Seniors and Community Supports	-	-	-	-	-	-	-	-
Solicitor General and Public Security	-	-	-	-	-	-	-	-
Sustainable Resource Development	-	32,886	-	-	-	-	-	68,721
Tourism, Parks and Recreation	-	-	-	-	-	-	-	381
Transportation	-	-	-	-	-	-	-	11,593
<b>Total</b>	<b>-</b>	<b>47,813</b>	<b>43,100</b>	<b>5,848</b>	<b>50</b>	<b>82,334</b>	<b>17,739</b>	<b>553,266</b>

**Table 37 Objectives of expenditures in the natural sciences, by activity, 2008/2009**

Objectives	Intramural		Extramural		Total
	Research and development	Related scientific activities	Research and development	Related scientific activities	
	thousands of dollars				
Exploration and exploitation of the earth	-	4,503	2,180	6,758	<b>13,441</b>
Infrastructure and general planning of land use					
Transportation systems	202	2,848	730	7,813	<b>11,593</b>
Telecommunications systems	-	-	1,500	-	<b>1,500</b>
Other	8,161	4,488	125	1,539	<b>14,313</b>
Control and care of the environment	13,050	42,205	9,190	15,861	<b>80,306</b>
Protection and improvement of human health	9,328	2,221	82,534	5,875	<b>99,958</b>
Production, distribution and rational utilization of energy	41,547	4,121	40,811	589	<b>87,068</b>
Agricultural production and technology	25,977	16,493	5,715	18	<b>48,203</b>
Fishing	-	-	-	-	-
Forestry	8,492	5,494	10,474	23,353	<b>47,813</b>
Industrial production and technology	34,445	-	8,655	-	<b>43,100</b>
Social structure and relationships	-	2,763	-	3,085	<b>5,848</b>
Exploration and exploitation of space	50	-	-	-	<b>50</b>
Basic research	8,931	-	73,403	-	<b>82,334</b>
Other civil research	190	440	6,649	10,460	<b>17,739</b>
<b>Total</b>	<b>150,373</b>	<b>85,576</b>	<b>241,966</b>	<b>75,351</b>	<b>553,266</b>

**Table 38 Total expenditures in the natural sciences, by activity and performing sector, 2009/2010 preliminary**

Activity	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Other	Total
thousands of dollars						
<b>Research and Development (R&amp;D)</b>						
Current expenditures:						
In-house R&D	64,018	...	...	...	...	<b>64,018</b>
R&D contracts	54,779	126,180	1,681	-	2,334	<b>184,974</b>
R&D grants and contributions	...	34,262	158,180	8,000	18,919	<b>219,361</b>
Research fellowships	-	11,500	197	-	-	<b>11,697</b>
Administration of extramural R&D	19,957	...	...	...	...	<b>19,957</b>
Sub-total current R&D	138,754	171,942	160,058	8,000	21,253	<b>500,007</b>
Capital expenditures	15,419	...	...	...	...	<b>15,419</b>
<b>Total R&amp;D</b>	<b>154,173</b>	<b>171,942</b>	<b>160,058</b>	<b>8,000</b>	<b>21,253</b>	<b>515,426</b>
<b>Related scientific activities (RSA)</b>						
Current expenditures:						
Education support	78	25	-	-	-	<b>103</b>
Technical Surveys	35,185	21,124	70	-	5,609	<b>61,988</b>
Information services	14,951	12,023	121	-	908	<b>28,003</b>
Special services and studies	24,125	3,736	575	5,075	767	<b>34,278</b>
Museum services	2,768	-	-	-	-	<b>2,768</b>
Administration of extramural RSA	3,709	...	...	...	...	<b>3,709</b>
Sub-total current RSA	80,816	36,908	766	5,075	7,284	<b>130,849</b>
Capital expenditures	2,137	...	...	...	...	<b>2,137</b>
<b>Total RSA</b>	<b>82,953</b>	<b>36,908</b>	<b>766</b>	<b>5,075</b>	<b>7,284</b>	<b>132,986</b>
<b>Total</b>	<b>237,126</b>	<b>208,850</b>	<b>160,824</b>	<b>13,075</b>	<b>28,537</b>	<b>648,412</b>

**Table 39 Total expenditures in the natural sciences, by Department or agency and performing sector, 2009/2010 preliminary**

Department or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Other	Total
thousands of dollars						
Advanced Education & Technology						
Technology Commercialization Division	600	11,300	6,000	-	-	<b>17,900</b>
University Research and Strategic Investments Branch	861	-	19,300	-	500	<b>20,661</b>
Alberta Energy Research Institute	2,794	17,798	2,004	-	-	<b>22,596</b>
Alberta ICT Institute	330	11,500	-	-	-	<b>11,830</b>
Life Sciences Branch	2,283	8,258	3,883	-	7,797	<b>22,221</b>
Alberta Research Council Inc.	110,979	-	-	-	-	<b>110,979</b>
iCORE Inc.	1,735	-	9,788	-	-	<b>11,523</b>
Alberta Heritage Foundation for Medical Research	4,233	1,778	71,843	700	-	<b>78,554</b>
Alberta Ingenuity Fund	6,145	6,900	44,427	-	-	<b>57,472</b>
<b>Total Advanced Education &amp; Technology</b>	<b>129,960</b>	<b>57,534</b>	<b>157,245</b>	<b>700</b>	<b>8,297</b>	<b>353,736</b>
Agriculture and Rural Development	36,226	-	-	-	-	<b>36,226</b>
Culture and Community Spirit	2,768	-	-	-	-	<b>2,768</b>
Energy	1,500	125,000	-	-	-	<b>126,500</b>
Environment	20,116	6,449	1,749	-	15,980	<b>44,294</b>
Health and Wellness	78	-	400	12,375	-	<b>12,853</b>
Infrastructure	18,183	-	-	-	-	<b>18,183</b>
Municipal Affairs	7	-	-	-	5	<b>12</b>
Sustainable Resource Development	24,074	10,979	1,372	-	4,255	<b>40,680</b>
Tourism, Parks and Recreation	164	150	58	-	-	<b>372</b>
Transportation	4,050	8,738	-	-	-	<b>12,788</b>
<b>Total</b>	<b>237,126</b>	<b>208,850</b>	<b>160,824</b>	<b>13,075</b>	<b>28,537</b>	<b>648,412</b>

**Table 40 Total expenditures in the natural sciences, by department or agency and activity, 2009/2010 preliminary**

Department or agency	Research & development					Related scientific activities					Total
	Current	AEP <sup>1</sup>	Capital	Education support	Technical surveys	Information services	Special services & studies	Museum services	AEP <sup>1</sup>	Capital	
thousands of dollars											
Advanced Education & Technology											
Technology Commercialization Division	6,000	200	-	-	-	11,300	-	-	400	-	17,900
University Research and Strategic Investments Branch	19,800	861	-	-	-	-	-	-	-	-	20,661
Alberta Energy Research Institute	18,965	2,664	-	-	-	-	837	-	130	-	22,596
Alberta ICT Institute	11,500	190	-	-	-	-	50	-	20	70	11,830
Life Sciences Branch	19,843	2,283	-	-	-	-	95	-	-	-	22,221
Alberta Research Council Inc.	97,956	-	1,661	-	-	-	11,036	-	-	326	110,979
iCORE Inc.	9,788	1,735	-	-	-	-	-	-	-	-	11,523
Alberta Heritage Foundation for Medical Research	74,321	2,696	-	-	-	252	1,285	-	-	-	78,554
Alberta Ingenuity Fund	51,327	5,995	150	-	-	-	-	-	-	-	57,472
<b>Total Advanced Education &amp; Technology</b>	<b>309,500</b>	<b>16,624</b>	<b>1,811</b>	-	-	<b>11,552</b>	<b>13,303</b>	-	<b>550</b>	<b>396</b>	<b>353,736</b>
Agriculture and Rural Development	19,733	-	-	-	1,649	14,020	824	-	-	-	36,226
Culture and Community Spirit	-	-	-	-	-	-	-	2,768	-	-	2,768
Energy	125,000	1,500	-	-	-	-	-	-	-	-	126,500
Environment	14,169	1,417	-	-	13,636	1,004	11,646	-	1,001	1,421	44,294
Health and Wellness	7,400	-	-	-	-	-	5,375	-	78	-	12,853
Infrastructure	150	-	13,608	-	4,275	150	-	-	-	-	18,183
Municipal Affairs	-	-	-	-	-	-	5	-	7	-	12
Sustainable Resource Development	3,172	146	-	103	32,580	1,277	1,253	-	2,073	76	40,680
Tourism, Parks and Recreation	-	-	-	-	372	-	-	-	-	-	372
Transportation	926	270	-	-	9,476	-	1,872	-	-	244	12,788
<b>Total</b>	<b>480,050</b>	<b>19,957</b>	<b>15,419</b>	<b>103</b>	<b>61,988</b>	<b>28,003</b>	<b>34,278</b>	<b>2,768</b>	<b>3,709</b>	<b>2,137</b>	<b>648,412</b>

1. Administration of extramural programs

**Table 41 Total expenditures on R&D in the natural sciences, by Department or agency and performing sector, 2009/2010 preliminary**

Department or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Other	Total
thousands of dollars						
Advanced Education & Technology						
Technology Commercialization Division	200	-	6,000	-	-	<b>6,200</b>
University Research and Strategic Investments Branch	861	-	19,300	-	500	<b>20,661</b>
Alberta Energy Research Institute	2,664	16,986	1,979	-	-	<b>21,629</b>
Alberta ICT Institute	190	11,500	-	-	-	<b>11,690</b>
Life Sciences Branch	2,283	8,163	3,883	-	7,797	<b>22,126</b>
Alberta Research Council Inc.	99,617	-	-	-	-	<b>99,617</b>
iCORE Inc.	1,735	-	9,788	-	-	<b>11,523</b>
Alberta Heritage Foundation for Medical Research	2,696	1,778	71,843	700	-	<b>77,017</b>
Alberta Ingenuity Fund	6,145	6,900	44,427	-	-	<b>57,472</b>
<b>Total Advanced Education &amp; Technology</b>	<b>116,391</b>	<b>45,327</b>	<b>157,220</b>	<b>700</b>	<b>8,297</b>	<b>327,935</b>
Agriculture and Rural Development	19,733	-	-	-	-	<b>19,733</b>
Energy	1,500	125,000	-	-	-	<b>126,500</b>
Environment	1,417	174	1,666	-	12,329	<b>15,586</b>
Health and Wellness	-	-	100	7,300	-	<b>7,400</b>
Infrastructure	13,758	-	-	-	-	<b>13,758</b>
Sustainable Resource Development	1,004	615	1,072	-	627	<b>3,318</b>
Transportation	370	826	-	-	-	<b>1,196</b>
<b>Total</b>	<b>154,173</b>	<b>171,942</b>	<b>160,058</b>	<b>8,000</b>	<b>21,253</b>	<b>515,426</b>

**Table 42.1 Personnel engaged in the natural sciences, by Department or agency and activities, 2009/2010 preliminary — Intramural scientific activities**

Department or agency	Scientific & professional		Technical		Other		Total	
	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities
	full-time equivalent							
Advanced Education & Technology								
Post-Secondary Excellence Division	-	-	-	-	-	-	-	-
Research Division	-	-	-	-	-	-	-	-
Technology Commercialization Division	-	-	-	-	-	-	-	-
University Research and Strategic Investments Branch	-	-	-	-	-	-	-	-
Alberta Energy Research Institute	-	-	-	-	-	-	-	-
Alberta ICT Institute	-	1.0	-	-	-	-	-	1.0
Life Sciences Branch	-	-	-	-	-	-	-	-
Alberta Research Council Inc.	195.0	9.0	141.0	40.0	192.0	19.0	528.0	68.0
iCORE Inc.	-	-	-	-	-	-	-	-
Alberta Heritage Foundation for Medical Research	-	9.0	-	-	-	-	-	9.0
Alberta Ingenuity Fund	-	-	-	-	-	-	-	-
<b>Total Advanced Education &amp; Technology</b>	<b>195.0</b>	<b>19.0</b>	<b>141.0</b>	<b>40.0</b>	<b>192.0</b>	<b>19.0</b>	<b>528.0</b>	<b>78.0</b>
Agriculture and Rural Development	53.5	50.1	98.9	101.6	-	-	152.4	151.7
Children and Youth Services	-	-	-	-	-	-	-	-
Culture and Community Spirit	-	30.9	-	-	-	-	-	30.9
Education	-	-	-	-	-	-	-	-
Employment and Immigration	-	-	-	-	-	-	-	-
Energy	-	-	-	-	-	-	-	-
Environment	-	13.0	-	21.4	-	46.0	-	80.4
Finance and Enterprise	-	-	-	-	-	-	-	-
Health and Wellness	-	-	-	-	-	-	-	-
Housing and Urban Affairs	-	-	-	-	-	-	-	-
Infrastructure	2.5	12.0	-	-	-	-	2.5	12.0
Justice	-	-	-	-	-	-	-	-
Municipal Affairs	-	-	-	-	-	-	-	-
Seniors and Community Supports	-	-	-	-	-	-	-	-
Solicitor General and Public Security	-	-	-	-	-	-	-	-
Sustainable Resource Development	8.1	107.1	0.8	66.6	0.5	9.0	9.4	182.7
Tourism, Parks and Recreation	-	5.0	-	-	-	-	-	5.0
Transportation	1.0	7.8	-	11.0	-	-	1.0	18.8
<b>Total</b>	<b>260.1</b>	<b>244.9</b>	<b>240.7</b>	<b>240.6</b>	<b>192.5</b>	<b>74.0</b>	<b>693.3</b>	<b>559.5</b>

**Table 42.2 Personnel engaged in the natural sciences, by Department or agency and activities, 2009/2010 preliminary — Administration of extramural programs**

Department or agency	Scientific & professional		Technical		Other		Total	
	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities
	full-time equivalent							
Advanced Education & Technology	-	-	-	-	-	-	-	-
Post-Secondary Excellence Division	-	-	-	-	-	-	-	-
Research Division	-	-	-	-	-	-	-	-
Technology Commercialization Division	2.0	4.0	-	-	-	-	2.0	4.0
University Research and Strategic Investments Branch	4.0	-	3.0	-	-	-	7.0	-
Alberta Energy Research Institute	8.6	-	-	1.0	5.5	-	14.1	1.0
Alberta ICT Institute	1.5	0.5	-	-	0.5	-	2.0	0.5
Life Sciences Branch	6.0	-	2.0	-	3.0	-	11.0	-
Alberta Research Council Inc.	-	-	-	-	-	-	-	-
iCORE Inc.	2.0	-	-	-	5.0	-	7.0	-
Alberta Heritage Foundation for Medical Research	-	-	4.0	-	26.0	-	30.0	-
Alberta Ingenuity Fund	8.0	-	12.0	-	10.0	-	30.0	-
<b>Total Advanced Education &amp; Technology</b>	<b>32.1</b>	<b>4.5</b>	<b>21.0</b>	<b>1.0</b>	<b>50.0</b>	<b>-</b>	<b>103.1</b>	<b>5.5</b>
Agriculture and Rural Development	-	-	-	-	-	-	-	-
Children and Youth Services	-	-	-	-	-	-	-	-
Culture and Community Spirit Education	-	-	-	-	-	-	-	-
Employment and Immigration	-	-	-	-	-	-	-	-
Energy	14.0	-	1.0	-	-	-	15.0	-
Environment	2.0	1.0	2.0	3.0	4.0	6.0	8.0	10.0
Finance and Enterprise	-	-	-	-	-	-	-	-
Health and Wellness	-	0.8	-	0.1	-	-	-	0.9
Housing and Urban Affairs	-	-	-	-	-	-	-	-
Infrastructure	-	-	-	-	-	-	-	-
Justice	-	-	-	-	-	-	-	-
Municipal Affairs	-	0.1	-	-	-	-	-	0.1
Seniors and Community Supports	-	-	-	-	-	-	-	-
Solicitor General and Public Security	-	-	-	-	-	-	-	-
Sustainable Resource Development	1.4	16.6	-	4.5	0.2	5.0	1.6	26.1
Tourism, Parks and Recreation	-	-	-	-	-	-	-	-
Transportation	2.9	2.6	-	1.0	-	-	2.9	3.6
<b>Total</b>	<b>52.4</b>	<b>25.6</b>	<b>24.0</b>	<b>9.6</b>	<b>54.2</b>	<b>11.0</b>	<b>130.6</b>	<b>46.2</b>

**Table 42.3 Personnel engaged in the natural sciences, by Department or agency and activities, 2009/2010 preliminary —  
Total scientific activities**

Department or agency	Scientific & professional		Technical		Other		Total	
	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities
	full-time equivalent							
Advanced Education & Technology								
Post-Secondary Excellence Division	-	-	-	-	-	-	-	-
Research Division	-	-	-	-	-	-	-	-
Technology Commercialization Division	2.0	4.0	-	-	-	-	2.0	4.0
University Research and Strategic Investments Branch	4.0	-	3.0	-	-	-	7.0	-
Alberta Energy Research Institute	8.6	-	-	1.0	5.5	-	14.1	1.0
Alberta ICT Institute	1.5	1.5	-	-	0.5	-	2.0	1.5
Life Sciences Branch	6.0	-	2.0	-	3.0	-	11.0	-
Alberta Research Council Inc.	195.0	9.0	141.0	40.0	192.0	19.0	528.0	68.0
iCORE Inc.	2.0	-	-	-	5.0	-	7.0	-
Alberta Heritage Foundation for Medical Research	-	9.0	4.0	-	26.0	-	30.0	9.0
Alberta Ingenuity Fund	8.0	-	12.0	-	10.0	-	30.0	-
<b>Total Advanced Education &amp; Technology</b>	<b>227.1</b>	<b>23.5</b>	<b>162.0</b>	<b>41.0</b>	<b>242.0</b>	<b>19.0</b>	<b>631.1</b>	<b>83.5</b>
Agriculture and Rural Development	53.5	50.1	98.9	101.6	-	-	152.4	151.7
Children and Youth Services	-	-	-	-	-	-	-	-
Culture and Community Spirit Education	-	30.9	-	-	-	-	-	30.9
Employment and Immigration	-	-	-	-	-	-	-	-
Energy	14.0	-	1.0	-	-	-	15.0	-
Environment	2.0	14.0	2.0	24.4	4.0	52.0	8.0	90.4
Finance and Enterprise	-	-	-	-	-	-	-	-
Health and Wellness	-	0.8	-	0.1	-	-	-	0.9
Housing and Urban Affairs	-	-	-	-	-	-	-	-
Infrastructure	2.5	12.0	-	-	-	-	2.5	12.0
Justice	-	-	-	-	-	-	-	-
Municipal Affairs	-	0.1	-	-	-	-	-	0.1
Seniors and Community Supports	-	-	-	-	-	-	-	-
Solicitor General and Public Security	-	-	-	-	-	-	-	-
Sustainable Resource Development	9.5	123.7	0.8	71.1	0.7	14.0	11.0	208.8
Tourism, Parks and Recreation	-	5.0	-	-	-	-	-	5.0
Transportation	3.9	10.4	-	12.0	-	-	3.9	22.4
<b>Total</b>	<b>312.5</b>	<b>270.5</b>	<b>264.7</b>	<b>250.2</b>	<b>246.7</b>	<b>85.0</b>	<b>823.9</b>	<b>605.7</b>

**Table 43 Objectives of expenditures in the natural sciences, by Department or agency, 2009/2010 preliminary**

Department or agency	Exploration and exploitation of the earth	Infrastructure and general planning of land use			Control and care of the environment	Protection and improvement of human health	Production distribution and rational utilization of energy	Agriculture production and technology
		Transportation systems	Telecommunications systems	Other				
thousands of dollars								
Advanced Education & Technology								
Post-Secondary Excellence Division	-	-	-	-	-	-	-	-
Research Division	-	-	-	-	-	-	-	-
Technology Commercialization Division	-	-	-	-	-	3,100	-	-
University Research and Strategic Investments Branch	-	-	-	-	-	-	-	-
Alberta Energy Research Institute	4,572	-	-	-	280	-	14,290	-
Alberta ICT Institute	-	-	1,500	2,000	-	-	-	-
Life Sciences Branch	-	-	-	-	-	440	-	4,834
Alberta Research Council Inc.	-	-	-	-	20,456	6,926	42,881	5,848
iCORE Inc.	-	-	-	-	-	-	-	-
Alberta Heritage Foundation for Medical Research	-	-	-	-	-	78,554	-	-
Alberta Ingenuity Fund	-	-	-	-	-	-	-	-
<b>Total Advanced Education &amp; Technology</b>	<b>4,572</b>	<b>-</b>	<b>1,500</b>	<b>2,000</b>	<b>20,736</b>	<b>89,020</b>	<b>57,171</b>	<b>10,682</b>
Agriculture and Rural Development	-	-	-	-	-	-	-	36,226
Children and Youth Services	-	-	-	-	-	-	-	-
Culture and Community Spirit	-	-	-	-	-	-	-	-
Education	-	-	-	-	-	-	-	-
Employment and Immigration	-	-	-	-	-	-	-	-
Energy	-	-	-	-	101,100	-	25,400	-
Environment	-	-	-	-	44,294	-	-	-
Finance and Enterprise	-	-	-	-	-	-	-	-
Health and Wellness	-	-	-	-	-	12,853	-	-
Housing and Urban Affairs	-	-	-	-	-	-	-	-
Infrastructure	-	-	-	18,183	-	-	-	-
Justice	-	-	-	-	-	-	-	-
Municipal Affairs	-	-	-	12	-	-	-	-
Seniors and Community Supports	-	-	-	-	-	-	-	-
Solicitor General and Public Security	-	-	-	-	-	-	-	-
Sustainable Resource Development	10,535	-	-	651	18,475	-	-	-
Tourism, Parks and Recreation	-	-	-	-	372	-	-	-
Transportation	-	12,788	-	-	-	-	-	-
<b>Total</b>	<b>15,107</b>	<b>12,788</b>	<b>1,500</b>	<b>20,846</b>	<b>184,977</b>	<b>101,873</b>	<b>82,571</b>	<b>46,908</b>

**Table 43 Objectives of expenditures in the natural sciences, by Department or agency, 2009/2010 preliminary** (continued)

Department or agency	Fishing	Forestry	Industrial production and technology	Social structure and relationships	Exploration and exploitation of space	Basic research	Other civil research	Total
thousands of dollars								
Advanced Education & Technology								
Post-Secondary Excellence Division	-	-	-	-	-	-	-	-
Research Division	-	-	-	-	-	-	-	-
Technology Commercialization Division	-	-	14,800	-	-	-	-	17,900
University Research and Strategic Investments Branch	-	-	-	-	-	20,661	-	20,661
Alberta Energy Research Institute	-	-	1,475	-	-	1,979	-	22,596
Alberta ICT Institute	-	-	-	-	-	1,000	7,330	11,830
Life Sciences Branch	-	12,764	-	-	-	4,183	-	22,221
Alberta Research Council Inc.	-	6,724	28,144	-	-	-	-	110,979
iCORE Inc.	-	-	-	-	-	11,523	-	11,523
Alberta Heritage Foundation for Medical Research	-	-	-	-	-	-	-	78,554
Alberta Ingenuity Fund	-	-	6,900	-	-	50,572	-	57,472
<b>Total Advanced Education &amp; Technology</b>	-	<b>19,488</b>	<b>51,319</b>	-	-	<b>89,918</b>	<b>7,330</b>	<b>53,736</b>
Agriculture and Rural Development	-	-	-	-	-	-	-	36,226
Children and Youth Services	-	-	-	-	-	-	-	-
Culture and Community Spirit	-	-	-	2,768	-	-	-	2,768
Education	-	-	-	-	-	-	-	-
Employment and Immigration	-	-	-	-	-	-	-	-
Energy	-	-	-	-	-	-	-	126,500
Environment	-	-	-	-	-	-	-	44,294
Finance and Enterprise	-	-	-	-	-	-	-	-
Health and Wellness	-	-	-	-	-	-	-	12,853
Housing and Urban Affairs	-	-	-	-	-	-	-	-
Infrastructure	-	-	-	-	-	-	-	18,183
Justice	-	-	-	-	-	-	-	-
Municipal Affairs	-	-	-	-	-	-	-	12
Seniors and Community Supports	-	-	-	-	-	-	-	-
Solicitor General and Public Security	-	-	-	-	-	-	-	-
Sustainable Resource Development	-	11,019	-	-	-	-	-	40,680
Tourism, Parks and Recreation	-	-	-	-	-	-	-	372
Transportation	-	-	-	-	-	-	-	12,788
<b>Total</b>	-	<b>30,507</b>	<b>51,319</b>	<b>2,768</b>	-	<b>89,918</b>	<b>7,330</b>	<b>648,412</b>

**Table 44 Objectives of expenditures in the natural sciences, by activity, 2009/2010 preliminary**

Objectives	Intramural		Extramural		Total
	Research and development	Related scientific activities	Research and development	Related scientific activities	
	thousands of dollars				
Exploration and exploitation of the earth	-	4,400	3,975	6,732	<b>15,107</b>
Infrastructure and general planning of land use					
Transportation systems	370	3,680	826	7,912	<b>12,788</b>
Telecommunications systems	-	-	1,500	-	<b>1,500</b>
Other	13,767	4,860	2,040	179	<b>20,846</b>
Control and care of the environment	15,359	41,216	114,707	13,695	<b>184,977</b>
Protection and improvement of human health	10,102	1,615	84,721	5,435	<b>101,873</b>
Production, distribution and rational utilization of energy	42,287	3,788	36,256	240	<b>82,571</b>
Agricultural production and technology	26,342	16,493	4,058	15	<b>46,908</b>
Fishing	-	-	-	-	-
Forestry	8,390	3,593	13,999	4,525	<b>30,507</b>
Industrial production and technology	28,244	400	11,375	11,300	<b>51,319</b>
Social structure and relationships	-	2,768	-	-	<b>2,768</b>
Exploration and exploitation of space	-	-	-	-	-
Basic research	9,122	-	80,796	-	<b>89,918</b>
Other civil research	190	140	7,000	-	<b>7,330</b>
<b>Total</b>	<b>154,173</b>	<b>82,953</b>	<b>361,253</b>	<b>50,033</b>	<b>648,412</b>



**Statistical tables**

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**Social sciences**

**Table 45 Total expenditures in the social sciences and humanities, by activity, 2004/2005 to 2009/2010 preliminary**

Activity	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010 <sup>P</sup>
	thousands of dollars					
<b>Research and Development (R&amp;D)</b>						
<b>Current expenditures:</b>						
In-house R&D	-	-	197	1,121	192	254
R&D contracts	60	120	1,934	1,461	1,477	739
R&D grants and contributions	11,422	7,816	8,243	11,663	12,824	10,536
Research fellowships	-	-	-	-	-	-
Administration of extramural R&D	-	179	364	531	508	428
<b>Sub-total current R&amp;D</b>	<b>11,482</b>	<b>8,115</b>	<b>10,738</b>	<b>14,776</b>	<b>15,001</b>	<b>11,957</b>
Capital expenditures	-	-	1	1	-	-
<b>Total R&amp;D</b>	<b>11,482</b>	<b>8,115</b>	<b>10,739</b>	<b>14,777</b>	<b>15,001</b>	<b>11,957</b>
<b>Related scientific activities (RSA)</b>						
Current expenditures	18,749	14,819	18,525	66,946	50,545	44,348
Administration of extramural RSA	2,354	1,981	1,843	1,690	2,028	1,749
<b>Sub-total current RSA</b>	<b>21,103</b>	<b>16,800</b>	<b>20,368</b>	<b>68,636</b>	<b>52,573</b>	<b>46,097</b>
Capital expenditures	25	20	109	21	1,812	1,682
<b>Total RSA</b>	<b>21,128</b>	<b>16,820</b>	<b>20,477</b>	<b>68,657</b>	<b>54,385</b>	<b>47,779</b>
<b>Total</b>	<b>32,610</b>	<b>24,935</b>	<b>31,216</b>	<b>83,434</b>	<b>69,386</b>	<b>59,736</b>

**Table 46 Total expenditures in the social sciences and humanities, by Department or agency, 2004/2005 to 2009/2010 preliminary**

Department or agency	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010 <sup>P</sup>
	thousands of dollars					
Aboriginal Affairs and Northern Development	126	101	...	...	...	...
Advanced Education	657	497	...	...	...	...
<b>Advanced Education &amp; Technology</b>						
Post-Secondary Excellence Division	...	...	...	...	449	95
Research Division	...	...	...	282	282	...
Policy and Planning Branch	...	...	327	855	...	...
<b>Total Advanced Education &amp; Technology</b>	...	...	<b>327</b>	<b>855</b>	<b>731</b>	<b>377</b>
<b>Children and Youth Services</b>	...	...	...	5,135	5,170	3,200
Children's Services	1,979	2,253	4,179	...	...	...
Community Development	540	505	...	...	...	...
Culture and Community Spirit	...	...	...	...	1,632	1,514
Economic Development	1,075	2,315	...	...	...	...
<b>Education</b>	493	473	3,241	25,748	35,440	34,365
<b>Employment and Immigration</b>	...	...	...	2,333	2,733	2,303
Employment, Immigration and Industry	...	...	3,185	...	...	...
<b>Energy</b>	227	100	...	...	...	...
<b>Environment</b>	...	...	1,029	4,111	1,065	1,065
Finance	570	590	565	...	...	...
<b>Finance and Enterprise</b>	...	...	...	710	595	675
Gaming	1,560	1,725	...	...	...	...
<b>Health and Wellness</b>	19,694	11,546	12,308	37,067	16,474	12,214
<b>Housing and Urban Affairs</b>	...	...	...	...	365	178
Human Resources and Employment	2,011	1,701	...	...	...	...
Innovation and Science	1,440	54	...	...	...	...
<b>Justice</b>	...	...	...	...	2,014	1,949
Justice and Attorney General	1,423	1,557	1,591	1,699	...	...
<b>Municipal Affairs</b>	...	...	...	44	...	...
Municipal Affairs and Housing	...	...	45	...	...	...
<b>Seniors and Community Supports</b>	613	418	434	3,873	1,127	417
Solicitor General	202	...	...	...	...	...
<b>Solicitor General and Public Security</b>	...	1,100	2,709	808	897	601
<b>Sustainable Resource Development</b>	...	...	...	64	35	70
<b>Tourism, Parks and Recreation</b>	...	...	...	987	1,108	808
Tourism, Parks, Recreation and Culture	...	...	1,603	...	...	...
<b>Total</b>	<b>32,610</b>	<b>24,935</b>	<b>31,216</b>	<b>83,434</b>	<b>69,386</b>	<b>59,736</b>

**Note(s):** Departments shaded in grey are the active departments reporting scientific and technological activities. The following current departments did not report any scientific and technological activities: Aboriginal Relations; Executive Council; International, Intergovernmental Relations and Urban Affairs; Service Alberta and Treasury Board.

<b>Table 47 Total expenditures in the social sciences and humanities, by performing sector, 2004/2005 to 2009/2010 preliminary</b>						
Performing sector	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010 <sup>P</sup>
	thousands of dollars					
Intramural	6,914	6,418	8,275	27,321	31,181	29,511
Business Enterprise	4,253	2,433	3,845	5,813	4,647	3,302
Higher Education	4,288	5,976	7,747	1,467	888	1,485
Hospitals and Health organizations	6,643	1,854	1,745	38,199	15,782	10,363
Other	10,512	8,254	9,604	10,634	16,888	15,075
<b>Total</b>	<b>32,610</b>	<b>24,935</b>	<b>31,216</b>	<b>83,434</b>	<b>69,386</b>	<b>59,736</b>

<b>Table 48 Total expenditures on R&amp;D, in the social sciences and humanities, by performing sector, 2004/2005 to 2009/2010 preliminary</b>						
Performing sector	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010 <sup>P</sup>
	thousands of dollars					
Intramural	-	179	562	2,125	800	682
Business Enterprise	1,335	-	8	866	888	688
Higher Education	2,058	3,114	5,667	902	162	637
Hospitals and Health organizations	6,093	54	340	6,561	5,235	3,600
Other	1,996	4,768	4,162	4,323	7,916	6,350
<b>Total</b>	<b>11,482</b>	<b>8,115</b>	<b>10,739</b>	<b>14,777</b>	<b>15,001</b>	<b>11,957</b>

<b>Table 49 Total expenditures on R&amp;D, in the social sciences and humanities, by Department or agency, 2004/2005 to 2009/2010 preliminary</b>						
Department or agency	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010 <sup>P</sup>
	thousands of dollars					
Children and Youth Services	...	...	...	4,326	4,361	2,800
Children's Services	1,295	2,150	4,076	...	...	...
Community Development	40	5	...	...	...	...
Education	...	...	...	2,391	4,182	4,165
Environment	...	...	367	112	64	64
Gaming	1,560	1,620	...	...	...	...
Health and Wellness	8,454	4,340	4,417	4,571	5,092	4,370
Housing and Urban Affairs	...	...	...	...	187	...
Justice	...	...	...	...	58	...
Justice and Attorney General	...	...	41	57	...	...
Seniors and Community Supports	133	...	43	3,165	741	196
Solicitor General and Public Security	...	...	1,795	91	301	292
Sustainable Resource Development	...	...	...	64	15	70
<b>Total</b>	<b>11,482</b>	<b>8,115</b>	<b>10,739</b>	<b>14,777</b>	<b>15,001</b>	<b>11,957</b>

**Note(s):** Departments shaded in grey are the active departments reporting scientific and technological activities. The following current departments did not report any scientific and technological activities: Aboriginal Relations; Executive Council; International, Intergovernmental Relations and Urban Affairs; Service Alberta and Treasury Board.

**Table 50 Personnel engaged in the social sciences and humanities, by activity and category, 2004/2005 to 2009/2010 preliminary**

Activity and category	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010 <sup>P</sup>
	full-time equivalent					
<b>Research and development (R&amp;D):</b>						
Scientific and Professional	0.0	0.0	2.3	8.2	1.8	1.0
Technical	0.0	0.0	0.0	3.6	0.0	0.0
Other	0.0	0.0	0.5	0.9	0.0	0.0
Sub-total	0.0	0.0	2.8	12.7	1.8	1.0
<b>Administration of extramural R&amp;D programs</b>						
Scientific and Professional	0.0	1.4	4.9	4.5	4.8	5.2
Technical	0.0	0.0	0.2	0.4	0.0	0.0
Other	0.0	0.0	0.0	0.4	0.0	0.0
Sub-total	0.0	1.4	5.1	5.3	4.8	5.2
Total R&D personnel	0.0	1.4	7.9	18.0	6.6	6.2
<b>Related scientific activities intramural (RSA):</b>						
Scientific and Professional	28.0	36.2	66.9	72.2	94.8	93.7
Technical	1.0	1.0	1.5	7.0	15.3	15.3
Other	1.0	1.0	0.0	59.7	63.8	63.8
Sub-total	30.0	38.2	68.4	138.9	173.9	172.8
<b>Administration of extramural RSA programs</b>						
Scientific and Professional	33.0	29.5	20.9	14.3	16.7	14.8
Technical	6.0	0.2	0.2	2.7	3.5	3.5
Other	3.0	3.6	7.6	2.6	1.5	1.5
Sub-total	42.0	33.3	28.7	19.6	21.7	19.8
Total RSA personnel	72.0	71.5	97.1	158.5	195.6	192.6
<b>Total science activities</b>						
Scientific and Professional	61.0	67.1	95.0	99.2	118.1	114.7
Technical	7.0	1.2	1.9	13.7	18.8	18.8
Other	4.0	4.6	8.1	63.6	65.3	65.3
<b>Total scientific personnel</b>	<b>72.0</b>	<b>72.9</b>	<b>105.0</b>	<b>176.5</b>	<b>202.2</b>	<b>198.8</b>

**Table 51 Total expenditures in the social sciences and humanities, by Department or agency and source of funds, 2008/2009**

Department or agency	Departmental budget	Transfers from other departments or agencies	Transfers from federal governments	From trust funds	From business enterprises	From other sources	Total
thousands of dollars							
Advanced Education & Technology							
Post-Secondary Excellence Division	449	-	-	-	-	-	449
Research Division	282	-	-	-	-	-	282
<b>Total Advanced Education &amp; Technology</b>	<b>731</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>731</b>
Children and Youth Services	5,170	-	-	-	-	-	5,170
Culture and Community Spirit	1,632	-	-	-	-	-	1,632
Education	35,440	-	-	-	-	-	35,440
Employment and Immigration	2,321	75	337	-	-	-	2,733
Environment	1,065	-	-	-	-	-	1,065
Finance and Enterprise	595	-	-	-	-	-	595
Health and Wellness	16,474	-	-	-	-	-	16,474
Housing and Urban Affairs	365	-	-	-	-	-	365
Justice	2,014	-	-	-	-	-	2,014
Seniors and Community Supports	1,127	-	-	-	-	-	1,127
Solicitor General and Public Security	897	-	-	-	-	-	897
Sustainable Resource Development	35	-	-	-	-	-	35
Tourism, Parks and Recreation	1,108	-	-	-	-	-	1,108
<b>Total</b>	<b>68,974</b>	<b>75</b>	<b>337</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>69,386</b>

**Table 52 Total expenditures in the social sciences and humanities, by activity and performing sector, 2008/2009**

Activity	Intramural	Business Enterprises	Higher education	Hospitals and health organizations	Other	Total
thousands of dollars						
<b>Research and Development (R&amp;D)</b>						
Current expenditures:						
In-house R&D	192	...	...	...	...	<b>192</b>
R&D contracts	100	888	-	489	-	<b>1,477</b>
R&D grants and contributions	...	-	162	4,746	7,916	<b>12,824</b>
Research fellowships	-	-	-	-	-	<b>-</b>
Administration of extramural R&D	508	...	...	...	...	<b>508</b>
Sub-total current R&D	800	888	162	5,235	7,916	<b>15,001</b>
Capital expenditures	-	...	...	...	...	<b>-</b>
<b>Total R&amp;D</b>	<b>800</b>	<b>888</b>	<b>162</b>	<b>5,235</b>	<b>7,916</b>	<b>15,001</b>
<b>Related scientific activities (RSA)</b>						
Current expenditures	26,541	3,759	726	10,547	8,972	<b>50,545</b>
Administration of extramural RSA	2,028	...	...	...	...	<b>2,028</b>
Sub-total current RSA	28,569	3,759	726	10,547	8,972	<b>52,573</b>
Capital expenditures	1,812	...	...	...	...	<b>1,812</b>
<b>Total RSA</b>	<b>30,381</b>	<b>3,759</b>	<b>726</b>	<b>10,547</b>	<b>8,972</b>	<b>54,385</b>
<b>Total</b>	<b>31,181</b>	<b>4,647</b>	<b>888</b>	<b>15,782</b>	<b>16,888</b>	<b>69,386</b>

**Table 53 Total expenditures in the social sciences and humanities, by Department or agency and performing sector, 2008/2009**

Department or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Other	Total
thousands of dollars						
Advanced Education & Technology						
Post-Secondary Excellence Division	46	403	-	-	-	449
Research Division	32	250	-	-	-	282
<b>Total Advanced Education &amp; Technology</b>	<b>78</b>	<b>653</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>731</b>
Children and Youth Services	909	35	-	-	4,226	5,170
Culture and Community Spirit	1,005	-	-	-	627	1,632
Education	22,576	1,184	548	-	11,132	35,440
Employment and Immigration	1,125	1,237	-	-	371	2,733
Environment	997	68	-	-	-	1,065
Finance and Enterprise	595	-	-	-	-	595
Health and Wellness	850	-	340	15,284	-	16,474
Housing and Urban Affairs	298	67	-	-	-	365
Justice	1,504	52	-	-	458	2,014
Seniors and Community Supports	225	398	-	498	6	1,127
Solicitor General and Public Security	703	194	-	-	-	897
Sustainable Resource Development	-	15	-	-	20	35
Tourism, Parks and Recreation	316	744	-	-	48	1,108
<b>Total</b>	<b>31,181</b>	<b>4,647</b>	<b>888</b>	<b>15,782</b>	<b>16,888</b>	<b>69,386</b>

**Table 54 Total expenditures in the social sciences and humanities, by Department or agency and activity, 2008/2009**

Department or agency	Research and development			Related scientific activities			Total
	Current	AEP <sup>1</sup>	Capital	Current	AEP <sup>1</sup>	Capital	
thousands of dollars							
Advanced Education & Technology							
Post-Secondary Excellence Division	-	-	-	409	40	-	449
Research Division	-	-	-	272	10	-	282
<b>Total Advanced Education &amp; Technology</b>	-	-	-	<b>681</b>	<b>50</b>	-	<b>731</b>
Children and Youth Services	4,261	100	-	809	-	-	5,170
Culture and Community Spirit	-	-	-	1,632	-	-	1,632
Education	4,110	72	-	28,254	1,224	1,780	35,440
Employment and Immigration	-	-	-	2,170	563	-	2,733
Environment	58	6	-	993	1	7	1,065
Finance and Enterprise	-	-	-	570	-	25	595
Health and Wellness	4,908	184	-	11,231	151	-	16,474
Housing and Urban Affairs	187	-	-	178	-	-	365
Justice	58	-	-	1,956	-	-	2,014
Seniors and Community Supports	611	130	-	347	39	-	1,127
Solicitor General and Public Security	285	16	-	596	-	-	897
Sustainable Resource Development	15	-	-	20	-	-	35
Tourism, Parks and Recreation	-	-	-	1,108	-	-	1,108
<b>Total</b>	<b>14,493</b>	<b>508</b>	-	<b>50,545</b>	<b>2,028</b>	<b>1,812</b>	<b>69,386</b>

1. Administration of extramural programs

**Table 55 Total expenditures on R&D in the social sciences and humanities, by Department or agency and performing sector, 2008/2009**

Department or agency	Intramural	Business Enterprises	Higher education	Hospitals and health organizations	Other	Total
thousands of dollars						
Children and Youth Services	100	35	-	-	4,226	4,361
Education	72	478	-	-	3,632	4,182
Environment	6	58	-	-	-	64
Health and Wellness	184	-	162	4,746	-	5,092
Housing and Urban Affairs	120	67	-	-	-	187
Justice	-	-	-	-	58	58
Seniors and Community Supports	130	122	-	489	-	741
Solicitor General and Public Security	188	113	-	-	-	301
Sustainable Resource Development	-	15	-	-	-	15
<b>Total</b>	<b>800</b>	<b>888</b>	<b>162</b>	<b>5,235</b>	<b>7,916</b>	<b>15,001</b>

**Table 56 Intramural expenditures in the social sciences and humanities, by Department or agency and type of expenditure, 2008/2009**

Department or agency	Current expenditures		Capital expenditures	Total
	Personnel costs	Other costs		
thousands of dollars				
Advanced Education & Technology				
Post-Secondary Excellence Division	46	-	-	46
Research Division	32	-	-	32
<b>Total Advanced Education &amp; Technology</b>	<b>78</b>	<b>-</b>	<b>-</b>	<b>78</b>
Children and Youth Services	450	459	-	909
Culture and Community Spirit	804	201	-	1,005
Education	18,607	2,189	1,780	22,576
Employment and Immigration	900	225	-	1,125
Environment	551	439	7	997
Finance and Enterprise	570	-	25	595
Health and Wellness	850	-	-	850
Housing and Urban Affairs	298	-	-	298
Justice	1,504	-	-	1,504
Seniors and Community Supports	117	108	-	225
Solicitor General and Public Security	703	-	-	703
Tourism, Parks and Recreation	271	45	-	316
<b>Total</b>	<b>25,703</b>	<b>3,666</b>	<b>1,812</b>	<b>31,181</b>

**Table 57.1 Personnel engaged in the social sciences and humanities, by Department or agency and activities, 2008/2009— Intramural scientific activities**

Department or agency	Scientific & professional		Technical		Other		Total	
	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities
	full-time equivalent							
Advanced Education & Technology								
Post-Secondary Excellence Division	-	0.1	-	-	-	-	-	<b>0.1</b>
Research Division	-	0.2	-	-	-	-	-	<b>0.2</b>
<b>Total Advanced Education &amp; Technology</b>	-	<b>0.3</b>	-	-	-	-	-	<b>0.3</b>
Agriculture and Rural Development	-	-	-	-	-	-	-	-
Children and Youth Services	-	3.0	-	-	-	-	-	<b>3.0</b>
Culture and Community Spirit	-	15.0	-	-	-	-	-	<b>15.0</b>
Education	-	26.5	-	14.0	-	59.5	-	<b>100.0</b>
Employment and Immigration	-	7.5	-	-	-	-	-	<b>7.5</b>
Energy	-	-	-	-	-	-	-	-
Environment	-	1.7	-	0.1	-	3.2	-	<b>5.0</b>
Finance and Enterprise	-	6.0	-	1.0	-	-	-	<b>7.0</b>
Health and Wellness	-	6.8	-	0.2	-	0.5	-	<b>7.5</b>
Housing and Urban Affairs	0.9	2.3	-	-	-	0.6	<b>0.9</b>	<b>2.9</b>
Infrastructure	-	-	-	-	-	-	-	-
Justice	-	16.2	-	-	-	-	-	<b>16.2</b>
Municipal Affairs	-	-	-	-	-	-	-	-
Seniors and Community Supports	-	0.7	-	-	-	-	-	<b>0.7</b>
Solicitor General and Public Security	0.9	5.8	-	-	-	-	<b>0.9</b>	<b>5.8</b>
Sustainable Resource Development	-	-	-	-	-	-	-	-
Tourism, Parks and Recreation	-	3.0	-	-	-	-	-	<b>3.0</b>
Transportation	-	-	-	-	-	-	-	-
<b>Total</b>	<b>1.8</b>	<b>94.8</b>	<b>-</b>	<b>15.3</b>	<b>-</b>	<b>63.8</b>	<b>1.8</b>	<b>173.9</b>

**Table 57.2 Personnel engaged in the social sciences and humanities, by Department or agency and activities, 2008/2009—  
Administration of extramural programs**

Department or agency	Scientific & professional		Technical		Other		Total	
	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities
	full-time equivalent							
Advanced Education & Technology								
Post-Secondary Excellence Division	-	0.7	-	-	-	-	-	<b>0.7</b>
Research Division	-	0.1	-	-	-	-	-	<b>0.1</b>
<b>Total Advanced Education &amp; Technology</b>	-	<b>0.8</b>	-	-	-	-	-	<b>0.8</b>
Agriculture and Rural Development	-	-	-	-	-	-	-	-
Children and Youth Services	1.0	-	-	-	-	-	<b>1.0</b>	-
Culture and Community Spirit	-	-	-	-	-	-	-	-
Education	0.7	5.5	-	3.5	-	1.5	<b>0.7</b>	<b>10.5</b>
Employment and Immigration	-	7.5	-	-	-	-	-	<b>7.5</b>
Energy	-	-	-	-	-	-	-	-
Environment	-	-	-	-	-	-	-	-
Finance and Enterprise	-	-	-	-	-	-	-	-
Health and Wellness	2.6	2.6	-	-	-	-	<b>2.6</b>	<b>2.6</b>
Housing and Urban Affairs	-	-	-	-	-	-	-	-
Infrastructure	-	-	-	-	-	-	-	-
Justice	-	-	-	-	-	-	-	-
Municipal Affairs	-	-	-	-	-	-	-	-
Seniors and Community Supports	0.3	0.3	-	-	-	-	<b>0.3</b>	<b>0.3</b>
Solicitor General and Public Security	0.2	-	-	-	-	-	<b>0.2</b>	-
Sustainable Resource Development	-	-	-	-	-	-	-	-
Tourism, Parks and Recreation	-	-	-	-	-	-	-	-
Transportation	-	-	-	-	-	-	-	-
<b>Total</b>	<b>4.8</b>	<b>16.7</b>	-	<b>3.5</b>	-	<b>1.5</b>	<b>4.8</b>	<b>21.7</b>

**Table 57.3 Personnel engaged in the social sciences and humanities, by Department or agency and activities, 2008/2009 — Total scientific activities**

Department or agency	Scientific & professional		Technical		Other		Total	
	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities
	full-time equivalent							
Advanced Education & Technology								
Post-Secondary Excellence Division	-	0.8	-	-	-	-	-	<b>0.8</b>
Research Division	-	0.3	-	-	-	-	-	<b>0.3</b>
<b>Total Advanced Education &amp; Technology</b>	-	<b>1.1</b>	-	-	-	-	-	<b>1.1</b>
Agriculture and Rural Development	-	-	-	-	-	-	-	-
Children and Youth Services	1.0	3.0	-	-	-	-	<b>1.0</b>	<b>3.0</b>
Culture and Community Spirit	-	15.0	-	-	-	-	-	<b>15.0</b>
Education	0.7	32.0	-	17.5	-	61.0	<b>0.7</b>	<b>110.5</b>
Employment and Immigration	-	15.0	-	-	-	-	-	<b>15.0</b>
Energy	-	-	-	-	-	-	-	-
Environment	-	1.7	-	0.1	-	3.2	-	<b>5.0</b>
Finance and Enterprise	-	6.0	-	1.0	-	-	-	<b>7.0</b>
Health and Wellness	2.6	9.4	-	0.2	-	0.5	<b>2.6</b>	<b>10.1</b>
Housing and Urban Affairs	0.9	2.3	-	-	-	0.6	<b>0.9</b>	<b>2.9</b>
Infrastructure	-	-	-	-	-	-	-	-
Justice	-	16.2	-	-	-	-	-	<b>16.2</b>
Municipal Affairs	-	-	-	-	-	-	-	-
Seniors and Community Supports	0.3	1.0	-	-	-	-	<b>0.3</b>	<b>1.0</b>
Solicitor General and Public Security	1.1	5.8	-	-	-	-	<b>1.1</b>	<b>5.8</b>
Sustainable Resource Development	-	-	-	-	-	-	-	-
Tourism, Parks and Recreation	-	3.0	-	-	-	-	-	<b>3.0</b>
Transportation	-	-	-	-	-	-	-	-
<b>Total</b>	<b>6.6</b>	<b>111.5</b>	-	<b>18.8</b>	-	<b>65.3</b>	<b>6.6</b>	<b>195.6</b>

**Table 58 Objectives of expenditures in the social sciences and humanities, by Department or agency, 2008/2009**

Department or agency	Exploration and exploitation of the earth	Infrastructure and general planning of land use			Control and care of the environment	Protection and improvement of human health	Production distribution and rational utilization of energy	Agriculture production and technology
		Transportation systems	Telecommunications systems	Other				
thousands of dollars								
Advanced Education & Technology								
Post-Secondary Excellence								
Division	-	-	-	-	-	-	-	-
Research Division	-	-	-	-	-	-	-	-
<b>Total Advanced Education &amp; Technology</b>	-	-	-	-	-	-	-	-
Agriculture and Rural Development	-	-	-	-	-	-	-	-
Children and Youth Services	-	-	-	-	-	-	-	-
Culture and Community Spirit	-	-	-	-	-	-	-	-
Education	-	-	-	-	-	-	-	-
Employment and Immigration	-	-	-	-	-	-	-	-
Energy	-	-	-	-	-	-	-	-
Environment	-	-	-	-	-	1,065	-	-
Finance and Enterprise	-	-	-	-	-	-	-	-
Health and Wellness	-	-	-	-	-	16,474	-	-
Housing and Urban Affairs	-	-	-	-	-	-	-	-
Infrastructure	-	-	-	-	-	-	-	-
Justice	-	-	-	-	-	-	-	-
Municipal Affairs	-	-	-	-	-	-	-	-
Seniors and Community Supports	-	-	-	-	-	131	-	-
Solicitor General and Public Security	-	-	-	13	-	-	-	-
Sustainable Resource Development	-	-	-	15	20	-	-	-
Tourism, Parks and Recreation	-	-	-	-	37	-	-	-
Transportation	-	-	-	-	-	-	-	-
<b>Total</b>	-	-	-	<b>28</b>	<b>57</b>	<b>17,670</b>	-	-

**Table 58 Objectives of expenditures in the social sciences and humanities, by Department or agency, 2008/2009** (continued)

Department or agency	Fishing	Forestry	Industrial production and technology	Social structure and relationships	Exploration and exploitation of space	Basic research	Other civil research	Total
thousands of dollars								
Advanced Education & Technology								
Post-Secondary Excellence Division	-	-	-	449	-	-	-	449
Research Division	-	-	-	282	-	-	-	282
<b>Total Advanced Education &amp; Technology</b>	-	-	-	<b>731</b>	-	-	-	<b>731</b>
Agriculture and Rural Development	-	-	-	-	-	-	-	-
Children and Youth Services	-	-	-	5,170	-	-	-	5,170
Culture and Community Spirit	-	-	-	1,632	-	-	-	1,632
Education	-	-	-	35,440	-	-	-	35,440
Employment and Immigration	-	-	-	2,733	-	-	-	2,733
Energy	-	-	-	-	-	-	-	-
Environment	-	-	-	-	-	-	-	1,065
Finance and Enterprise	-	-	-	-	-	595	-	595
Health and Wellness	-	-	-	-	-	-	-	16,474
Housing and Urban Affairs	-	-	-	365	-	-	-	365
Infrastructure	-	-	-	-	-	-	-	-
Justice	-	-	-	2,014	-	-	-	2,014
Municipal Affairs	-	-	-	-	-	-	-	-
Seniors and Community Supports	-	-	-	996	-	-	-	1,127
Solicitor General and Public Security	-	-	-	754	-	130	-	897
Sustainable Resource Development	-	-	-	-	-	-	-	35
Tourism, Parks and Recreation	-	-	-	-	-	-	1,071	1,108
Transportation	-	-	-	-	-	-	-	-
<b>Total</b>	-	-	-	<b>49,835</b>	-	<b>725</b>	<b>1,071</b>	<b>69,386</b>

**Table 59 Objectives of expenditures in the social sciences and humanities, by activity, 2008/2009**

Objective	Intramural		Extramural		Total
	Research and development	Related scientific activities	Research and development	Related scientific activities	
thousands of dollars					
Exploration and exploitation of the earth	-	-	-	-	-
Infrastructure and general planning of land use					
Transportation systems	-	-	-	-	-
Telecommunications systems	-	-	-	-	-
Other	-	13	15	-	28
Control and care of the environment	-	-	-	57	57
Protection and improvement of human health	190	1,666	5,048	10,766	17,670
Production, distribution and rational utilization of energy	-	-	-	-	-
Agricultural production and technology	-	-	-	-	-
Fishing	-	-	-	-	-
Forestry	-	-	-	-	-
Industrial production and technology	-	-	-	-	-
Social structure and relationships	480	27,791	9,138	12,426	49,835
Exploration and exploitation of space	-	-	-	-	-
Basic research	130	595	-	-	725
Other civil research	-	316	-	755	1,071
<b>Total</b>	<b>800</b>	<b>30,381</b>	<b>14,201</b>	<b>24,004</b>	<b>69,386</b>

**Table 60 Total expenditures in the social sciences and humanities, by activity and performing sector, 2009/2010 preliminary**

Activity	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Other	Total
thousands of dollars						
<b>Research and Development (R&amp;D)</b>						
Current expenditures:						
In-house R&D	254	...	...	...	...	254
R&D contracts	-	688	26	25	-	739
R&D grants and contributions	...	-	611	3,575	6,350	10,536
Research fellowships	-	-	-	-	-	-
Administration of extramural R&D	428	...	...	...	...	428
Sub-total current R&D	682	688	637	3,600	6,350	11,957
Capital expenditures	-	...	...	...	...	-
<b>Total R&amp;D</b>	<b>682</b>	<b>688</b>	<b>637</b>	<b>3,600</b>	<b>6,350</b>	<b>11,957</b>
<b>Related scientific activities (RSA)</b>						
Current expenditures	25,398	2,614	848	6,763	8,725	44,348
Administration of extramural RSA	1,749	...	...	...	...	1,749
Sub-total current RSA	27,147	2,614	848	6,763	8,725	46,097
Capital expenditures	1,682	...	...	...	...	1,682
<b>Total RSA</b>	<b>28,829</b>	<b>2,614</b>	<b>848</b>	<b>6,763</b>	<b>8,725</b>	<b>47,779</b>
<b>Total</b>	<b>29,511</b>	<b>3,302</b>	<b>1,485</b>	<b>10,363</b>	<b>15,075</b>	<b>59,736</b>

**Table 61 Total expenditures in the social sciences and humanities, by Department or agency and performing sector, 2009/2010 preliminary**

Department or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Other	Total
thousands of dollars						
Advanced Education & Technology						
Post-Secondary Excellence Division	95	-	-	-	-	<b>95</b>
Research Division	32	250	-	-	-	<b>250</b>
<b>Total Advanced Education &amp; Technology</b>	<b>127</b>	<b>250</b>	-	-	-	<b>377</b>
Children and Youth Services	500	-	-	-	2,700	<b>3,200</b>
Culture and Community Spirit	911	-	-	-	603	<b>1,514</b>
Education	21,815	1,100	550	-	10,900	<b>34,365</b>
Employment and Immigration	975	957	-	-	371	<b>2,303</b>
Environment	997	68	-	-	-	<b>1,065</b>
Finance and Enterprise	595	80	-	-	-	<b>675</b>
Health and Wellness	976	-	909	10,329	-	<b>12,214</b>
Housing and Urban Affairs	178	-	-	-	-	<b>178</b>
Justice	1,504	45	-	-	400	<b>1,949</b>
Seniors and Community Supports	179	178	26	34	-	<b>417</b>
Solicitor General and Public Security	483	118	-	-	-	<b>601</b>
Sustainable Resource Development	-	70	-	-	-	<b>70</b>
Tourism, Parks and Recreation	271	436	-	-	101	<b>808</b>
<b>Total</b>	<b>29,511</b>	<b>3,302</b>	<b>1,485</b>	<b>10,363</b>	<b>15,075</b>	<b>59,736</b>

<b>Table 62 Total expenditures in the social sciences and humanities, by Department or agency and activity, 2009/2010 preliminary</b>							
Department or agency	Research and development			Related scientific activities			Total
	Current	AEP <sup>1</sup>	Capital	Current	AEP <sup>1</sup>	Capital	
thousands of dollars							
Advanced Education & Technology							
Post-Secondary Excellence Division	-	-	-	95	-	-	95
Research Division	-	-	-	272	10	-	282
<b>Total Advanced Education &amp; Technology</b>	-	-	-	<b>367</b>	<b>10</b>	-	<b>377</b>
Children and Youth Services	2,700	100	-	400	-	-	3,200
Culture and Community Spirit	-	-	-	1,514	-	-	1,514
Education	4,100	65	-	27,450	1,100	1,650	34,365
Employment and Immigration	-	-	-	1,816	487	-	2,303
Environment	58	6	-	993	1	7	1,065
Finance and Enterprise	-	-	-	650	-	25	675
Health and Wellness	4,186	184	-	7,693	151	-	12,214
Housing and Urban Affairs	-	-	-	178	-	-	178
Justice	-	-	-	1,949	-	-	1,949
Seniors and Community Supports	131	65	-	221	-	-	417
Solicitor General and Public Security	284	8	-	309	-	-	601
Sustainable Resource Development	70	-	-	-	-	-	70
Tourism, Parks and Recreation	-	-	-	808	-	-	808
<b>Total</b>	<b>11,529</b>	<b>428</b>	<b>-</b>	<b>44,348</b>	<b>1,749</b>	<b>1,682</b>	<b>59,736</b>

1. Administration of extramural programs

<b>Table 63 Total expenditures on R&amp;D in the social sciences and humanities, by Department or agency and performing sector, 2009/2010 preliminary</b>						
Department or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	Other	Total
Children and Youth Services	100	-	-	-	2,700	2,800
Education	65	450	-	-	3,650	4,165
Environment	6	58	-	-	-	64
Health and Wellness	184	-	611	3,575	-	4,370
Seniors and Community Supports	135	10	26	25	-	196
Solicitor General and Public Security	192	100	-	-	-	292
Sustainable Resource Development	-	70	-	-	-	70
<b>Total</b>	<b>682</b>	<b>688</b>	<b>637</b>	<b>3,600</b>	<b>6,350</b>	<b>11,957</b>

**Table 64.1 Personnel engaged in the social sciences and humanities, by Department or agency and activities, 2009/2010 preliminary  
— Intramural scientific activities**

Department or agency	Scientific & professional		Technical		Other		Total	
	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities
full-time equivalent								
Advanced Education & Technology								
Post-Secondary Excellence Division	-	0.7	-	-	-	-	-	<b>0.7</b>
Research Division	-	0.1	-	-	-	-	-	<b>0.1</b>
<b>Total Advanced Education &amp; Technology</b>	-	<b>0.8</b>	-	-	-	-	-	<b>0.8</b>
Agriculture and Rural Development	-	-	-	-	-	-	-	-
Children and Youth Services	-	4.0	-	-	-	-	-	<b>4.0</b>
Culture and Community Spirit	-	13.0	-	-	-	-	-	<b>13.0</b>
Education	-	26.5	-	14.0	-	59.5	-	<b>100.0</b>
Employment and Immigration	-	6.5	-	-	-	-	-	<b>6.5</b>
Energy	-	-	-	-	-	-	-	-
Environment	-	1.7	-	0.1	-	3.2	-	<b>5.0</b>
Finance and Enterprise	-	6.0	-	1.0	-	-	-	<b>7.0</b>
Health and Wellness	-	7.6	-	0.2	-	0.5	-	<b>8.3</b>
Housing and Urban Affairs	-	2.3	-	-	-	0.6	-	<b>2.9</b>
Infrastructure	-	-	-	-	-	-	-	-
Justice	-	16.2	-	-	-	-	-	<b>16.2</b>
Municipal Affairs	-	-	-	-	-	-	-	-
Seniors and Community Supports	0.7	0.7	-	-	-	-	<b>0.7</b>	<b>0.7</b>
Solicitor General and Public Security	0.3	5.4	-	-	-	-	<b>0.3</b>	<b>5.4</b>
Sustainable Resource Development	-	-	-	-	-	-	-	-
Tourism, Parks and Recreation	-	3.0	-	-	-	-	-	<b>3.0</b>
Transportation	-	-	-	-	-	-	-	-
<b>Total</b>	<b>1.09</b>	<b>3.7</b>	-	<b>15.3</b>	-	<b>63.8</b>	<b>1.0</b>	<b>172.8</b>

**Table 64.2 Personnel engaged in the social sciences and humanities, by Department or agency and activities, 2009/2010 preliminary — Administration of extramural programs**

Department or agency	Scientific & professional		Technical		Other		Total	
	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities
full-time equivalent								
Advanced Education & Technology								
Post-Secondary Excellence Division	-	-	-	-	-	-	-	-
Research Division	-	0.2	-	-	-	-	-	0.2
<b>Total Advanced Education &amp; Technology</b>	-	<b>0.2</b>	-	-	-	-	-	<b>0.2</b>
Agriculture and Rural Development	-	-	-	-	-	-	-	-
Children and Youth Services	1.0	-	-	-	-	-	1.0	-
Culture and Community Spirit	-	-	-	-	-	-	-	-
Education	0.7	5.5	-	3.5	-	1.5	0.7	10.5
Employment and Immigration	-	6.5	-	-	-	-	-	6.5
Energy	-	-	-	-	-	-	-	-
Environment	-	-	-	-	-	-	-	-
Finance and Enterprise	-	-	-	-	-	-	-	-
Health and Wellness	2.6	2.6	-	-	-	-	2.6	2.6
Housing and Urban Affairs	-	-	-	-	-	-	-	-
Infrastructure	-	-	-	-	-	-	-	-
Justice	-	-	-	-	-	-	-	-
Municipal Affairs	-	-	-	-	-	-	-	-
Seniors and Community Supports	0.9	-	-	-	-	-	0.9	-
Solicitor General and Public Security	-	-	-	-	-	-	-	-
Sustainable Resource Development	-	-	-	-	-	-	-	-
Tourism, Parks and Recreation	-	-	-	-	-	-	-	-
Transportation	-	-	-	-	-	-	-	-
<b>Total</b>	<b>5.2</b>	<b>14.8</b>	<b>-</b>	<b>3.5</b>	<b>-</b>	<b>1.5</b>	<b>5.2</b>	<b>19.8</b>

**Table 64.3 Personnel engaged in the social sciences and humanities, by Department or agency and activities, 2009/2010 preliminary**  
**— Total scientific activities**

Department or agency	Scientific & professional		Technical		Other		Total	
	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities	Research and development	Related scientific activities
	full-time equivalent							
Advanced Education & Technology								
Post-Secondary Excellence Division	-	0.7	-	-	-	-	-	<b>0.7</b>
Research Division	-	0.3	-	-	-	-	-	<b>0.3</b>
Technology Commercialization Division	-	-	-	-	-	-	-	-
University Research and Strategic Investments Branch	-	-	-	-	-	-	-	-
Alberta Energy Research Institute	-	-	-	-	-	-	-	-
Alberta ICT Institute	-	-	-	-	-	-	-	-
Life Sciences Branch	-	-	-	-	-	-	-	-
Alberta Research Council Inc.	-	-	-	-	-	-	-	-
iCORE Inc.	-	-	-	-	-	-	-	-
Alberta Heritage Foundation for Medical Research	-	-	-	-	-	-	-	-
Alberta Ingenuity Fund	-	-	-	-	-	-	-	-
<b>Total Advanced Education &amp; Technology</b>	-	<b>1.0</b>	-	-	-	-	-	<b>1.0</b>
Agriculture and Rural Development	-	-	-	-	-	-	-	-
Children and Youth Services	1.0	4.0	-	-	-	-	<b>1.0</b>	<b>4.0</b>
Culture and Community Spirit	-	13.0	-	-	-	-	-	<b>13.0</b>
Education	0.7	32.0	-	17.5	-	61.0	<b>0.7</b>	<b>110.5</b>
Employment and Immigration	-	13.0	-	-	-	-	-	<b>13.0</b>
Energy	-	-	-	-	-	-	-	-
Environment	-	1.7	-	0.1	-	3.2	-	<b>5.0</b>
Finance and Enterprise	-	6.0	-	1.0	-	-	-	<b>7.0</b>
Health and Wellness	2.6	10.2	-	0.2	-	0.5	<b>2.6</b>	<b>10.9</b>
Housing and Urban Affairs	-	2.3	-	-	-	0.6	-	<b>2.9</b>
Infrastructure	-	-	-	-	-	-	-	-
Justice	-	16.2	-	-	-	-	-	<b>16.2</b>
Municipal Affairs	-	-	-	-	-	-	-	-
Seniors and Community Supports	1.6	0.7	-	-	-	-	<b>1.6</b>	<b>0.7</b>
Solicitor General and Public Security	0.3	5.4	-	-	-	-	<b>0.3</b>	<b>5.4</b>
Sustainable Resource Development	-	-	-	-	-	-	-	-
Tourism, Parks and Recreation	-	3.0	-	-	-	-	-	<b>3.0</b>
Transportation	-	-	-	-	-	-	-	-
<b>Total</b>	<b>6.2</b>	<b>108.5</b>	-	<b>18.8</b>	-	<b>65.3</b>	<b>6.2</b>	<b>192.6</b>

**Table 65 Objectives of expenditures in the social sciences and humanities, by Department or agency, 2009/2010 preliminary**

Department or agency	Exploration and exploitation of the earth	Infrastructure and general planning of land use			Control and care of the environment	Protection and improvement of human health	Production distribution and rational utilization of energy	Agriculture production and technology
		Transportation systems	Telecommunications systems	Other				
thousands of dollars								
Advanced Education & Technology								
Post-Secondary Excellence Division	-	-	-	-	-	-	-	-
Research Division	-	-	-	-	-	-	-	-
<b>Total Advanced Education &amp; Technology</b>	-	-	-	-	-	-	-	-
Agriculture and Rural Development	-	-	-	-	-	-	-	-
Children and Youth Services	-	-	-	-	-	-	-	-
Culture and Community Spirit	-	-	-	-	-	-	-	-
Education	-	-	-	-	-	-	-	-
Employment and Immigration	-	-	-	-	-	-	-	-
Energy	-	-	-	-	-	-	-	-
Environment	-	-	-	-	-	1,065	-	-
Finance and Enterprise	-	-	-	-	-	-	-	-
Health and Wellness	-	-	-	-	-	12,214	-	-
Housing and Urban Affairs	-	-	-	-	-	-	-	-
Infrastructure	-	-	-	-	-	-	-	-
Justice	-	-	-	-	-	-	-	-
Municipal Affairs	-	-	-	-	-	-	-	-
Seniors and Community Supports	-	-	-	-	-	147	-	-
Solicitor General and Public Security	-	-	-	-	-	-	-	-
Sustainable Resource Development	-	-	-	70	-	-	-	-
Tourism, Parks and Recreation	-	-	-	-	37	-	-	-
Transportation	-	-	-	-	-	-	-	-
<b>Total</b>	-	-	-	<b>70</b>	<b>37</b>	<b>13,426</b>	-	-

<b>Table 65 Objectives of expenditures in the social sciences and humanities, by Department or agency, 2009/2010 preliminary</b> (continued)								
Department or agency	Fishing	Forestry	Industrial production and technology	Social structure and relationships	Exploration and exploitation of space	Basic research	Other civil research	<b>Total</b>
thousands of dollars								
Advanced Education & Technology Post-Secondary Excellence Division	-	-	-	95	-	-	-	<b>95</b>
Research Division	-	-	-	282	-	-	-	<b>282</b>
<b>Total Advanced Education &amp; Technology</b>	-	-	-	<b>377</b>	-	-	-	<b>377</b>
Agriculture and Rural Development	-	-	-	-	-	-	-	-
Children and Youth Services	-	-	-	3,200	-	-	-	<b>3,200</b>
Culture and Community Spirit Education	-	-	-	-	1,514	-	-	<b>1,514</b>
Employment and Immigration	-	-	-	34,365	-	-	-	<b>34,365</b>
Energy	-	-	-	2,303	-	-	-	<b>2,303</b>
Environment	-	-	-	-	-	-	-	-
Finance and Enterprise	-	-	-	-	-	675	-	<b>675</b>
Health and Wellness	-	-	-	-	-	-	-	<b>12,214</b>
Housing and Urban Affairs	-	-	-	178	-	-	-	<b>178</b>
Infrastructure	-	-	-	-	-	-	-	-
Justice	-	-	-	1,949	-	-	-	<b>1,949</b>
Municipal Affairs	-	-	-	-	-	-	-	-
Seniors and Community Supports	-	-	-	270	-	-	-	<b>417</b>
Solicitor General and Public Security	-	-	-	597	-	4	-	<b>601</b>
Sustainable Resource Development	-	-	-	-	-	-	-	<b>70</b>
Tourism, Parks and Recreation	-	-	-	-	-	-	771	<b>808</b>
Transportation	-	-	-	-	-	-	-	-
<b>Total</b>	-	-	-	<b>43,239</b>	<b>1,514</b>	<b>679</b>	<b>771</b>	<b>59,736</b>

**Table 66 Objectives of expenditures in the social sciences and humanities, by activity, 2009/2010 preliminary**

Objectives	Intramural		Extramural		Total
	Research and development	Related scientific activities	Research and development	Related scientific activities	
thousands of dollars					
Exploration and exploitation of the earth	-	-	-	-	-
Infrastructure and general planning of land use					
Transportation systems	-	-	-	-	-
Telecommunications systems	-	-	-	-	-
Other	-	-	70	-	70
Control and care of the environment	-	-	-	37	37
Protection and improvement of human health	305	1,795	4,264	7,062	13,426
Production, distribution and rational utilization of energy	-	-	-	-	-
Agricultural production and technology	-	-	-	-	-
Fishing	-	-	-	-	-
Forestry	-	-	-	-	-
Industrial production and technology	-	-	-	-	-
Social structure and relationships	373	25,257	6,941	10,668	43,239
Exploration and exploitation of space	-	911	-	603	1,514
Basic research	4	595	-	80	679
Other civil research	-	271	-	500	771
<b>Total</b>	<b>682</b>	<b>28,829</b>	<b>11,275</b>	<b>18,950</b>	<b>59,736</b>

## The Respondents

The following Alberta government Departments and agencies are currently involved in scientific activities. The persons named for each department, coordinate the reporting of scientific expenditures. We wish to thank the coordinators and those assisting them for their time and efforts in providing these statistics.

### Advanced Education and Technology (AET)

Co-ordinator: Dale Miles  
dale.miles@gov.ab.ca

Tel. (780) 422-0280  
Fax (780) 415-9823

In 2008/2009, the Department of Advanced Education and Technology was the largest contributor of scientific activities in Alberta, representing 55.3% (\$344.2 million) of the Province's total scientific expenditures. This shows a 12.6% increase over the previous year's total S&T expenditures. Natural sciences amounted for \$343.5 million (99.8%) of the department's total scientific activities, of which 91.8% (\$315.2 million) was invested in research and development (R&D). Overall, AET accounted for 77.4% of the province's total R&D in 2008/2009.

### Alberta Research Council Inc

Co-ordinator: James Rogan  
james.rogan@arc.ab.ca

Tel. (780) 450-5258  
Fax (780) 450-1590

Alberta Research Council Inc represented \$113.7 million or 33.1% of AET'S total scientific expenditures. All activities were in the natural sciences, conducted intramurally, with \$103.8 million invested in R&D. Programs included research on renewable energy, industrial materials, forest products, sensors engineering, ecosystem health; waste management, resource utilization, agriculture, nutraceuticals, pharmaceuticals and other projects.

### Alberta Heritage Foundation for Medical Research (AHFMR)

Co-ordinator: Wendy Knight  
wendy.knight@ahfmr.ab.ca

Tel. (780) 429-6881  
Fax (780) 429-3509

Alberta Heritage Foundation for Medical Research spent \$72.3 million, or 21.0% of the AET'S total expenditures on S&T. All AHFMR's activities were related to health research, in the natural sciences. Ninety-seven percent of the expenditures (\$70.1 million) were invested in R&D. Extramural expenditures accounted for \$67.6 million, with the higher education sector receiving 92.6% of the funds.

### Alberta Ingenuity Fund

Co-ordinator: Brian Alguire  
brian.alguire@albertaingenuity.ca

Tel. (780) 429-7665  
Fax (780) 420-0018

Alberta Ingenuity Fund accounted for 13.6% (\$46.7 million) of AET'S scientific expenditures, a 27.8% increase over 2007/2008. All activities were R&D in the natural sciences, on projects including the nanoWorks program, of which 86.5% were performed extramurally. The higher education sector received most of the investment.

### Alberta Energy Research Institute

Co-ordinator: Alice Barr  
alice.barr@gov.ab.ca

Tel. (403) 297-8650  
Fax (403) 297-3638

Alberta Energy Research Institute invested in the natural sciences, representing 7.7% (\$26.5 million) of AET'S total science expenditures. The data showed a 44.8% decrease from the previous year's expenditures, primarily attributed to the completion of funding to projects in Energy Innovation Program. Overall, R&D accounted for 94.2% (\$24.9 million) of the Institute's 2008/2009 scientific activities, of which \$22.6 million was invested extramurally, with business enterprise sector receiving the most (90.4%).

### Life Sciences Branch

Co-ordinator: Jacquie Browne  
jacquie.browne@gov.ab.ca

Tel. (780) 422-8870  
Fax (780) 427-3252

Life Sciences Branch invested \$18.9 million in the natural sciences, 99.8% accounting for R&D. Eighty-nine percent of the R&D were extramural, performed by business enterprise sector, higher education and other organizations. The branch's overall

expenditures in science showed 86.9% increase over its S&T investment in 2007/2008. Activities were in life sciences including agriculture and forestry bioproducts, biotechnologies, medical devices, and other programs.

**Technology Commercialization Division**

Co-ordinator: Wendy Lomas  
wendy.lomas@gov.ab.ca

Tel. (780) 422-1414  
Fax (780) 427-5924

Technology Commercialization Division reported expenditures in the natural sciences, accounting for 6.3% (\$21.5 million) of AET'S 2008/2009 expenditures in science. The Division showed a 142.7% increase over the previous year, due to large investment directed at Alberta's Action Plan: *Bringing Technology to Market Program*.

Related scientific activities (RSA) accounted for 64.0% (\$13.8 million) of the S&T expenditures, of which 98.2% was payment to performers in the business enterprise sector. R&D represented 36.0% (\$7.8 million) of the total S&T, with 83.9% invested in the higher education sector.

**iCORE Inc**

Co-ordinator: Terry Ross  
ross@icore.ca

Tel. (403) 210-5218  
Fax (403) 210-5337

iCORE Inc invested \$12.8 million in R&D in the natural sciences, with 88.9% of the expenditures going to the higher education sector. Basic research was the major objective of the expenditures.

**University Research and Strategic Investments**

Co-ordinator: Marilyn Johnstone  
marilyn.johnstone@gov.ab.ca

Tel. (780) 422-4762  
Fax (780) 427-1430

University Research and Strategic Investment reported expenditures of \$21.7 million, an increase by 88.7% over the previous year. The increased investment from 2007/2008 is mainly attributable to funding program competition cycles, including the Alberta Science and Research Investments Program (ASRIP). R&D accounted for 100% of the activities, which were related to supporting basic research. The higher education sector received 93.7% of the total investment.

**ICT Institute**

Co-ordinator: Lisa Batey  
Lisa.batey@gov.ab.ca

Tel. (780) 427-6611  
Fax (780) 427-5924

ICT Institute's 2008/2009 expenditures in the natural sciences amounted to \$9.1 million. Ninety-one percent of the activities were in R&D, with the business enterprise sector receiving most of the investment. The Institute's overall expenditures represented a 189.0% increase from the previous year, mainly due to additional R&D funding towards Integrated Resource Management, Cyberinfrastructure and other programs.

**Research Division**

Co-ordinator: Dale Miles  
dale.miles@gov.ab.ca

Tel. (780) 422-0280  
Fax (780) 415-9823

Research Division's 2008/2009 expenditures included activities in the social sciences (\$282.0 thousands). All activities were RSA, of which 88.6% was invested extramurally, to support studies on Technology Commercialization Entity, to assess research funding for graduate students and postdoctoral fellows; to support the outcomes of Alberta's research and innovation system, to develop data collection methodology and to support other related scientific activities.

**Post-secondary Excellence Division**

Co-ordinator: Roya Damabi  
roya.dambi@gov.ab.ca

Tel. (780) 415-9821  
Fax (780) 427-0266

Post-secondary Excellence Division reported expenditures in the social sciences (\$449 thousands), with 89.7% invested extramurally. Activities included surveys on graduate outcomes, public satisfaction, employer satisfaction, student finance client satisfaction, and other related projects.

**Agriculture and Rural Development**

Co-ordinator: Mafiz Khan  
mafiz.khan@gov.ab.ca

Tel. (780) 422-6573  
Fax (780) 422-3655

Agriculture and Rural Development invested in the natural sciences, accounting for 5.8% of Alberta's 2008/2009 total expenditures in science. R&D represented 54.5% of the department's scientific activities, including research on crop diversification, pest management, livestock development, and environmental stewardship, among others. The remaining 45.5% comprised RSA, involving data analysis, products and processes evaluation, feasibility studies on market and business, as well as evaluation of food safety testing methods and other related activities.

### **Children and Youth Services**

Co-ordinator: Sandi Darrell  
sandi.darrell@gov.ab.ca

Tel. (780) 422-1516  
Fax (780) 415-5841

Children and Youth Services expenditures were in the social sciences, for a total of \$5.2 millions. R&D accounted for \$4.4 million, of which 97.7% was invested in extramural activities, including academic and lab research to support programs and services of children and youth. The department invested in intramural RSA (\$809 thousands) with focus on statistical surveys, analysis and information services related to policy and Journal review, as well as research evaluation.

### **Culture and Community Spirit**

Co-ordinator: Stephen Siu  
stephen.siu@gov.ab.ca

Tel. (780) 431-2352  
Fax (780) 427-5598

Culture and Community Spirit invested a total of \$4.3 million. All activities were RSA, involving museum services. Expenditures in the natural sciences represented \$2.7 million while the social sciences accounted for the remaining \$1.6 million. The large increase in the 2008/2009 S&T was mainly due to the inclusion of social sciences data in the survey.

### **Education**

Co-ordinator: Janusz Zieminski  
Janusz.Zieminski@gov.ab.ca

Tel. (780) 415-2446  
Fax (780) 422-0880

The Department of Education dedicated \$35.4 million in the social sciences. Intramural RSA accounted for 63.5% (\$22.5 million) while R&D represented \$4.2 million, of which 98.3% was invested extramurally. Overall, the department's 2008/2009 science expenditures showed a 37.6% increase from the previous year. The changes are attributed to the department's improved methodology in providing survey data.

### **Employment and Immigration**

Co-ordinator: Frank Testin  
frank.testin@gov.ab.ca

Tel. (780) 415-0564  
Fax (780) 422-5070

Employment and Immigration spent \$2.7 million in RSA. Extramural investments accounted for 58.8%, with the business enterprise sector receiving the most. Activities included a summative evaluation of the Occupational Training Program, an onsite client survey at 40 information centres, statistical analyses of workplace injuries and illnesses, and studies on training program outcomes for client groups including Aboriginal persons, immigrants, persons with disabilities and youth. In 2008/2009, the department's expenditures represented a 17.1% increase from the previous year, mainly due to funding projects that are only conducted every two or three years.

### **Energy**

Co-ordinator: Geoff Pearson  
geoffrey.pearson@gov.ab.ca

Tel. (780) 422-9139  
Fax (780) 427-0865

The Department of Energy invested \$24.5 million in R&D including innovative energy technologies programs, of which 98.4% was a payment to performers in the business enterprise sector. The department's total expenditures showed a 7.2% increase from 2007/2008 (\$22.9 million). In 2008/2009, Energy was Alberta's second largest contributor of R&D, accounting for 6.0% of the province's investment in research and development.

### **Environment**

Co-ordinator: Prasad Valupadas  
prasad.valupadas@gov.ab.ca

Tel. (780) 427-8565  
Fax (780) 422-4192

The Department of Environment spent \$38.1 million in science and technology, of which 97.3% (\$38.0 million) was dedicated to activities in the natural sciences. R&D accounted for 24.5% (\$9.3 million) of the natural sciences, with \$8.5 million invested extramurally on programs related to climate change and emissions management programs. Additional funding towards these programs has resulted in a 64.0% increase from the previous year's R&D expenditures in the natural sciences (\$5.7 million).

Intramural activities accounted for 51.4 % (\$19.5 million) of the department's total S&T expenditures, of which 95.7% (\$18.7 million) was invested in RSA. Activities included technical surveys, information services and special services and studies.

Social sciences represented \$1.1 million of the department's total S&T expenditures which included the development of data collection programs, collection and validation of data sets and assessing data collection systems. Intramural RSA accounted for 92.3% (\$991.0 thousands) of the activities, while 5.4% (\$58.0 thousands) of the social sciences expenditures were dedicated to extramural R&D.

#### **Finance and Enterprise**

Co-ordinator: Bill Hyshka  
bill.hyshka@gov.ab.ca

Tel. (780) 427-8854  
Fax (780) 427-0409

Finance and Enterprise spent \$570.0 thousands in intramural RSA. Activities included the development of socio-economic statistical data on Alberta, and the construction and maintenance of statistical information system (ASIST Database) to provide research data for policy, planning and for business market purposes.

In 2008/2009, the department's extramural projects were undertaken by the Office of Statistics and Information (OSI) within Alberta Employment and Immigration. This transfer has resulted in a 16.2% decrease from the previous year's departmental S&T expenditures.

#### **Health and Wellness (AHW)**

Co-ordinator: Elizabeth Dufraigne  
elizabeth.dufraigne@gov.ab.ca

Tel. (780) 422-0423  
Fax (780) 422-2880

Health and Wellness invested \$31.9 million in total for both the natural sciences and the social sciences. Natural sciences represented 48.3% (\$15.4 million), of which \$9.4 million was dedicated to extramural R&D, with hospitals and health organizations receiving most of the research funding. The extramural investments included projects within the Alberta Cancer Board, AHFMR/AHW research initiative, research on sources of enteric viruses in Alberta watersheds (environmental risk indicators of water-transmitted diseases and assessment of their potential impact on human health); the development of ultra sensitive analytical technologies and cytotoxicity bioassay (for monitoring emerging contaminants and disinfection by-Products in drinking water), assessment of environmental neurotoxin, as well as other programs.

Expenditures in the social sciences accounted for the remaining 51.7% (\$16.4 million). Extramural activities accounted for \$15.6 million. RSA represented \$10.7 million of the extramural expenditures, while R&D comprised the remaining \$4.9 million. Hospitals and health organizations received most of the investment.

#### **Housing and Urban Affairs**

Co-ordinator: Zeenat Damani  
zeenat.damani@gov.ab.ca

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Housing and Urban Affairs invested \$365.0 thousands in the social sciences. R&D amounted to \$187.0 thousands, or 51.2% of the total S&T expenditures, with \$120.0 thousands dedicated to intramural activities. Extramural R&D accounted for \$67.0 thousands. All R&D activities included research to support Alberta's ten-year plan focused on a shift from managing to ending homelessness.

Intramural RSA comprised the remaining 48.8%. Activities included annual and semi-annual surveys for rural communities to provide demographics and essential housing information on private market vacancy and rental rates in multi-family dwellings in rural Alberta, as well as to assess demand for social housing accommodations throughout the province.

#### **Infrastructure**

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The Department of Infrastructure invested \$12.1 million in the natural sciences, an increase by 87.8% from 2007/2008. The increase was due to large R&D capital expenditures (\$8.0 million) towards expanding veterinary building, to replace incinerator and research greenhouses, as well as to support Alberta Agriculture, the Alberta Research Council, and other projects.

Intramural RSA expenditures accounted for \$ 4.0 million. Activities included technical surveys on facility evaluations, seniors housing condition assessments and climate change pilot projects.

**Justice**

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The Department of Justice spent \$2.0 million in the social sciences, an increase of 18.5% from 2007/2008. All activities were RSA, with 74.7% invested intramurally.

Activities included studies on issues impacting the justice system; public opinion survey; research on legislative policy, on Aboriginal and on environmental issues; statistics on Family Law Information Offices, Parenting After Separation seminars; statistics on volumes and case processing of the courts; facilitating the Long Term Crime Reduction and Prevention Strategy/Framework, and other related activities.

**Municipal Affairs**

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The Department of Municipal Affairs' total S&T expenditures amounted to \$165.0 thousands in the natural sciences. R&D spending accounted for \$47.0 thousands, of which 85.1% was invested in the higher education sector. R&D activities included projects to understand pathogen transport and survival in the subsurface, to improve the management of groundwater supplies and the risk of contamination; as well as to assess sewage treatment systems using an aquifer for treatment.

RSA represented \$118.0 thousands, with 82.2% going to extramural performers. Activities involved the evaluation of potential uses of reclaimed water in Alberta and to make recommendations for a potential management framework for the safe use of reclaimed water; the development of guidelines and training materials on rainwater harvesting systems, and pilot project to expand Model Process.

**Seniors and Community Supports**

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Seniors and Community Supports spent \$1.1 million in the social sciences, a 70.9% decrease from 2007/2008. The difference in S&T expenditures was due to a large R&D grant the department had given out the previous year.

Eighty percent (\$902.0 thousands) of the 2008/2009 expenditures were invested in extramural contracts, mainly with hospitals and health organization and the business enterprise sector. Extramural R&D accounted for 54.2% (\$611.0 thousands) of the total S&T, while extramural RSA represented 25.8% (\$291.0 thousands). Intramural activities comprised the remaining 20.0% (\$225.0 thousands), of which \$130,000 was spent on R&D.

RSA activities included information services and statistical surveys: compilation of census data for seniors and persons with disabilities, gathering and dissemination of information on implementation and evaluation of pilot projects relevant to the Persons with Developmental Disabilities (PDD) program and a satisfaction survey of Alberta Aids to Daily Living Clients.

R&D activities included the development of individualized approaches to achieving positive outcomes for PDD clients, a review of supportive living standards and a survey on what Albertans need and anticipate when they become seniors and how these needs should be met.

**Solicitor General and Public Security**

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The department of the Solicitor General and Public Security invested in the social sciences for a total of \$897.0 thousands, an increase of 11.0% from 2007/2008. Intramural activities accounted for 78.4% (\$703.0 thousands).

RSA represented \$596.0 thousands, of which 86.4% was invested in intramural studies undertaken by units within the public security division. R&D expenditures were \$301.0 thousands, with 62.5% performed intramurally. The remaining 37.5% of the R&D involved contract payments to the business enterprises sector. Activities included pilot programs and new R&D initiatives.

## **Sustainable Resource Development**

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In 2008/2009, Sustainable Resource Development spent \$68.8 million in S&T, representing 11.0% of the total provincial science expenditures. The department invested \$68.7 million in the natural sciences, of which 92.8% was dedicated to RSA. Social sciences accounted for \$35.0 thousands.

RSA expenditures (\$63.8 million) represented a 6.4% increase over 2007/2008. Extramural expenditures accounted for 56.9% (\$36.3 million) of the total RSA, with the business enterprise sector receiving most of the investment. Activities included special studies and services, information services, and technical surveys to support projects related to fish and wildlife, forestry, as well as land uses.

R&D comprised the remaining 7.2% (\$4.9 million) of the natural sciences expenditures, of which \$3.6 million was invested primarily in the higher education and business sectors. In 2008/2009, there were fewer extramural R&D investments compared to the previous fiscal year, thus resulting in 34.8% decrease. Research and development activities involved programs related to fish and wildlife, as well as forestry and land uses, including growth and yield research, applied tree improvement research, healthy landscapes, wet areas mapping initiative and other projects.

## **Tourism, Parks, and Recreation**

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Tourism, Parks, and Recreation spent \$1.5 million in total S&T in 2008/2009. RSA in the social sciences accounted for 74.4% (\$1.1 million) of the total expenditures. Natural sciences represented the remaining 25.6% (\$381.0 thousands), with \$60.0 thousands invested in extramural R&D performed by the higher education sector.

Overall, the department dedicated \$792.0 thousands in the social sciences and \$362.0 thousands in the natural sciences to support extramural activities, with the business enterprise sector receiving most of the investment. All activities involved tourism related research and statistics.

RSA activities included time-series remote-sensing analysis and evaluation; studies related to Whitebark pine-grizzly ecology, Whitebark and Limber Pine population dynamics, cone production, and other programs. R&D activities were primarily involving archaeological research.

## **Transportation**

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The Department of Transportation invested \$11.6 million in the natural sciences. RSA represented 92.0% (\$10.7 million) of the total expenditures, of which \$7.8 million went to extramural performers. Business enterprises sector was the largest recipient of the funds.

RSA activities included statistical analysis of collisions, analysis of safety aspects of motor transport and carrier industry; studies related to safety policy development and highway user safety industry; feasibility studies, development of configurations for InRoads survey, special services and studies, as well as other related activities.

The department's R&D expenditures accounted for \$932.0 thousands, showing a 51.1% decrease from 2007/2008. Extramural R&D payments to the business enterprise sector represented 78.3% (\$730.0 thousands). Activities included high crash location identification and treatment, engineering studies on using the International Roughness Index and testing for construction smoothness specifications; research to determine layer coefficient values for use in pavement design system; inspection and evaluation of cracking, as well as other projects.

## Indicators of provincial scientific activities

**Table 1 Gross domestic expenditures on research and development in Canada, by performing sector, 2007**

Province	Federal government	Provincial government <sup>1</sup>	Business enterprise	Higher education <sup>2</sup>	Total
millions of dollars					
<b>Canada<sup>3</sup></b>	<b>2,532</b>	<b>387</b>	<b>15,882</b>	<b>10,370</b>	<b>29,170</b>
Newfoundland and Labrador	28	5	90	140	262
Prince Edward Island	13	0	11	34	58
Nova Scotia	77	0	98	327	501
New Brunswick	46	12	112	144	314
Quebec <sup>4</sup>	410	90	4,714	2,610	7,824
Ontario <sup>4</sup>	1,582	57	7,648	4,314	13,601
Manitoba	85	6	193	302	585
Saskatchewan	63	11	136	230	441
Alberta	116	141	1,142	1,004	2,403
British Columbia	108	30	1,713	1,083	2,935

1. Provincial government includes Provincial research organizations.

2. Higher education includes Private non-profit organizations.

3. Includes the Yukon, Northwest Territories and Nunavut.

4. Quebec and Ontario figures now include federal government expenditures performed in the National Capital Region.

Source: Estimates of Canadian Research and Development Expenditures (GERD), Canada, 1998 to 2009, and by Province 2003 to 2007, Business Special Surveys and Technology Statistics Division, Statistics Canada, catalogue No. 88-221-X Vol. 2, No. 1.

**Table 2 Gross domestic expenditures on research and development in Canada, by funding sector, 2007**

Province	Federal government	Provincial government <sup>1</sup>	Business enterprise	Higher education <sup>2</sup>	Foreign	Total
millions of dollars						
<b>Canada<sup>3</sup></b>	<b>5,491</b>	<b>1,454</b>	<b>13,946</b>	<b>4,574</b>	<b>2,736</b>	<b>29,170</b>
Newfoundland and Labrador	81	11	92	71	2	262
Prince Edward Island	26	2	11	19	0	58
Nova Scotia	160	7	117	170	18	501
New Brunswick	84	17	114	87	2	314
Quebec <sup>4</sup>	1,272	382	4,161	1,155	669	7,824
Ontario <sup>4</sup>	2,719	432	6,748	1,983	1,319	13,601
Manitoba	163	26	185	142	32	585
Saskatchewan	136	28	127	117	20	441
Alberta	350	336	1,178	400	75	2,403
British Columbia	451	182	1,146	431	577	2,935

1. Provincial government includes Provincial research organizations.

2. Higher education includes Private non-profit organizations.

3. Includes the Yukon, Northwest Territories and Nunavut.

4. Quebec and Ontario figures now include federal government expenditures performed in the National Capital Region.

Source: Estimates of Canadian Research and Development Expenditures (GERD), Canada, 1998 to 2009, and by Province 2003 to 2007, Business Special Surveys and Technology Statistics Division, Statistics Canada, catalogue No. 88-221-X Vol. 2, No. 1.

**Table 3 Provincial statistics and their relationship to gross domestic expenditures on research and development, 2007**

Province	Provincial gross domestic product <sup>1</sup> (PGDP)		Gross domestic expenditures on research and development (GERD)		Population <sup>2</sup>	GERD/PGDP	GERD per capita
	millions of dollars	%	millions of dollars	%	thousands	ratio	dollars
<b>Canada<sup>3</sup></b>	<b>1,532,944</b>	<b>100</b>	<b>29,170</b>	<b>100</b>	<b>32,739</b>	<b>1.90</b>	<b>891</b>
Newfoundland and Labrador	29,226	2	262	1	509	0.90	515
Prince Edward Island	4,490	0	58	0	138	1.29	420
Nova Scotia	32,933	2	501	2	937	1.52	535
New Brunswick	26,993	2	314	1	745	1.16	422
Quebec <sup>4</sup>	297,384	19	7,824	27	7,658	2.63	1,022
Ontario <sup>4</sup>	585,723	38	13,601	47	12,718	2.32	1,069
Manitoba	48,718	3	585	2	1,187	1.20	493
Saskatchewan	50,811	3	441	2	994	0.87	444
Alberta	256,915	17	2,403	8	3,472	0.94	692
British Columbia	191,598	12	2,935	10	4,275	1.53	687

1. CANSIM, Table 384-0002.

2. CANSIM, Table 051-0005.

3. Includes the Yukon, Northwest Territories and Nunavut.

4. Quebec and Ontario figures now include federal government expenditures performed in the National Capital Region

**Table 4 Federal government sector gross domestic expenditures on research and development and personnel, 2007/2008**

Province	GERD in the federal government sector, by province <sup>1</sup>		Distribution of federal government R&D personnel, by province <sup>2</sup>		Total
	millions of dollars	dollars per capita	Scientific and personnel		
			full-time equivalent		
<b>Canada<sup>3</sup></b>	<b>2,532</b>	<b>77</b>	<b>7,110</b>	<b>15,630</b>	
Newfoundland and Labrador	28	55	100	230	
Prince Edward Island	13	94	40	100	
Nova Scotia	77	82	270	620	
New Brunswick	46	62	150	270	
Quebec <sup>4</sup>	410	54	1,290	3,000	
Ontario <sup>4</sup>	1,582	124	4,090	8,710	
Manitoba	85	72	230	550	
Saskatchewan	63	63	180	500	
Alberta	116	33	370	860	
British Columbia	108	31	380	770	

1. Estimates of Canadian Research and Development Expenditures (GERD), Canada, 1998 to 2009, and by Province 2003 to 2007, Business Special Surveys and Technology Statistics Division, Statistics Canada, catalogue No. 88-221-X Vol. 2, No. 1.

2. Research and Development Personnel in Canada, 1998 to 2007, Business Special Surveys and Technology Statistics Division, Statistics Canada, catalogue No. 88-001-X Vol. 34, No. 1.

3. Includes the Yukon, the Northwest Territories and Nunavut.

4. Quebec and Ontario figures now include federal government expenditures performed in the National Capital Region.

Note(s): Personnel data is rounded to the nearest 10. Due to rounding, components may not add to the totals.

**Table 5 Provincial government sector gross domestic expenditures on research and development and personnel, 2007/2008**

Province	GERD in the provincial government sector, by province <sup>1</sup>		Distribution of provincial government R&D personnel, by province <sup>2</sup>		Total
	millions of dollars	dollars per capita	Scientific and personnel		
			full-time equivalent		
<b>Canada<sup>3</sup></b>	<b>387</b>	<b>12</b>	<b>1,610</b>	<b>3,120</b>	
Newfoundland and Labrador	5	10	40	50	
Prince Edward Island	0	0	..	..	
Nova Scotia	0	0	..	..	
New Brunswick	12	16	50	160	
Quebec	90	12	490	890	
Ontario	57	4	380	620	
Manitoba	6	5	40	70	
Saskatchewan	11	11	70	260	
Alberta	141	40	390	840	
British Columbia	30	7	140	200	

1. Estimates of Canadian Research and Development Expenditures (GERD), Canada, 1998 to 2009, and by Province 2003 to 2007, Business Special Surveys and Technology Statistics Division, Statistics Canada, catalogue No. 88-221-X Vol. 2, No. 1.

2. Scientific and Technological Activities of Provincial Governments and Provincial Research Organizations 2003/2004 to 2007/2008. Business Special Surveys and Technology Statistics Division, Statistics Canada, 88-001-X Vol. 33, No. 7.

3. Includes the Yukon, the Northwest Territories and Nunavut.

Note(s): Personnel data is rounded to the nearest 10. Due to rounding, components may not add to the totals.

**Table 6 Provincial research organization sector gross domestic expenditures on research and development and personnel, 2007**

Province	GERD in the provincial research organization sector, by province <sup>1</sup>		Distribution of provincial research organization R&D personnel, by province <sup>2</sup>	
	millions of dollars	dollars per capita	Scientific and personnel	Total
			full-time equivalent	
<b>Canada<sup>3</sup></b>	<b>22</b>	<b>1</b>	<b>150</b>	<b>430</b>
Newfoundland and Labrador	...	...	...	...
Prince Edward Island	...	...	...	...
Nova Scotia	...	...	...	...
New Brunswick	2	3	20	30
Quebec	8	1	50	110
Ontario	...	...	...	...
Manitoba	0	0	0	0
Saskatchewan	12	12	70	270
Alberta	...	...	...	...
British Columbia	...	...	...	...

1. Estimates of Canadian Research and Development Expenditures (GERD), Canada, 1998 to 2009, and by Province 2003 to 2007, Business Special Surveys and Technology Statistics Division, Statistics Canada, catalogue No. 88-221-X Vol. 2, No. 1.

2. Scientific and Technological Activities of Provincial Governments and Provincial Research Organizations 2003/2004 to 2007/2008. Business Special Surveys and Technology Statistics Division, Statistics Canada, 88-001-X Vol. 33, No. 7.

3. Includes the Yukon, the Northwest Territories and Nunavut.

Note(s): Personnel data is rounded to the nearest 10. Due to rounding, components may not add to the totals.

**Table 7 Business enterprise sector gross domestic expenditures on research and development and personnel, 2007**

Province	GERD in the business enterprise sector, by province <sup>1</sup>		Distribution of R & D personnel <sup>2</sup>	
	millions of dollars	dollars per capita	Professional	Total
			full-time equivalent	
<b>Canada<sup>3</sup></b>	<b>15,882</b>	<b>485</b>	<b>86,370</b>	<b>147,600</b>
Newfoundland and Labrador	90	177	220	580
Prince Edward Island	11	80	90	150
Nova Scotia	98	105	770	1,300
New Brunswick	112	150	620	1,140
Quebec	4,714	616	26,130	49,110
Ontario	7,648	601	41,920	69,560
Manitoba	193	163	950	1,910
Saskatchewan	136	137	640	1,240
Alberta	1,142	329	4,690	7,180
British Columbia	1,713	401	10,130	15,150

1. Includes private non-profit institutions.

2. Estimates of Canadian Research and Development Expenditures (GERD), Canada, 1998 to 2009, and by Province 2003 to 2007, Business Special Surveys and Technology Statistics Division, Statistics Canada, catalogue No. 88-221-X Vol. 2, No. 1.

3. Research and Development Personnel in Canada, 1998 to 2007, Business Special Surveys and Technology Statistics Division, Statistics Canada, catalogue No. 88-001-X Vol. 34, No. 1.

4. Includes the Yukon, Northwest Territories and Nunavut.

Note(s): Personnel data is rounded to the nearest 10. Due to rounding, components may not add to the totals.

**Table 8 Higher education sector gross domestic expenditures on research and development and personnel, 2007/2008**

Province	GERD in the higher education sector <sup>1,2</sup>		Distribution of R & D personnel <sup>3</sup>	
	millions of dollars	dollars per capita	Professional full-time equivalent	Total
<b>Canada<sup>4</sup></b>	<b>10,187</b>	<b>311</b>	<b>47,310</b>	<b>60,140</b>
Newfoundland and Labrador	140	275	700	1,020
Prince Edward Island	34	246	70	140
Nova Scotia	327	349	1,190	1,810
New Brunswick	144	193	720	1,060
Quebec	2,610	341	13,780	16,830
Ontario	4,314	339	18,710	23,370
Manitoba	302	254	1,150	1,590
Saskatchewan	230	231	980	1,490
Alberta	1,004	289	4,880	6,210
British Columbia	1,083	253	5,130	6,620

1 Includes private non-profit institutions.

2. Estimates of Canadian Research and Development Expenditures (GERD), Canada, 1998 to 2009, and by Province 2003 to 2007, Business Special Surveys and Technology Statistics Division, Statistics Canada, catalogue No. 88-221-X Vol. 2, No. 1.

3. Research and Development Personnel in Canada, 1998 to 2007, Business Special Surveys and Technology Statistics Division, Statistics Canada, catalogue No. 88-001-X Vol. 34, No. 1.

4. Includes the Yukon, Northwest Territories and Nunavut.

Note(s): Personnel data is rounded to the nearest 10. Due to rounding, components may not add to the totals.

## Provincial Co-ordinators

Five provincial governments are currently sponsoring the Science and Innovation Survey section in the collection of similar scientific activity data. In Quebec, a survey of only Research and Experimental Development (R&D) statistics is conducted by the Institut de la statistique du Québec and shared with Statistics Canada. Below is a list of co-ordinators for the various sponsoring Departments/Ministries.

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# Publications of Statistics Canada on science and technology

The Science and Technology Statistics Program is one of the major responsibilities of the Science, Innovation and Electronic Information Division. The basic mission of the Science and Innovation Survey Section is to ensure the availability of pertinent statistical information in support of the development of science and technology in Canada.

Information is disseminated in a series of reports including: annual reports; monthly service bulletins; working papers; and occasional research papers which are described below. Readers desiring more detailed and specific S&T information are invited to contact the Science and Innovation Survey Section, Science, Innovation and Electronic Information Division, Phone (613) 951-9662 or Fax (613) 951-9920.

## How to obtain more information

For information on the wide range of data available from Statistics Canada, you can contact us by calling one of our toll-free numbers. You can also contact us by e-mail or by visiting our website.

<b>National inquiries line</b>	<b>1 800 263-1136</b>
<b>National telecommunications device for the hearing impaired</b>	<b>1 800 363-7629</b>
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## Catalogued publications

<b>88-001-XWE</b>	<a href="#">Science statistics</a>
<b>88-003-XWE</b>	<a href="#">Innovation analysis bulletin</a>
<b>88-202-XWE</b>	<a href="#">Industrial research and development, intentions 2009</a>
<b>88-204-XWE</b>	<a href="#">Federal scientific activities (annual)</a>
<b>88-221-XWE</b>	<a href="#">Gross domestic expenditures on research and development in Canada and the provinces- National estimates 1998-2009, Provincial estimates 2003-2007</a>
<b>88F0006XWE</b>	<a href="#">Science, Innovation and Electronic Information Division, working papers</a>