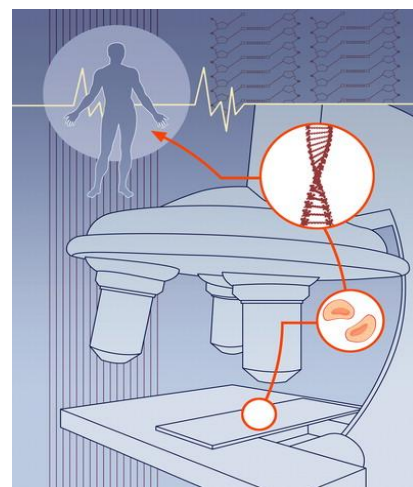
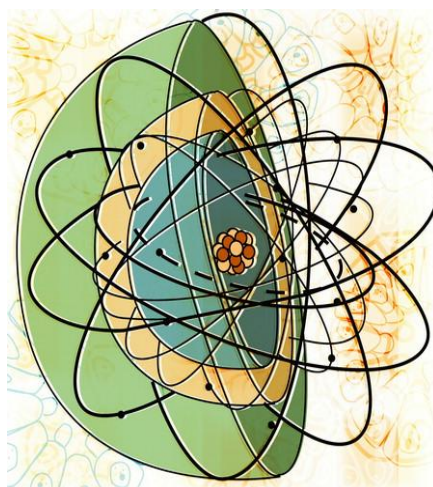
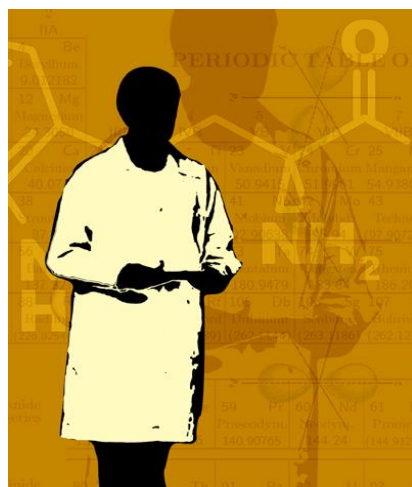
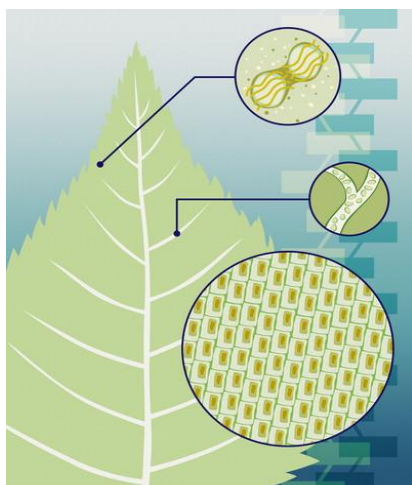


Scientific Activities of the Government of Alberta 2009-10 Actual and 2010-11 Preliminary Survey Results

A report prepared by the Department of Advanced Education and Technology

Statistical tables compiled by the Science and Technology Surveys Section, Business Special Surveys and Technology Statistics Division, Statistics Canada

May 2011



Government of Alberta ■

Foreword

This report presents a summary of the results of the 2009-10 and 2010-11^P annual survey of the Government of Alberta scientific activities. The survey was conducted by jointly by Statistic Canada's Business Special Survey and Technology Statistics Division (BSSTSD) under the direction of Robert Schellings along with 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 scientific activities. These activities consist of **research and experimental development** (R&D) and a number of activities closely related to R&D and referred to as **related scientific activities** (RSA). 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. More detailed definitions for the terminology used within the report are provided in the Appendix.

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 indicator called: Gross Domestic Expenditures on Research and Development (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 a five-year account of all research and development data available at the provincial level. National aggregates are also needed to complete the international questionnaires for the *Organisation 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.

Significant changes for the 2009-10 reporting year:

Advanced Education and Technology and the entities that report to the Government through the Minister of Advanced Education and Technology were reorganized in 2009-10 and the following changes were made. The Research Division became Research and Innovation Division. The University Research and Strategic Investments Branch was renamed Research Capacity Planning. The Alberta Energy Research Institute is now a function of Alberta Innovates - Energy and Environment Solutions. The Technology Commercialization Division and Alberta ICT Institute will be reporting as Advanced Technology Industries Division. The Life Sciences Branch is now a function of Alberta Innovates - Bio-Solutions. The Alberta Heritage Foundation for Medical Research is now a function of Alberta Innovates - Health Solutions. The Alberta Research Council Inc., iCORE Inc. and Alberta Ingenuity Fund are now functions of Alberta Innovates -Technology Futures.

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Statistical tables	Total sciences		Natural sciences and engineering		Social sciences and humanities	
2009-10 scientific activities:	Table	Page	Table	Page	Table	Page
Intramural expenditures by department or agency and type of expenditure	12	24	34	48	56	69
Personnel engaged in scientific activities by department or agency, and activity	13	25	35	49	57	70
Objectives of scientific expenditures:						
by department or agency	14	28	36	52	58	73
by activity	15	30	37	54	59	75

Preliminary report for 2010-11

Total scientific expenditures:						
by activity and performing sector	16	30	38	54	60	75
by department or agency and performing sector	17	31	39	55	61	76
by department or agency and activity	18	32	40	56	62	76
Research and development expenditures by department or agency and performing sector	19	33	41	57	63	77
Personnel engaged in scientific activities by department or agency and activity	20	34	42	58	64	77
Objectives of scientific expenditures:						
by department or agency	21	37	43	61	65	80
by activity	22	39	44	63	66	81

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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 figure
- p preliminary figure

Summary and Analysis

The following section summarizes key results and trends relating to Alberta's scientific activities expenditures with a focus on the 2009-10 reporting year. Included in the highlights is a breakdown of Alberta's scientific expenditures: over time; by performing sector; by investments in the natural and applied sciences; by Ministry; and by objective of the scientific activity.

Overall Results

In 2009-10, the Government of Alberta's (GOA) expenditures on scientific activities amounted to \$604.0 million, a 3.0% decrease from 2008-09 (\$622.6 million). Estimated or preliminary data for the province's 2010-11 scientific activities spending (\$590.3 million) projects a 2.3% decrease from 2009-10 in actual dollars, or a 0.2% decrease as a proportion of total government expenditures.

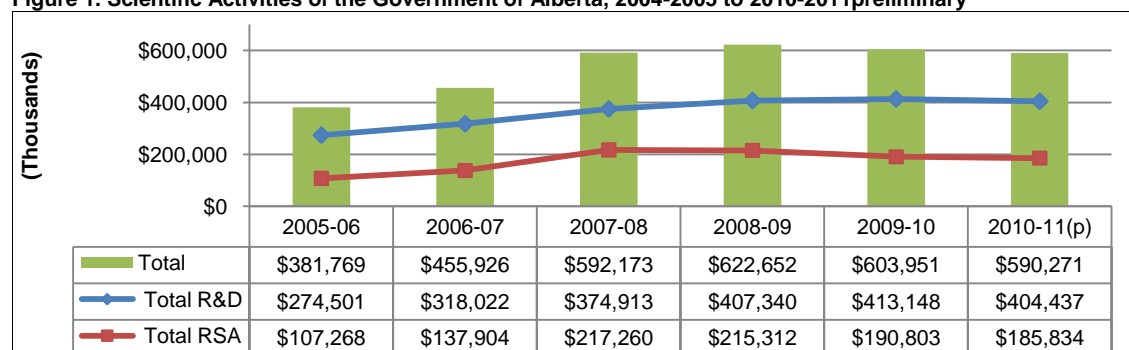
Although overall expenditures on scientific activities decreased in 2009-10, the percentage of estimated government expenditures focused on scientific activities remained the same at 1.9%. This figure however is expected to decrease in 2010-11.

Summary Table 1: Government expenditures on scientific activities			
Year	Government expenditures on scientific activities (current dollars)	Estimated government expenditures ¹	Scientific activities as a percent of estimated government expenditures
millions of dollars			
1996-97 ^f	168.8	10,373.7	1.6
1997-98 ^f	178.4	11,699.1	1.5
1998-99 ^f	214.4	12,432.9	1.7
1999-00 ^f	234.6	14,527.3	1.6
2000-01 ^f	263.8	16,174.5	1.6
2001-02 ^f	317.7	17,982.8	1.8
2002-03 ^f	333.4	17,146.8	1.9
2003-04 ^f	313.5	19,200.1	1.6
2004-05 ^f	362.6	21,423.2	1.7
2005-06 ^f	381.8	25,547.7	1.5
2006-07 ^f	455.9	26,740.8	1.7
2007-08 ^f	592.2	30,255.8	2.0
2008-09	622.6	33,458.8	1.9
2009-10	604.0	32,664.6	1.9
2010-11 ^p	590.3	34,871.3	1.7

¹ Source: Government of Alberta –<http://www.finance.alberta.ca/publications/budget/estimates/est2010/complete.pdf>

Research and development (R&D) expenditures for 2009-10 accounted for 68.4% (\$413.1 million) of the total scientific activities for the GOA. Related Scientific Activities (RSA) constituted the remaining 31.6% (\$190.8 million) of the GOA's total expenditures on scientific activities.

Figure 1. Scientific Activities of the Government of Alberta, 2004-2005 to 2010-2011 preliminary



Source: Table 1

The following highlights the performance of each sector in 2009-10 (Summary Table 2)

- The GOA performed 39.2% (\$236.7 million) of its total scientific activities intramurally (internally), which is a significant decrease from the 42.9% (\$267.1 million) of scientific activities performed internally by the GOA in 2008-09. The decrease can be explained by reductions in both R&D conducted in-house and RSA (-24.7% and -14.8% respectively).
- Business performed 17.7% (\$107.0 million) of the GOA's total scientific activities, which is a significant decrease from the \$130.5 million of scientific activities performed by the business sector in 2008-09. This decrease is mostly attributable to a \$15.7 million decrease (-24.9%) in RSA performed by business and a \$14.95 million (-36.8%) reduction in R&D grants and contributions; however, an increase in R&D Contracts was observed (\$7.2 million or +27.1%).
- Higher education performed 31.4% (\$189.4 million) of the GOA's total scientific activities, which is a significant increase from the \$150.2 million (+26.1%) performed by the higher education sector in 2008-09. The observed increase was primarily due to an increase in R&D contracts.
 - Of the \$189.4 million expended to higher education for scientific activities, 95.9% was funded from Advanced Education and Technology (87.8%) and Environment (8.1%).
- Hospitals and other health organizations performed 4.1% (\$24.9 million) of the GOA's total scientific activities which is an \$8.7 million decrease (-26.0%) from 2008-09.
- Other organizations performed 7.6% (\$46.0 million) of the GOA's total scientific activities which is an increase of \$4.9 million (+11.8%) from 2008-09.

It is anticipated that in 2010-11, overall scientific activities expenditures will again decrease. Although intramural expenditures and business expenditures are expected to rise, higher education expenditures are expected to drop significantly.

Summary Table 2: Total expenditures on scientific activities, by sector of performance and activity									
2008-09 to 2010-11 preliminary									
Activity	Research & Development			Related Scientific Activities			Total		
	2008-09	2009-10	2010-11 ^P	2008-09	2009-10	2010-11 ^P	2008-09	2009-10	2010-11 ^P
thousands of dollars									
Intramural	151,173	137,829	138,851	115,957	98,850	107,214	267,130	236,679	246,065
Business Enterprise	67,074	59,292	91,303	63,452	47,682	36,530	130,526	106,974	127,833
Higher Education	148,631	182,214	141,286	1,570	7,153	3,122	150,201	189,367	144,408
Hospitals and Health orgs	17,422	11,444	15,325	16,222	13,469	16,099	33,644	24,913	31,424
Other	23,040	22,369	17,672	18,111	23,649	22,869	41,151	46,018	40,541
Total	407,340	413,148	404,437	215,312	190,803	185,834	622,652	603,951	590,271

Source: Tables 3, 4, 8*, and 16 (* Table 8 from 2009-10 report and 2010-11 report)

Investments in the natural sciences accounted for 89.4% (\$540.1 million) of the total scientific activities expenditures in 2009-10 while the balance of the total expenditures were in the social sciences 10.6% (\$63.9 million). Compared to 2008-09, expenditures in 2009-10 declined 2.4% and 7.9% in the natural sciences and social sciences respectively. In the natural sciences the decline in funding is attributable to a 17.6% decline in related scientific activities while in the social sciences it is attributable to a 61.6% decline in funding to research and development.

Despite these one-year reductions in funding, when the GOA's expenditures for 2009-10 are compared to the previous three-year average expenditures (2006-07 to 2008-09), we observe an 8.4% overall increase in funding to science and technology (+9.0% natural sciences; +4.2% social sciences).

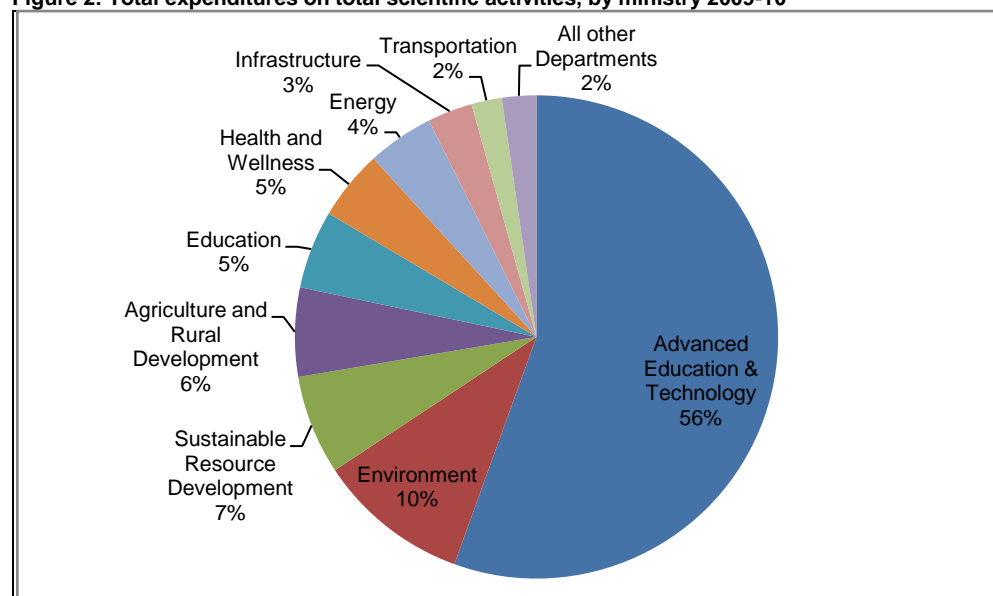
Summary Table 3. Total expenditures on scientific activities, by science type and activity						
Type and activity	2005-06	2006-07	2007-08	2008-09	2009-10	2010/-11 ^P
	thousands of dollars					
Total science and technology	381,769	455,926	592,173	622,652	603,951	590, 271
Natural sciences	356,834	424,710	508,739	553,266	540,052	530,201
Research and development	266,386	307,283	360,136	392,339	407,383	397,251
Related scientific activities	90,448	117,427	148,603	160,927	132,669	132,950
Social sciences	24,935	31,216	83,434	69,386	63,899	60,070
Research and development	8,115	10,739	14,777	15,001	5,765	7,186
Related scientific activities	16,820	20,477	68,657	54,385	58,134	52,884

Source: Tables 1, 23 and 45.

The highest expenditures on scientific activities (Figure 2) were: Advanced Education & Technology (\$335.2 million; 55.5%), Environment (\$61.5 million; 10.2%); Sustainable Resource Development (\$40.1 million; 6.6%), Agriculture and Rural Development (\$35.9 million; 5.9%); Education (\$31.6 million; 5.2%) and Health and Wellness (\$28.3 million; 4.7%).

- In 2009-10, the majority of R&D expenditures were from Advanced Education and Technology (\$314.4 million; 76.1%); Energy (\$26.8 million; 6.5%); and Agriculture and Rural Development (\$23.6 million; 6.5%) (Source: Table 11).
- By contrast, the majority of expenditures on RSA in 2009-10 were from: Environment (\$45.6 million; 23.9%); Sustainable Resource Development (\$36.4 million; 19.1%); Education (\$34.6 million; 16.6%); and Advanced Education and Technology (\$20.8 million; 10.9%) (Source: Table 10).

Figure 2: Total expenditures on total scientific activities, by ministry 2009-10



Source: Table 9

Of the total expenditures on scientific activities in the social sciences and humanities (Summary Table 4) the majority was spent on RSA (\$58.1 million; 91.0%) while only a minority was spent on R&D (\$5.8 million; 9.0%) (Source: Table 52). The opposite is true of the natural sciences and engineering where the majority of expenditures were in R&D (\$407.4 million; 75.4%) and only a minority in RSA (\$132.7 million; 24.6%) (Source: Table 30).

In 2009-10, the major intramural performers in scientific activities were Advanced Education & Technology (\$120.7 million; 51.0%); Agriculture and Rural Development (\$35.9 million; 15.2%); Environment (\$22.5 million; 9.5%); Education (\$20.2 million; 8.5%); Sustainable Resource Development (\$17.0 million; 7.2%); and Infrastructure (\$4.6 million; 1.9%). (Source: table 12).

The major contributors to activities in the natural sciences in 2009-10 included: Advanced Education & Technology (\$332.9 million; 61.6%); Environment (\$57.5 million; 10.6%); Sustainable Resource Development (\$39.9 million; 7.4%); Agriculture and Rural Development (\$35.9 million; 6.7%); and Energy (\$26.8 million; 5.0%) (Source: Table 24).

The major contributors to activities in the social sciences in 2009-10 were: Education (\$31.6 million; 49.5%), followed by Health and Wellness (\$14.5 million; 22.7%) and Environment (\$4.0 million; 6.2%) (Source: Table 46).

Summary Table 4: Total expenditures on scientific activities, by science type, activity and ministry, 2009-10												
Ministry	Intramural		Business Enterprises		Higher Education		Hospitals & Health Orgs		Other		Total	
	NSE ¹	SSH ²	NSE	SSH	NSE	SSH	NSE	SSH	NSE	SSH	NSE	SSH
thousands of dollars												
Advanced Education & Technology	120,710	23	36,432	572	166,266		1,473		8,015	1,746	332,896	2,341
Agriculture and Rural Development	35,916										35,916	
Children and Youth Services		200								2,000		2,200
Culture and Community Spirit	2,418	911								603	2,418	1,514
Education		20,181		96		2,983				8,365		31,625
Energy	1,500		25,293								26,793	
Employment and Immigration		1,060		854						381		2,295
Environment	20,289	2,231	16,774	239	15,385	21			5,061	1,465	57,509	3,956
Finance and Enterprise		570		25								595
Health and Wellness	91	2,085			338	2,372	13,370	10,031			13,799	14,488
Housing and Urban Affairs		447		440								887
Infrastructure	4,575								13,599		18,174	
Justice and Attorney General		1,692		48						400		2,140
Municipal Affairs	22	8							5	9	27	17
Seniors and Community Supports		159		73		21		39				292
Solicitor General and Public Security		451		79								530
Sustainable Resource Development	17,020		18,569	229	248				4,075		39,912	229
Tourism, Parks and Recreation	157	316	44	425	15				95	49	311	790
Transportation	3,647		6,782		1,718				150		12,297	
Total	206,345	30,334	103,894	3,080	183,970	5,397	14,843	10,070	31,000	15,018	540,052	63,899

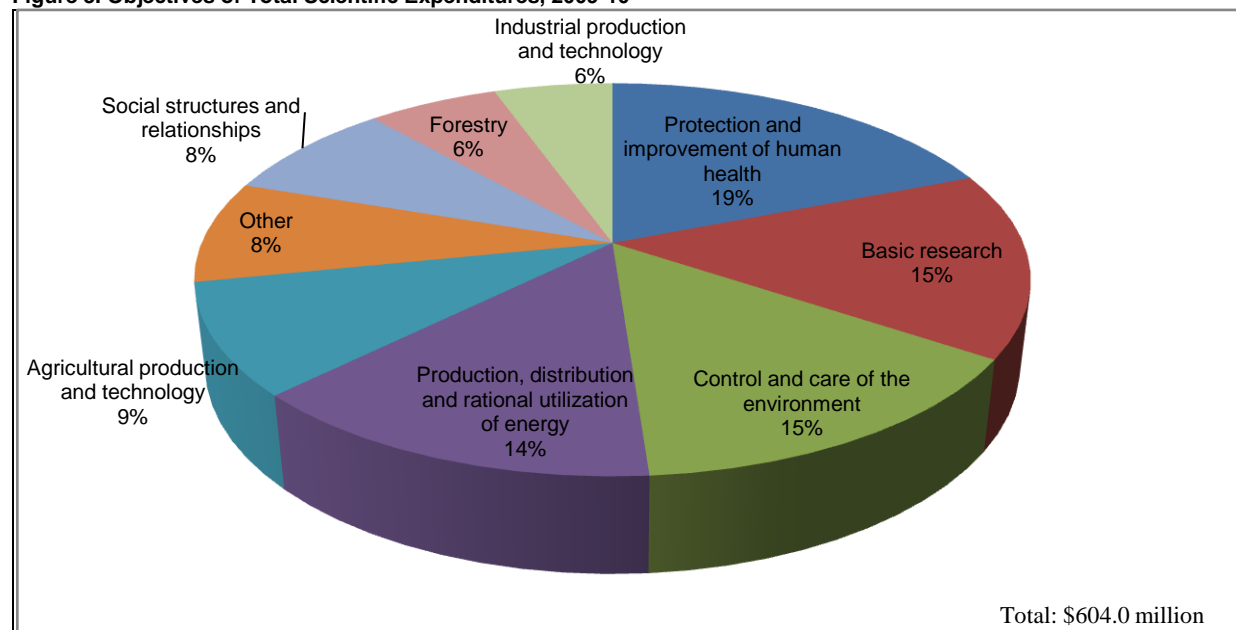
Source: Tables 31 and 53

¹ NSE = Natural Sciences and Engineering

² SSH = Social Sciences and Humanities

As illustrated in Figure 3, the top scientific activity spending areas for Alberta in 2009-10 were the protection and improvement of human health (\$114.9 million); basic research (\$92.3 million); control and care of the environment (\$87.7 million); and production, distribution, and rational utilization of energy (\$83.5 million).

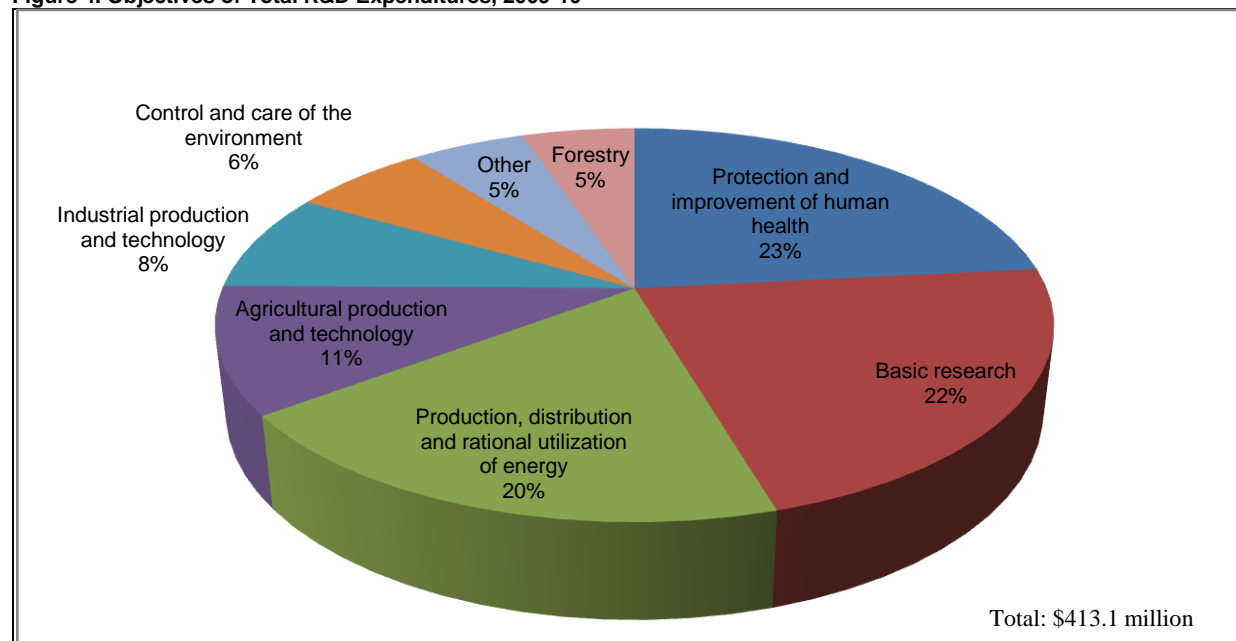
Figure 3. Objectives of Total Scientific Expenditures, 2009-10



Source: Table 15

Top R&D spending areas for Alberta in 2009-10 (Figure 4) were: protection and improvement of human health (\$96.5 million); basic research (\$91.2 million); production, distribution and rational utilization of energy (\$80.1 million); and agricultural production and technology (\$43.0 million).

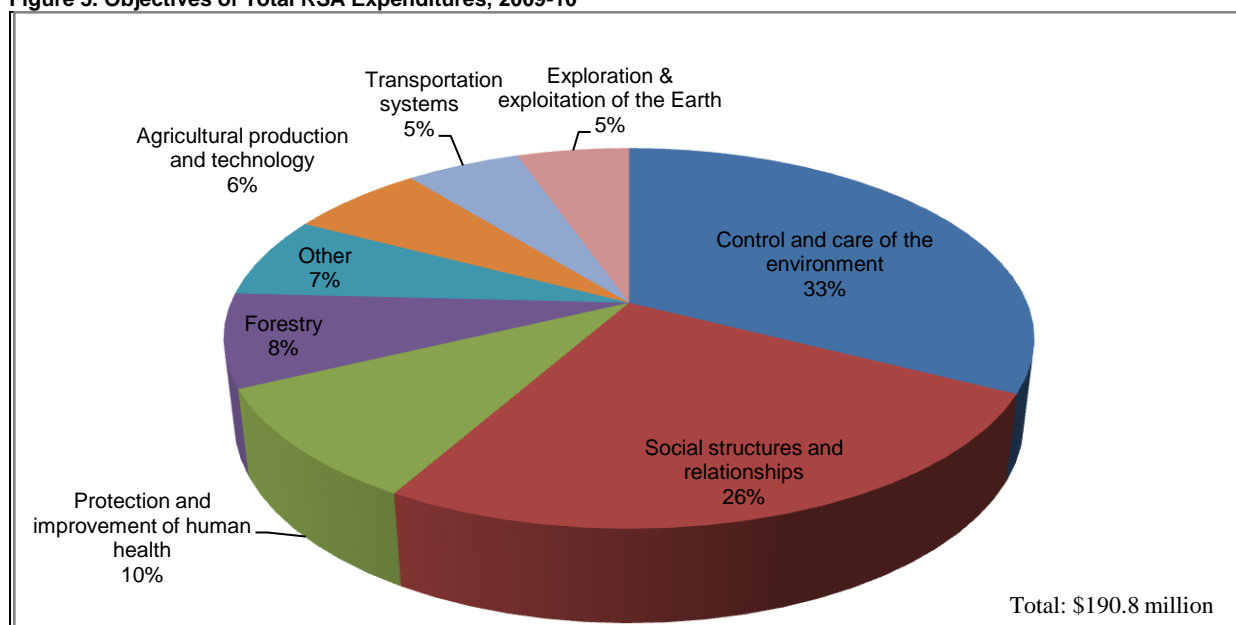
Figure 4. Objectives of Total R&D Expenditures, 2009-10



Source: Table 15

Top RSA spending areas for Alberta in 2009-10 (Figure 5) were: control and care of the environment (\$62.1 million); social structures and relationships (\$49.0 million); protection and improvement of human health (\$18.4 million); and forestry (\$15.1 million).

Figure 5. Objectives of Total RSA Expenditures, 2009-10



Source: Table 15

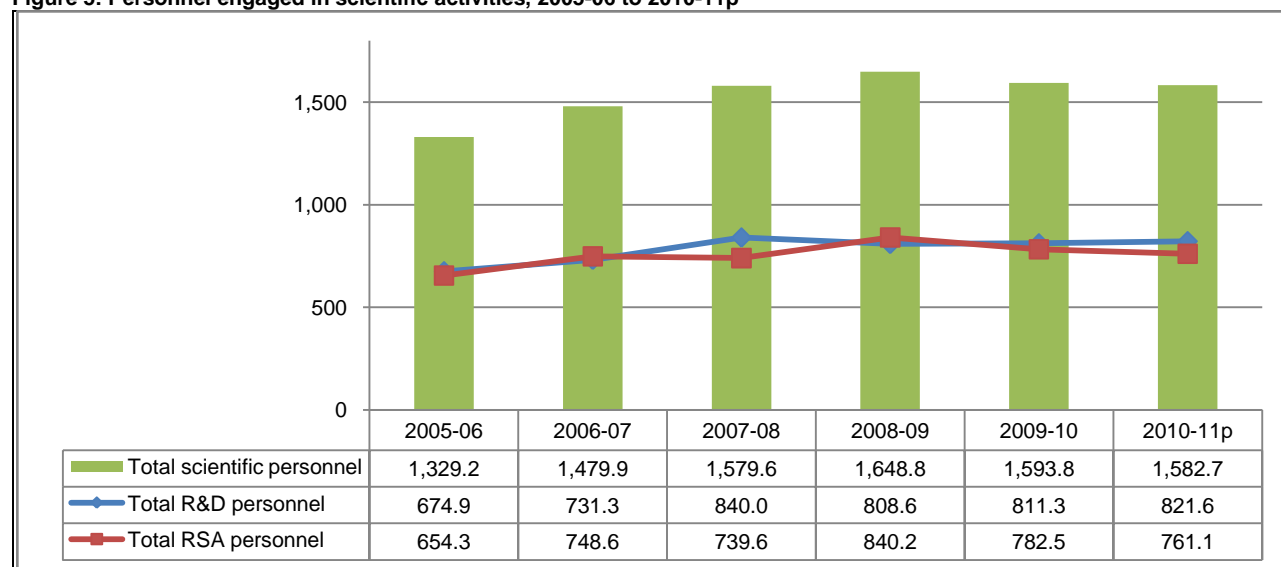
The GOA reported that in 2009-10, 1,593.8 full-time equivalent (FTE) employees were engaged in scientific activities. This represents a decrease of 55 FTEs from 2008-09. The scientific and professional category accounted for 730.5 (45.8%) of the total FTE, while the technical category represented 479.6 (30.1%). Personnel in other support staff comprised the remaining 383.7 FTE (24.1%) (Summary Table 5).

Summary Table 5. Personnel engaged in scientific activities, by science type and category, 2009-10				
Science type and activity	Scientific and professional	Technical	Other	Total
	Full-Time Equivalents (FTEs)			
Total sciences	730.5	479.6	383.7	1,593.8
Research and development	242.9	231.6	197.4	671.9
Related scientific activities	348.0	218.3	119.3	685.6
Administration of extramural programs (R&D/RSA)	139.6	29.7	67.0	236.3
Total natural sciences	595.7	466.0	315.7	1,377.4
Research and development	297.3	248.2	247.9	793.4
Related scientific activities	259.6	205.3	57.5	522.4
Administration of extramural programs (R&D/RSA)	38.8	12.5	10.3	61.6
Total social sciences	134.8	13.6	68.0	216.4
Research and development	5.4	0.0	1.0	6.4
Related scientific activities	88.4	13.0	61.8	163.2
Administration of extramural programs (R&D/RSA)	41.0	0.6	5.2	46.8

Source: Tables 6, 28 and 50.

It is anticipated that the GOA will see a slight decrease in the full-time equivalent (FTE) employees engaged in scientific activities in 2010-11.

Figure 5: Personnel engaged in scientific activities, 2005-06 to 2010-11p



Source: Table 6

Provincial Comparisons

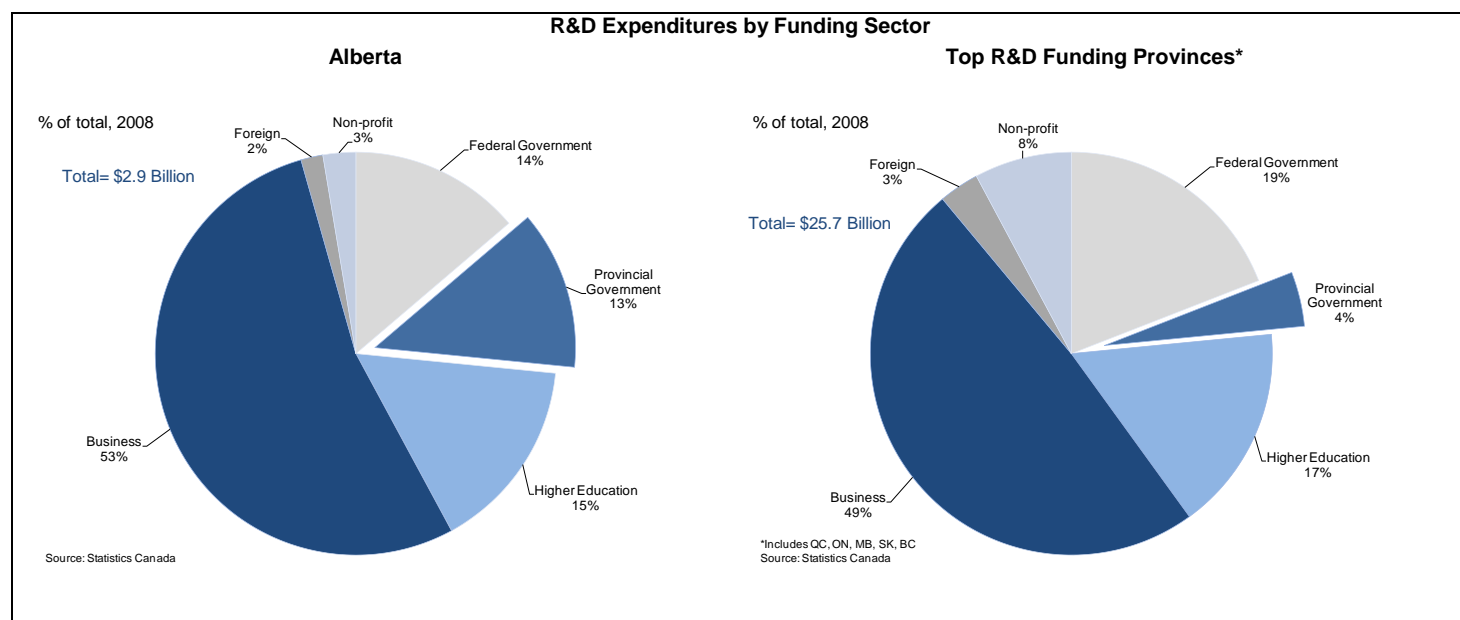
In 2008, Ontario accounted for 46% of Canada's gross domestic expenditures on research and development (GERD) at \$13.9 billion. Quebec comprised \$7.9 billion, or 26% of national expenditures. Alberta and British Columbia represented 10% (\$2.9 billion) and 9% (\$2.8 billion) of gross domestic expenditures on R&D respectively.

Table 1 Gross domestic expenditures on research and development in Canada, by funding sector, 2008¹

Province	Federal government	Provincial government	Business enterprise	Higher education	Private non-profit	Foreign investment	Total
millions of dollars							
Canada	5,676	1,564	14,471	5,060	1,015	2,108	29,894
Newfoundland and Labrador	56	13	116	77	6	10	278
Prince Edward Island	25	2	14	22	1	1	64
Nova Scotia	172	9	110	179	25	20	515
New Brunswick	74	17	104	91	10	5	300
Quebec	1,303	396	4,152	1,289	239	516	7,895
Ontario	2,793	475	6,814	2,199	425	1,168	13,874
Manitoba	161	28	160	149	53	15	567
Saskatchewan	151	55	151	146	20	5	528
Alberta	397	367	1,539	447	76	51	2,877
British Columbia	489	170	1,283	461	94	307	2,804

1. Catalogue no. 88-221-X- http://publications.gc.ca/collections/collection_2010/statcan/88-221-X/88-221-x2010001-eng.pdf

When focusing on the research and development in the provincial context, direct provincial government support accounts for 13% of R&D spending in Alberta compared to an average of 4% in Canada's top five other R&D funders*. As a share of GDP, Alberta's direct provincial government funding of R&D ranks among the highest in Canada, second only to Quebec in 2008.



Data Tables

Table 1 Total expenditures by activity, 2005/2006 to 2010/2011 preliminary						
Activity	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011 ^P
	thousands of dollars					
Research and Development (R&D)						
Current expenditures:						
In-house R&D	46,765	52,114	64,379	68,289	51,416	50,617
R&D contracts	35,572	48,695	75,741	84,004	157,991	167,945
R&D grants and contributions	148,232	184,750	205,955	224,669	179,623	154,325
Research fellowships	2,335	1,468	816	475	19	20
Administration of extramural R&D	13,681	14,866	19,594	17,702	21,336	29,060
Sub-total current R&D	246,585	301,893	366,485	395,139	410,385	401,967
Capital expenditures	27,916	16,129	8,428	12,201	2,763	2,470
Total R&D	274,501	318,022	374,913	407,340	413,148	404,437
Related scientific activities (RSA)						
Current expenditures	100,272	126,168	207,482	208,160	181,202	177,107
Administration of extramural RSA	2,649	4,612	5,388	3,712	8,947	8,073
Sub-total current RSA	102,921	130,780	212,870	211,872	190,149	185,180
Capital expenditures	4,347	7,124	4,390	3,440	654	654
Total RSA	107,268	137,904	217,260	215,312	190,803	185,834
Total	381,769	455,926	592,173	622,652	603,951	590,271

Table 2 Total expenditures by department, ministry or agency, 2005/2006 to 2010/2011 preliminary

Department, ministry or agency	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011 ^P
thousands of dollars						
Aboriginal Affairs and Northern Development	101	...	...	...	...	...
Advanced Education	497	...	...	...	...	...
Advanced Education & Technology¹						
Post-Secondary Excellence Division	...	...	...	449	313	193
Research Division	...	...	...	282	...	...
Policy and Planning Branch	...	327	855	...	...	...
Research and Innovation Division	...	...	...	...	3,217	3,520
University Research and Strategic Investments Branch	...	25,319	11,511	21,722	...	...
Research Capacity Planning	...	...	...	...	22,409	13,049
Alberta Energy Research Institute	...	29,276	47,952	26,462	...	...
Alberta Innovates - Energy and Environment Solutions	...	...	...	...	26,888	30,251
Technology Commercialization Division	...	4,938	8,880	21,553	...	...
Alberta ICT Institute	...	3,122	3,162	9,139	...	...
Advanced Technology Industries Division	...	...	...	...	17,641	25,325
Life Sciences Branch	...	14,125	10,162	18,989	...	...
Alberta Innovates Bio-Solutions	...	...	...	...	24,291	21,061
Alberta Heritage Foundation for Medical Research	...	56,559	69,727	72,274	...	...
Alberta Innovates - Health Solutions	...	...	...	...	77,886	73,549
Alberta Research Council Inc.	...	93,543	104,377	113,779	...	...
iCORE Inc.	...	10,866	12,557	12,843	...	...
Alberta Ingenuity Fund	...	30,229	36,550	46,710	...	...
Alberta Innovates Technology Futures	...	...	...	...	162,592	156,367
Total Advanced Education & Technology	...	268,304	305,733	344,202	335,237	323,315
Agriculture and Food	...	32,131	...	...	...	...
Agriculture and Rural Development	...	...	41,903	36,226	35,916	35,916
Agriculture, Food and Rural Development	28,654	...	...	...	...	...
Children and Youth Services	...	...	5,135	5,170	2,200	2,400
Children's Services	2,253	4,179	...	...	...	...
Community Development	3,189	...	...	...	...	...
Culture and Community Spirit	...	...	2,700	4,320	3,932	3,929
Economic Development	2,315	...	...	...	...	...
Education	473	3,241	25,748	35,440	31,625	27,120
Employment and Immigration	...	...	2,333	2,733	2,295	2,285
Employment, Immigration and Industry	...	3,185	...	...	...	...
Energy ²	100	150	22,867	24,522	26,793	65,500
Environment ³	14,507	25,675	41,096	39,089	61,465	34,624
Finance	590	565	...	...	...	...
Finance and Enterprise	...	...	710	595	595	860
Gaming	1,725	...	...	...	...	...
Health and Wellness	28,854	32,007	49,662	31,873	28,287	30,500
Housing and Urban Affairs	...	...	...	365	887	631
Human Resources and Employment	1,701	...	...	...	...	...
Infrastructure	...	...	6,430	12,076	18,174	13,039
Infrastructure and Transportation	37,657	27,358	...	...	...	...
Innovation and Science	227,013	...	...	...	...	...
Justice and Attorney General	1,557	1,591	1,699	2,014	2,140	2,987
Municipal Affairs	219	...	165	165	44	0

Municipal Affairs and Housing	...	60	...	...	...	...
Seniors and Community Supports ⁴	418	434	3,873	1,127	292	165
Solicitor General and Public Security	1,100	2,709	808	897	530	466
Sustainable Resource Development ⁵	28,846	49,963	67,555	68,756	40,141	33,906
Tourism, Parks and Recreation	...	...	1,416	1,489	1,101	1,049
Tourism, Parks, Recreation and Culture	...	4,374	...	...	...	...
Transportation	...	...	12,340	11,593	12,297	11,579
Total	381,769	455,926	592,173	622,652	603,951	590,271

Note(s): Departments shaded in grey are the active departments reporting scientific and technological activities.

Table 3 Total expenditures by performing sector, 2005/2006 to 2010/2011 preliminary						
Performing sector	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011 ^P
	thousands of dollars					
Intramural	197,006	211,839	242,640	267,130	236,679	246,065
Business Enterprise	28,447	54,925	124,476	130,526	106,974	127,833
Higher Education	134,251	132,927	131,513	150,201	189,367	144,408
Hospitals and Health organizations	2,054	19,287	56,380	33,644	24,913	31,424
Provincial Research Organizations	...	...	...	...	...	...
Other	20,011	36,948	37,164	41,151	46,018	40,541
Total	381,769	455,926	592,173	622,652	603,951	590,271

Table 4 Total expenditures on R&D, by performing sector, 2005/2006 to 2010/2011 preliminary						
Performing sector	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011 ^P
	thousands of dollars					
Intramural	122,006	124,532	140,693	151,173	137,829	138,851
Business Enterprise	11,354	21,816	63,411	67,074	59,292	91,303
Higher Education	129,725	129,589	130,297	148,631	182,214	141,286
Hospitals and Health organizations	254	17,282	19,872	17,422	11,444	15,325
Provincial Research Organizations	...	...	...	...	...	...
Other	11,162	24,803	20,640	23,040	22,369	17,672
Total	274,501	318,022	374,913	407,340	413,148	404,437

Table 5 Total expenditures on R&D, by department, ministry or agency, 2005/2006 to 2010/2011 preliminary

Department, ministry or agency	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011 ^P
thousands of dollars						
Advanced Education & Technology¹						
Research and Innovation Division	...	...	...	...	1,189	1,492
University Research and Strategic Investments Branch	...	25,192	11,501	21,722	...	...
Research Capacity Planning	...	...	...	...	22,409	13,049
Alberta Energy Research Institute	...	28,999	47,512	24,921	...	...
Alberta Innovates - Energy and Environment Solutions	...	...	...	...	25,100	26,995
Technology Commercialization Division	...	2,913	7,680	7,768	...	...
Alberta ICT Institute	...	3,010	2,836	8,339	...	...
Advanced Technology Industries Division	...	...	...	...	12,005	18,125
Life Sciences Branch	...	13,418	9,758	18,958	...	...
Alberta Innovates Bio-Solutions	...	...	...	...	24,291	21,061
Alberta Heritage Foundation for Medical Research	...	56,559	68,187	70,131	...	...
Alberta Innovates - Health Solutions	...	...	...	...	75,861	70,989
Alberta Research Council Inc.	...	83,912	92,937	103,819	...	...
iCORE Inc.	...	10,866	12,557	12,843	...	...
Alberta Ingenuity Fund	...	30,229	36,550	46,710	...	...
Alberta Innovates Technology Futures	...	...	...	...	153,538	138,367
Total Advanced Education & Technology	...	255,098	289,518	315,211	314,393	290,078
Agriculture and Food	...	14,761	...	...	...	...
Agriculture and Rural Development	...	...	21,508	19,733	23,593	23,593
Agriculture, Food and Rural Development	12,243	...	...	...	...	...
Children and Youth Services	...	...	4,326	4,361	...	...
Children's Services	2,150	4,076	...	...	...	...
Community Development	5	...	...	...	...	...
Education	...	...	2,391	4,182	0	0
Energy ²	...	150	22,867	24,522	26,793	65,500
Environment ³	130	1,168	5,794	9,380	15,877	606
Finance and Enterprise	...	...	...	...	145	270
Gaming	1,620	...	...	...	...	...
Health and Wellness	18,129	22,474	12,221	14,538	11,932	12,315
Housing and Urban Affairs	...	...	...	187	703	439
Infrastructure	...	...	3,389	8,109	13,899	6,858
Infrastructure and Transportation	24,016	11,466	...	...	...	...
Innovation and Science	213,316	...	...	...	...	...
Justice and Attorney General	...	41	57	58	0	845
Municipal Affairs	219	...	...	47	0	0
Municipal Affairs and Housing	...	15	...	...	...	...
Seniors and Community Supports ⁴	...	43	3,165	741	58	55
Solicitor General and Public Security	...	1,795	91	301	99	115
Sustainable Resource Development ⁵	2,673	6,935	7,635	4,978	3,785	3,022
Tourism, Parks and Recreation	...	...	47	60	0	0
Transportation	...	...	1,904	932	1,871	741
Total	274,501	318,022	374,913	407,340	413,148	404,437
Note(s): Departments shaded in grey are the active departments reporting scientific and technological activities.						

Table 6 Personnel engaged in scientific activities, by activity and category, 2005/2006 to 2010/2011 preliminary

Activity and category	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011 ^P
	full-time equivalent					
Research and development (R&D):						
Scientific and Professional	201.9	335.7	338.0	263.3	242.9	243.7
Technical	211.5	168.9	243.8	241.4	231.6	233.7
Other	156.0	119.4	143.7	178.5	197.4	201.9
Sub-total	569.4	624.0	725.5	683.2	671.9	679.3
Administration of extramural R&D programs						
Scientific and Professional	50.8	50.7	50.7	48.1	69.7	64.1
Technical	12.2	17.8	16.4	20.0	16.6	12.6
Other	42.5	38.9	47.4	57.3	53.1	65.6
Sub-total	105.5	107.3	114.5	125.4	139.4	142.3
Total R&D personnel	674.9	731.3	840.0	808.6	811.3	821.6
Related scientific activities intramural (RSA):						
Scientific and Professional	379.8	334.0	342.9	340.2	348.0	350.7
Technical	212.1	266.0	239.1	272.1	218.3	205.1
Other	17.0	79.8	107.0	144.3	119.3	112.1
Sub-total	608.9	679.7	689.0	756.6	685.6	667.9
Administration of extramural RSA programs						
Scientific and Professional	35.1	42.0	30.3	55.3	69.9	69.4
Technical	5.7	8.5	6.7	14.8	13.1	11.8
Other	4.6	18.4	13.6	13.5	13.9	12.0
Sub-total	45.4	68.9	50.6	83.6	96.9	93.2
Total RSA personnel	654.3	748.6	739.6	840.2	782.5	761.1
Total science activities						
Scientific and Professional	667.6	762.3	761.9	706.9	730.5	727.9
Technical	441.5	461.1	506.0	548.3	479.6	463.2
Other	220.1	256.5	311.7	393.6	383.7	391.6
Total scientific personnel	1,329.2	1,479.9	1,579.6	1,648.8	1,593.8	1,582.7

Table 7 Total expenditures by department, ministry or agency and source of funds, 2009/2010

Department, ministry or agency	Department, ministry or agency budget	Transfers from other departments, ministries 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	313	0	0	0	0	0	313
Research and Innovation Division	3,217	0	0	0	0	0	3,217
Research Capacity Planning	22,409	0	0	0	0	0	22,409
Alberta Innovates - Energy and Environment							
Solutions	22,904	734	0	3,250	0	0	26,888
Advanced Technology Industries Division	17,641	0	0	0	0	0	17,641
Alberta Innovates Bio-Solutions	24,291	0	0	0	0	0	24,291
Alberta Innovates - Health Solutions	0	6,016	0	0	0	71,870	77,886
Alberta Innovates Technology Futures	88,035	20,948	1,378	0	47,493	4,738	162,592
Total Advanced Education & Technology	178,810	27,698	1,378	3,250	47,493	76,608	335,237
Agriculture and Rural Development	24,849	5,980	968	0	4,119	0	35,916
Children and Youth Services	2,200	0	0	0	0	0	2,200
Culture and Community Spirit	3,932	0	0	0	0	0	3,932
Education	31,625	0	0	0	0	0	31,625
Employment and Immigration	1,651	100	544	0	0	0	2,295
Energy	2,032	0	0	0	0	24,761	26,793
Environment	35,765	0	25,700	0	0	0	61,465
Finance and Enterprise	595	0	0	0	0	0	595
Health and Wellness	28,287	0	0	0	0	0	28,287
Housing and Urban Affairs	887	0	0	0	0	0	887
Infrastructure	18,174	0	0	0	0	0	18,174
Justice and Attorney General	2,140	0	0	0	0	0	2,140
Municipal Affairs	44	0	0	0	0	0	44
Seniors and Community Supports	292	0	0	0	0	0	292
Solicitor General and Public Security	530	0	0	0	0	0	530
Sustainable Resource Development	34,053	0	4,553	0	0	1,535	40,141
Tourism, Parks and Recreation	1,101	0	0	0	0	0	1,101
Transportation	12,297	0	0	0	0	0	12,297
Total	379,264	33,778	33,143	3,250	51,612	102,904	603,951

Table 8 Total expenditures by activity and performing sector, 2009/2010							
Activity	Intramural	Business enterprises	Higher education	Hospitals and health organizations	PROs*	Other	Total
thousands of dollars							
Research and Development (R&D)							
Current expenditures:							
In-house R&D	51,416	...	...	...	...	...	51,416
R&D contracts	62,305	33,597	48,479	11	...	13,599	157,991
R&D grants and contributions	...	25,695	133,725	11,433	...	8,770	179,623
Research fellowships	9	0	10	0	...	0	19
Administration of extramural R&D	21,336	...	...	...	...	...	21,336
Sub-total current R&D	135,066	59,292	182,214	11,444	...	22,369	410,385
Capital expenditures	2,763	...	...	...	...	...	2,763
Total R&D	137,829	59,292	182,214	11,444	...	22,369	413,148
Related scientific activities (RSA)							
Current expenditures	89,249	47,682	7,153	13,469	...	23,649	181,202
Administration of extramural RSA	8,947	...	...	...	...	...	8,947
Sub-total current RSA	98,196	47,682	7,153	13,469	...	23,649	190,149
Capital expenditures	654	...	...	...	...	...	654
Total RSA	98,850	47,682	7,153	13,469	...	23,649	190,803
Total	236,679	106,974	189,367	24,913	...	46,018	603,951

*Provincial Research Organizations

Table 9 Total expenditures by department, ministry or agency and performing sector, 2009/2010

Department, ministry or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	PROs*	Other	Total
thousands of dollars							
Advanced Education & Technology							
Post-Secondary Excellence Division	23	290	0	0	...	0	313
Research and Innovation Division	0	282	179	0	...	2,756	3,217
Research Capacity Planning	757	0	21,152	0	...	500	22,409
Alberta Innovates - Energy and Environment Solutions	3,646	13,081	9,776	0	...	385	26,888
Advanced Technology Industries Division	600	9,151	5,240	650	...	2,000	17,641
Alberta Innovates Bio-Solutions	3,384	7,429	9,358	0	...	4,120	24,291
Alberta Innovates - Health Solutions	4,458	510	72,095	823	...	0	77,886
Alberta Innovates Technology Futures	107,865	6,261	48,466	0	...	0	162,592
Total Advanced Education & Technology	120,733	37,004	166,266	1,473	...	9,761	335,237
Agriculture and Rural Development	35,916	0	0	0	...	0	35,916
Children and Youth Services	200	0	0	0	...	2,000	2,200
Culture and Community Spirit	3,329	0	0	0	...	603	3,932
Education	20,181	96	2,983	0	...	8,365	31,625
Employment and Immigration	1,060	854	0	0	...	381	2,295
Energy	1,500	25,293	0	0	...	0	26,793
Environment	22,520	17,013	15,406	0	...	6,526	61,465
Finance and Enterprise	570	25	0	0	...	0	595
Health and Wellness	2,176	0	2,710	23,401	...	0	28,287
Housing and Urban Affairs	447	440	0	0	...	0	887
Infrastructure	4,575	-	0	0	...	13,599	18,174
Justice and Attorney General	1,692	48	0	0	...	400	2,140
Municipal Affairs	30	0	0	0	...	14	44
Seniors and Community Supports	159	73	21	39	...	0	292
Solicitor General and Public Security	451	79	0	0	...	0	530
Sustainable Resource Development	17,020	18,798	248	0	...	4,075	40,141
Tourism, Parks and Recreation	473	469	15	0	...	144	1,101
Transportation	3,647	6,782	1,718	0	...	150	12,297
Total	236,679	106,974	189,367	24,913	...	46,018	603,951

*Provincial Research Organizations

Table 10 Total expenditures by department, ministry or agency and activity, 2009/2010

Department, ministry or agency	Research and development			Related scientific activities			Total
	Current	AEP ¹	Capital	Current	AEP ¹	Capital	
	thousands of dollars						
Advanced Education & Technology							
Post-Secondary Excellence Division	0	0	0	290	23	0	313
Research and Innovation Division	1,189	0	0	2,028	0	0	3,217
Research Capacity Planning	21,652	757	0	0	0	0	22,409
Alberta Innovates - Energy and Environment							
Solutions	22,036	3,064	0	1,206	582	0	26,888
Advanced Technology Industries Division	11,605	400	0	5,436	200	0	17,641
Alberta Innovates Bio-Solutions	20,907	3,384	0	0	0	0	24,291
Alberta Innovates - Health Solutions	73,428	2,433	0	2,025	0	0	77,886
Alberta Innovates Technology Futures	142,392	8,406	2,740	9,054	0	0	162,592
Total Advanced Education & Technology	293,209	18,444	2,740	20,039	805	0	335,237
Agriculture and Rural Development	23,593	0	0	12,323	0	0	35,916
Children and Youth Services	0	0	0	2,000	200	0	2,200
Culture and Community Spirit	0	0	0	3,932	0	0	3,932
Education	0	0	0	30,839	786	0	31,625
Employment and Immigration	0	0	0	1,785	510	0	2,295
Energy	25,293	1,500	0	0	0	0	26,793
Environment	15,720	157	0	43,773	1,161	654	61,465
Finance and Enterprise	145	0	0	450	0	0	595
Health and Wellness	11,136	796	0	14,975	1,380	0	28,287
Housing and Urban Affairs	703	0	0	184	0	0	887
Infrastructure	13,749	150	0	4,275	0	0	18,174
Justice and Attorney General	0	0	0	2,140	0	0	2,140
Municipal Affairs	0	0	0	14	30	0	44
Seniors and Community Supports	35	0	23	178	56	0	292
Solicitor General and Public Security	99	0	0	431	0	0	530
Sustainable Resource Development	3,501	284	0	33,005	3,351	0	40,141
Tourism, Parks and Recreation	0	0	0	785	316	0	1,101
Transportation	1,866	5	0	10,074	352	0	12,297
Total	389,049	21,336	2,763	181,202	8,947	654	603,951
1. Administration of extramural programs							

Table 11 Total expenditures on R&D by department, ministry or agency and performing sector, 2009/2010

Department, ministry or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	PROs*	Other	Total
thousands of dollars							
Advanced Education & Technology							
Research and Innovation Division	0	0	179	0	...	1,010	1,189
Research Capacity Planning	757	0	21,152	0	...	500	22,409
Alberta Innovates - Energy and Environment Solutions	3,064	12,316	9,380	0	...	340	25,100
Advanced Technology Industries Division	400	3,890	5,065	650	...	2,000	12,005
Alberta Innovates Bio-Solutions	3,384	7,429	9,358	-	...	4,120	24,291
Alberta Innovates - Health Solutions	2,433	510	72,095	823	...	0	75,861
Alberta Innovates Technology Futures	98,811	6,261	48,466	0	...	0	153,538
Total Advanced Education & Technology	108,849	30,406	165,695	1,473	...	7,970	314,393
Agriculture and Rural Development	23,593	0	0	0	...	0	23,593
Energy	1,500	25,293	0	0	...	0	26,793
Environment	157	300	15,120	0	...	300	15,877
Finance and Enterprise	120	25	0	0	...	0	145
Health and Wellness	796	0	1,176	9,960	...	0	11,932
Housing and Urban Affairs	263	440	0	0	...	0	703
Infrastructure	300	0	0	0	...	13,599	13,899
Seniors and Community Supports	47	0	0	11	...	0	58
Solicitor General and Public Security	99	0	0	0	...	0	99
Sustainable Resource Development	965	2,247	223	0	...	350	3,785
Transportation	1,140	581	0	0	...	150	1,871
Total	137,829	59,292	182,214	11,444	...	22,369	413,148

*Provincial Research Organizations

Table 12 Intramural expenditures by department, ministry or agency and type of expenditure, 2009/2010

Department, ministry or agency	Current expenditures		Capital expenditures	Total
	Personnel costs	Other costs		
	thousands of dollars			
Advanced Education & Technology				
Post-Secondary Excellence Division	23	0	0	23
Research Capacity Planning	616	141	0	757
Alberta Innovates - Energy and Environment Solutions	1,917	1,729	0	3,646
Advanced Technology Industries Division	550	50	0	600
Alberta Innovates Bio-Solutions	1,945	1,439	0	3,384
Alberta Innovates - Health Solutions	3,269	1,189	0	4,458
Alberta Innovates Technology Futures	61,776	43,349	2,740	107,865
Total Advanced Education & Technology	70,096	47,897	2,740	120,733
Agriculture and Rural Development	32,324	3,592	0	35,916
Children and Youth Services	200	0	0	200
Culture and Community Spirit	2,663	666	0	3,329
Education	12,109	8,072	0	20,181
Employment and Immigration	850	210	0	1,060
Energy	1,500	0	0	1,500
Environment	14,701	7,165	654	22,520
Finance and Enterprise	570	0	0	570
Health and Wellness	2,176	0	0	2,176
Housing and Urban Affairs	447	0	0	447
Infrastructure	870	3,705	0	4,575
Justice and Attorney General	1,692	0	0	1,692
Municipal Affairs	30	0	0	30
Seniors and Community Supports	136	0	23	159
Solicitor General and Public Security	451	0	0	451
Sustainable Resource Development	16,672	348	0	17,020
Tourism, Parks and Recreation	444	29	0	473
Transportation	3,564	83	0	3,647
Total	161,495	71,767	3,417	236,679

Table 13.1 Personnel engaged in scientific activities, by department, ministry or agency and activities, 2009/2010—Intramural scientific activities

Department, ministry 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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Research and Innovation Division	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Research Capacity Planning	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alberta Innovates - Energy and Environment Solutions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Technology Industries Division	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alberta Innovates Bio-Solutions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alberta Innovates - Health Solutions	0.0	7.5	0.0	0.0	0.0	4.0	0.0	11.5
Alberta Innovates Technology Futures	173.0	10.0	127.0	47.0	193.0	16.0	493.0	73.0
Total Advanced Education & Technology	173.0	17.5	127.0	47.0	193.0	20.0	493.0	84.5
Agriculture and Rural Development	55.0	85.8	93.6	54.3	2.9	0.0	151.5	140.1
Children and Youth Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Culture and Community Spirit	0.0	40.9	0.0	0.0	0.0	0.0	0.0	40.9
Education	0.0	31.2	0.0	13.0	0.0	56.4	0.0	100.6
Employment and Immigration	0.0	7.0	0.0	0.0	0.0	0.0	0.0	7.0
Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Environment	0.0	49.0	0.0	29.0	0.0	36.5	0.0	114.5
Finance and Enterprise	1.5	4.5	0.0	0.0	0.0	0.0	1.5	4.5
Health and Wellness	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Housing and Urban Affairs	2.7	2.3	0.0	0.0	1.0	0.6	3.7	2.9
Infrastructure	2.5	9.5	0.0	0.0	0.0	0.0	2.5	9.5
Justice and Attorney General	0.0	17.5	0.0	0.0	0.0	0.0	0.0	17.5
Municipal Affairs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Seniors and Community Supports	0.3	0.5	0.0	0.0	0.0	0.3	0.3	0.8
Solicitor General and Public Security	0.9	5.4	0.0	0.0	0.0	0.0	0.9	5.4
Sustainable Resource Development	7.0	74.7	1.0	75.0	0.5	5.5	8.5	155.2
Tourism, Parks and Recreation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation	0.0	2.2	10.0	0.0	0.0	0.0	10.0	2.2
Total	242.9	348.0	231.6	218.3	197.4	119.3	671.9	685.6

Table 13.2 Personnel engaged in scientific activities, by department, ministry or agency and activities, 2009/2010— Administration of extramural programs

Department, ministry 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	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4
Research and Innovation Division	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Research Capacity Planning	4.0	0.0	0.0	0.0	3.0	0.0	7.0	0.0
Alberta Innovates - Energy and Environment Solutions	8.0	0.0	0.0	0.0	6.0	2.0	14.0	2.0
Advanced Technology Industries Division	3.0	1.5	0.0	0.0	1.0	0.5	4.0	2.0
Alberta Innovates Bio-Solutions	8.0	0.0	0.0	0.0	4.5	0.0	12.5	0.0
Alberta Innovates - Health Solutions	0.0	0.0	3.0	0.0	20.5	0.0	23.5	0.0
Alberta Innovates Technology Futures	10.0	0.0	12.0	0.0	16.0	0.0	38.0	0.0
Total Advanced Education & Technology	33.0	1.9	15.0	0.0	51.0	2.5	99.0	4.4
Agriculture and Rural Development	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Children and Youth Services	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0
Culture and Community Spirit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Education	0.0	1.3	0.0	0.5	0.0	1.2	0.0	3.0
Employment and Immigration	0.0	6.5	0.0	0.0	0.0	0.0	0.0	6.5
Energy	14.0	0.0	1.0	0.0	0.0	0.0	15.0	0.0
Environment	1.0	5.0	0.5	4.0	0.5	4.0	2.0	13.0
Finance and Enterprise	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Health and Wellness	10.0	17.0	0.1	0.1	1.6	2.4	11.7	19.5
Housing and Urban Affairs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Infrastructure	2.5	0.0	0.0	0.0	0.0	0.0	2.5	0.0
Justice and Attorney General	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Municipal Affairs	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4
Seniors and Community Supports	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.7
Solicitor General and Public Security	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sustainable Resource Development	3.2	29.3	0.0	6.5	0.0	3.8	3.2	39.6
Tourism, Parks and Recreation	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0
Transportation	6.0	2.8	0.0	2.0	0.0	0.0	6.0	4.8
Total	69.7	69.9	16.6	13.1	53.1	13.9	139.4	96.9

Table 13.3 Personnel engaged in scientific activities, by department, ministry or agency and activities, 2009/2010 - total scientific activities

Department, ministry 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	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4
Research and Innovation Division	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Research Capacity Planning	4.0	0.0	0.0	0.0	3.0	0.0	7.0	0.0
Alberta Innovates - Energy and Environment Solutions	8.0	0.0	0.0	0.0	6.0	2.0	14.0	2.0
Advanced Technology Industries Division	3.0	1.5	0.0	0.0	1.0	0.5	4.0	2.0
Alberta Innovates Bio-Solutions	8.0	0.0	0.0	0.0	4.5	0.0	12.5	0.0
Alberta Innovates - Health Solutions	0.0	7.5	3.0	0.0	20.5	4.0	23.5	11.5
Alberta Innovates Technology Futures	183.0	10.0	139.0	47.0	209.0	16.0	531.0	73.0
Total Advanced Education & Technology	206.0	19.4	142.0	47.0	244.0	22.5	592.0	88.9
Agriculture and Rural Development	55.0	85.8	93.6	54.3	2.9	0.0	151.5	140.1
Children and Youth Services	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0
Culture and Community Spirit	0.0	40.9	0.0	0.0	0.0	0.0	0.0	40.9
Education	0.0	32.5	0.0	13.5	0.0	57.6	0.0	103.6
Employment and Immigration	0.0	13.5	0.0	0.0	0.0	0.0	0.0	13.5
Energy	14.0	0.0	1.0	0.0	0.0	0.0	15.0	0.0
Environment	1.0	54.0	0.5	33.0	0.5	40.5	2.0	127.5
Finance and Enterprise	1.5	4.5	0.0	0.0	0.0	0.0	1.5	4.5
Health and Wellness	10.0	17.0	0.1	0.1	1.6	2.4	11.7	19.5
Housing and Urban Affairs	2.7	2.3	0.0	0.0	1.0	0.6	3.7	2.9
Infrastructure	5.0	9.5	0.0	0.0	0.0	0.0	5.0	9.5
Justice and Attorney General	0.0	17.5	0.0	0.0	0.0	0.0	0.0	17.5
Municipal Affairs	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4
Seniors and Community Supports	0.3	1.2	0.0	0.0	0.0	0.3	0.3	1.5
Solicitor General and Public Security	0.9	5.4	0.0	0.0	0.0	0.0	0.9	5.4
Sustainable Resource Development	10.2	104.0	1.0	81.5	0.5	9.3	11.7	194.8
Tourism, Parks and Recreation	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0
Transportation	6.0	5.0	10.0	2.0	0.0	0.0	16.0	7.0
Total	312.6	417.9	248.2	231.4	250.5	133.2	811.3	782.5

Table 14 Objectives of expenditures by department, ministry or agency, 2009/2010

Department, ministry 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	0	0	0	0	0	0	0	0
Research and Innovation Division	0	0	0	0	0	179	0	0
Research Capacity Planning	0	0	0	0	0	0	0	0
Alberta Innovates - Energy and Environment Solutions	3,893	0	0	0	258	0	11,508	0
Advanced Technology Industries Division	0	0	0	0	0	4,400	0	250
Alberta Innovates Bio-Solutions	0	0	0	0	0	220	0	11,580
Alberta Innovates - Health Solutions	0	0	0	0	0	77,886	0	0
Alberta Innovates Technology Futures	0	0	0	0	13,701	3,834	46,860	7,564
Total Advanced Education & Technology	3,893	0	0	0	13,959	86,519	58,368	19,394
Agriculture and Rural Development	0	0	0	0	0	0	0	35,916
Children and Youth Services	0	0	0	0	0	0	0	0
Culture and Community Spirit	0	0	0	0	0	0	0	0
Education	0	0	0	0	0	0	0	0
Employment and Immigration	0	0	0	0	0	0	0	0
Energy	0	0	0	0	1,632	0	25,161	0
Environment	0	0	0	0	61,465	0	0	0
Finance and Enterprise	0	0	0	0	0	0	0	0
Health and Wellness	0	0	0	0	0	28,287	0	0
Housing and Urban Affairs	0	0	0	0	0	0	0	0
Infrastructure	0	0	0	18,174	0	0	0	0
Justice and Attorney General	0	0	0	0	0	0	0	0
Municipal Affairs	0	0	0	0	27	17	0	0
Seniors and Community Supports	0	0	0	0	0	91	0	0
Solicitor General and Public Security	0	0	0	0	0	0	0	0
Sustainable Resource Development	9,334	0	0	1,720	10,305	0	0	0
Tourism, Parks and Recreation	0	0	0	0	311	0	0	0
Transportation	0	12,297	0	0	0	0	0	0
Total	13,227	12,297	0	19,894	87,699	114,914	83,529	55,310

Table 14 Objectives of expenditures by department, ministry or agency, 2009/2010 (continued)

Department, ministry 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	0	0	0	313	0	0	0	313
Research and Innovation Division	0	0	0	2,028	0	1,010	0	3,217
Research Capacity Planning	0	0	0	0	0	22,409	0	22,409
Alberta Innovates - Energy and Environment Solutions	0	0	0	0	0	11,229	0	26,888
Advanced Technology Industries Division	0	0	5,005	3,536	0	0	4,450	17,641
Alberta Innovates Bio-Solutions	0	11,961	530	0	0	0	0	24,291
Alberta Innovates - Health Solutions	0	0	0	0	0	0	0	77,886
Alberta Innovates Technology Futures	0	6,058	27,663	0	0	56,912	0	162,592
Total Advanced Education & Technology	0	18,019	33,198	5,877	0	91,560	4,450	335,237
Agriculture and Rural Development	0	0	0	0	0	0	0	35,916
Children and Youth Services	0	0	0	2,200	0	0	0	2,200
Culture and Community Spirit	0	0	0	3,932	0	0	0	3,932
Education	0	0	0	31,625	0	0	0	31,625
Employment and Immigration	0	0	0	2,295	0	0	0	2,295
Energy	0	0	0	0	0	0	0	26,793
Environment	0	0	0	0	0	0	0	61,465
Finance and Enterprise	0	0	0	0	0	595	0	595
Health and Wellness	0	0	0	0	0	0	0	28,287
Housing and Urban Affairs	0	0	0	887	0	0	0	887
Infrastructure	0	0	0	0	0	0	0	18,174
Justice and Attorney General	0	0	0	2,140	0	0	0	2,140
Municipal Affairs	0	0	0	0	0	0	0	44
Seniors and Community Supports	0	0	0	201	0	0	0	292
Solicitor General and Public Security	0	0	0	375	0	155	0	530
Sustainable Resource Development	0	18,570	0	212	0	0	0	40,141
Tourism, Parks and Recreation	0	0	0	0	0	0	790	1,101
Transportation	0	0	0	0	0	0	0	12,297
Total	0	36,589	33,198	49,744	0	92,310	5,240	603,951

Table 15 Objectives of expenditures by activity, 2009/2010

Table 10 Objectives of expenditures by activity, 2000-2010

Objectives	Intramural		Extramural		Total
	Research and development	Related scientific activities	Research and development	Related scientific activities	
	thousands of dollars				
Exploration & exploitation of the Earth	490	4,390	2,506	5,841	13,227
Infrastructure and general planning of land use					
Transportation systems	1,140	2,507	731	7,919	12,297
Telecommunications systems	0	0	0	0	0
Other	309	4,645	13,848	1,092	19,894
Control and care of the environment	9,253	34,849	16,394	27,203	87,699
Protection and improvement of human health	7,270	3,457	89,203	14,984	114,914
Production, distribution and rational utilization of energy	45,288	3,300	34,803	138	83,529
Agricultural production and technology	33,705	12,323	9,282	0	55,310
Fishing	0	0	0	0	0
Forestry	7,770	5,124	13,686	10,009	36,589
Industrial production and technology	21,632	0	11,566	0	33,198
Social structures and relationships	263	27,133	451	21,897	49,744
Exploration and exploitation of space	0	0	0	0	0
Basic research	10,709	706	80,499	396	92,310
Other civil research	0	416	2,350	2,474	5,240
Total	137,829	98,850	275,319	91,953	603,951

Table 16 Total expenditures by activity and performing sector, 2010/2011 preliminary

Activity	Intramural	Business enterprises	Higher education	Hospitals and health organizations	PROs*	Other	Total
thousands of dollars							
Research and Development (R&D)							
Current expenditures:							
In-house R&D	50,617	...	...	...	...	...	50,617
R&D contracts	56,704	76,114	28,524	45	...	6,558	167,945
R&D grants and contributions	...	15,189	112,742	15,280	...	11,114	154,325
Research fellowships	0	0	20	0	...	0	20
Administration of extramural R&D	29,060	...	...	...	...	...	29,060
Sub-total current R&D	136,381	91,303	141,286	15,325	...	17,672	401,967
Capital expenditures	2,470	...	...	...	...	...	2,470
Total R&D	138,851	91,303	141,286	15,325	...	17,672	404,437
Related scientific activities (RSA)							
Current expenditures	98,487	36,530	3,122	16,099	...	22,869	177,107
Administration of extramural RSA	8,073	...	...	...	...	...	8,073
Sub-total current RSA	106,560	36,530	3,122	16,099	...	22,869	185,180
Capital expenditures	654	...	...	...	...	...	654
Total RSA	107,214	36,530	3,122	16,099	...	22,869	185,834
Total	246,065	127,833	144,408	31,424	...	40,541	590,271

*Provincial Research Organizations

Table 17 Total expenditures by department, ministry or agency and performing sector, 2010/2011 preliminary

Department, ministry or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	PROs*	Other	Total
thousands of dollars							
Advanced Education & Technology Post-Secondary Excellence Division	23	170	0	0	...	0	193
Research and Innovation Division	0	299	125	0	...	3,096	3,520
Research Capacity Planning Alberta Innovates - Energy and Environment Solutions	757	0	11,692	0	...	600	13,049
Advanced Technology Industries Division	5,416	12,269	11,111	0	...	1,455	30,251
Alberta Innovates Bio-Solutions	600	7,000	9,725	5,000	...	3,000	25,325
Alberta Innovates - Health Solutions	2,940	598	13,281	-	...	4,242	21,061
Alberta Innovates Technology Futures	5,455	1,300	65,924	170	...	700	73,549
Total Advanced Education & Technology	117,197	10,700	28,470	0	...	0	156,367
Total	132,388	32,336	140,328	5,170	...	13,093	323,315
Agriculture and Rural Development	35,916	0	0	0	...	0	35,916
Children and Youth Services	400	0	0	0	...	2,000	2,400
Culture and Community Spirit	3,329	0	0	0	...	600	3,929
Education	18,156	96	503	0	...	8,365	27,120
Employment and Immigration	1,020	885	0	0	...	380	2,285
Energy	1,500	64,000	0	0	...	0	65,500
Environment	21,844	7,433	286	0	...	5,061	34,624
Finance and Enterprise	790	70	0	0	...	0	860
Health and Wellness	2,168	0	2,172	26,160	...	0	30,500
Housing and Urban Affairs	455	176	0	0	...	0	631
Infrastructure	6,481	0	0	0	...	6,558	13,039
Justice and Attorney General	1,692	50	845	0	...	400	2,987
Seniors and Community Supports	50	21	0	94	...	0	165
Solicitor General and Public Security	441	25	0	0	...	0	466
Sustainable Resource Development	16,256	13,373	274	0	...	4,003	33,906
Tourism, Parks and Recreation	516	452	0	0	...	81	1,049
Transportation	2,663	8,916	0	0	...	0	11,579
Total	246,065	127,833	144,408	31,424	...	40,541	590,271

*Provincial Research Organizations

Table 18 Total expenditures by department, ministry or agency and activity, 2010/2011 preliminary

Department, ministry or agency	Research and development			Related scientific activities			Total
	Current	AEP ¹	Capital	Current	AEP ¹	Capital	
	thousands of dollars						
Advanced Education & Technology							
Post-Secondary Excellence Division	0	0	0	170	23	0	193
Research and Innovation Division	1,492	0	0	2,028	0	0	3,520
Research Capacity Planning	12,292	757	0	0	0	0	13,049
Alberta Innovates - Energy and Environment Solutions	22,094	4,901	0	2,741	515	0	30,251
Advanced Technology Industries Division	17,725	400	0	7,000	200	0	25,325
Alberta Innovates Bio-Solutions	18,121	2,940	0	0	0	0	21,061
Alberta Innovates - Health Solutions	68,094	2,895	0	2,560	0	0	73,549
Alberta Innovates Technology Futures	121,274	14,623	2,470	18,000	0	0	156,367
Total Advanced Education & Technology	261,092	26,516	2,470	32,499	738	0	323,315
Agriculture and Rural Development	23,593	0	0	12,323	0	0	35,916
Children and Youth Services	0	0	0	2,200	200	0	2,400
Culture and Community Spirit	0	0	0	3,929	0	0	3,929
Education	0	0	0	26,564	556	0	27,120
Employment and Immigration	0	0	0	1,775	510	0	2,285
Energy	64,000	1,500	0	0	0	0	65,500
Environment	600	6	0	32,728	636	654	34,624
Finance and Enterprise	270	0	0	590	0	0	860
Health and Wellness	11,519	796	0	16,813	1,372	0	30,500
Housing and Urban Affairs	439	0	0	192	0	0	631
Infrastructure	6,708	150	0	6,181	0	0	13,039
Justice and Attorney General	845	0	0	2,142	0	0	2,987
Seniors and Community Supports	45	10	0	100	10	0	165
Solicitor General and Public Security	115	0	0	351	0	0	466
Sustainable Resource Development	2,950	72	0	27,502	3,382	0	33,906
Tourism, Parks and Recreation	0	0	0	733	316	0	1,049
Transportation	731	10	0	10,485	353	0	11,579
Total	372,907	29,060	2,470	177,107	8,073	654	590,271
1. Administration of extramural programs							

Table 19 Total expenditures on R&D by department, ministry or agency and performing sector, 2010/2011 preliminary

Department, ministry or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	PROs*	Other	Total
thousands of dollars							
Advanced Education & Technology							
Research and Innovation Division	0	0	125	0	...	1,367	1,492
Research Capacity Planning	757	0	11,692	0	...	600	13,049
Alberta Innovates - Energy and Environment Solutions	4,901	11,648	9,541	0	...	905	26,995
Advanced Technology Industries Division	400	0	9,725	5,000	...	3,000	18,125
Alberta Innovates Bio-Solutions	2,940	598	13,281	0	...	4,242	21,061
Alberta Innovates - Health Solutions	2,895	1,300	65,924	170	...	700	70,989
Alberta Innovates Technology Futures	99,197	10,700	28,470	0	...	0	138,367
Total Advanced Education & Technology	111,090	24,246	138,758	5,170	...	10,814	290,078
Agriculture and Rural Development	23,593	0	0	0	...	0	23,593
Energy	1,500	64,000	0	0	...	0	65,500
Environment	6	300	0	0	...	300	606
Finance and Enterprise	200	70	0	0	...	0	270
Health and Wellness	796	0	1,409	10,110	...	0	12,315
Housing and Urban Affairs	263	176	0	0	...	0	439
Infrastructure	300	0	0	0	...	6,558	6,858
Justice and Attorney General	0	0	845	0	...	0	845
Seniors and Community Supports	10	0	0	45	...	0	55
Solicitor General and Public Security	115	0	0	0	...	0	115
Sustainable Resource Development	968	1,780	274	0	...	0	3,022
Transportation	10	731	0	0	...	0	741
Total	138,851	91,303	141,286	15,325	...	17,672	404,437

*Provincial Research Organizations

Table 20.1 Personnel engaged in scientific activities, by department, ministry or agency and activities, 2010/2011 preliminary — Intramural scientific activities

Department, ministry 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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Research and Innovation Division	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Research Capacity Planning	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alberta Innovates - Energy and Environment Solutions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Technology Industries Division	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alberta Innovates Bio-Solutions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alberta Innovates - Health Solutions	0.0	10.0	0.0	0.0	0.0	3.0	0.0	13.0
Alberta Innovates Technology Futures	173.0	10.0	127.0	47.0	198.0	16.0	498.0	73.0
Total Advanced Education & Technology	173.0	20.0	127.0	47.0	198.0	19.0	498.0	86.0
Agriculture and Rural Development	55.0	85.8	93.6	54.3	2.9	0.0	151.5	140.1
Children and Youth Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Culture and Community Spirit	0.0	40.9	0.0	0.0	0.0	0.0	0.0	40.9
Education	0.0	32.6	0.0	4.8	0.0	56.6	0.0	94.0
Employment and Immigration	0.0	6.5	0.0	0.0	0.0	0.0	0.0	6.5
Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Environment	0.0	49.0	0.0	29.0	0.0	32.0	0.0	110.0
Finance and Enterprise	1.5	5.5	0.5	0.5	0.0	0.0	2.0	6.0
Health and Wellness	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Housing and Urban Affairs	2.3	2.7	0.0	0.0	0.6	1.0	2.9	3.7
Infrastructure	2.5	10.6	0.0	0.0	0.0	0.0	2.5	10.6
Justice and Attorney General	0.0	17.5	0.0	0.0	0.0	0.0	0.0	17.5
Seniors and Community Supports	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4
Solicitor General and Public Security	1.7	4.7	0.0	0.0	0.0	0.0	1.7	4.7
Sustainable Resource Development	7.7	72.9	2.6	69.5	0.4	3.5	10.7	145.9
Tourism, Parks and Recreation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation	0.0	1.6	10.0	0.0	0.0	0.0	10.0	1.6
Total	243.7	350.7	233.7	205.1	201.9	112.1	679.3	667.9

Table 20.2 Personnel engaged in scientific activities, by department, ministry or agency and activities, 2010/2011 preliminary — Administration of extramural programs

Department, ministry 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	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4
Research and Innovation Division	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Research Capacity Planning	4.0	0.0	0.0	0.0	3.0	0.0	7.0	0.0
Alberta Innovates - Energy and Environment Solutions	8.0	0.0	0.0	0.0	6.0	2.0	14.0	2.0
Advanced Technology Industries Division	2.0	4.0	0.0	0.0	0.0	0.0	2.0	4.0
Alberta Innovates Bio-Solutions	11.2	0.0	0.0	0.0	4.5	0.0	15.7	0.0
Alberta Innovates - Health Solutions	0.0	0.0	3.0	0.0	24.0	0.0	27.0	0.0
Alberta Innovates Technology Futures	5.0	0.0	8.0	0.0	26.0	0.0	39.0	0.0
Total Advanced Education & Technology	30.2	4.4	11.0	0.0	63.5	2.0	104.7	6.4
Agriculture and Rural Development	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Children and Youth Services	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0
Culture and Community Spirit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Education	0.0	1.4	0.0	0.2	0.0	2.4	0.0	4.0
Employment and Immigration	0.0	6.5	0.0	0.0	0.0	0.0	0.0	6.5
Energy	14.0	0.0	1.0	0.0	0.0	0.0	15.0	0.0
Environment	0.5	2.5	0.5	2.0	0.5	2.0	1.5	6.5
Finance and Enterprise	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Health and Wellness	10.0	17.0	0.1	0.1	1.6	2.3	11.7	19.4
Housing and Urban Affairs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Infrastructure	2.5	0.0	0.0	0.0	0.0	0.0	2.5	0.0
Justice and Attorney General	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Seniors and Community Supports	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1
Solicitor General and Public Security	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sustainable Resource Development	0.8	29.2	0.0	7.5	0.0	3.3	0.8	40.0
Tourism, Parks and Recreation	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0
Transportation	6.0	3.3	0.0	2.0	0.0	0.0	6.0	5.3
Total	64.1	69.4	12.6	11.8	65.6	12.0	142.3	93.2

Table 20.3 Personnel engaged in scientific activities, by department, ministry or agency and activities, 2010/2011 preliminary — Total scientific activities

Department, ministry 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	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4
Research and Innovation Division	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Research Capacity Planning	4.0	0.0	0.0	0.0	3.0	0.0	7.0	0.0
Alberta Innovates - Energy and Environment Solutions	8.0	0.0	0.0	0.0	6.0	2.0	14.0	2.0
Advanced Technology Industries Division	2.0	4.0	0.0	0.0	0.0	0.0	2.0	4.0
Alberta Innovates Bio-Solutions	11.2	0.0	0.0	0.0	4.5	0.0	15.7	0.0
Alberta Innovates - Health Solutions	0.0	10.0	3.0	0.0	24.0	3.0	27.0	13.0
Alberta Innovates Technology Futures	178.0	10.0	135.0	47.0	224.0	16.0	537.0	73.0
Total Advanced Education & Technology	203.2	24.4	138.0	47.0	261.5	21.0	602.7	92.4
Agriculture and Rural Development	55.0	85.8	93.6	54.3	2.9	0.0	151.5	140.1
Children and Youth Services	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0
Culture and Community Spirit	0.0	40.9	0.0	0.0	0.0	0.0	0.0	40.9
Education	0.0	34.0	0.0	5.0	0.0	59.0	0.0	98.0
Employment and Immigration	0.0	13.0	0.0	0.0	0.0	0.0	0.0	13.0
Energy	14.0	0.0	1.0	0.0	0.0	0.0	15.0	0.0
Environment	0.5	51.5	0.5	31.0	0.5	34.0	1.5	116.5
Finance and Enterprise	1.5	5.5	0.5	0.5	0.0	0.0	2.0	6.0
Health and Wellness	10.0	17.0	0.1	0.1	1.6	2.3	11.7	19.4
Housing and Urban Affairs	2.3	2.7	0.0	0.0	0.6	1.0	2.9	3.7
Infrastructure	5.0	10.6	0.0	0.0	0.0	0.0	5.0	10.6
Justice and Attorney General	0.0	17.5	0.0	0.0	0.0	0.0	0.0	17.5
Seniors and Community Supports	0.1	0.5	0.0	0.0	0.0	0.0	0.1	0.5
Solicitor General and Public Security	1.7	4.7	0.0	0.0	0.0	0.0	1.7	4.7
Sustainable Resource Development	8.5	102.1	2.6	77.0	0.4	6.8	11.5	185.9
Tourism, Parks and Recreation	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0
Transportation	6.0	4.9	10.0	2.0	0.0	0.0	16.0	6.9
Total	307.8	420.1	246.3	216.9	267.5	124.1	821.6	761.1

Table 21 Objectives of expenditures by department, ministry or agency, 2010/2011 preliminary

Department, ministry or agency	Exploration and exploitation of the earth	Infrastructure and general planning of land use			Control and care of the enviro- nment	Protection and improve- ment of human health	Production distribution and rational utilization of energy	Agriculture production and technology
		Transport- ation systems	Telecom- munications systems	Other				
thousands of dollars								
Advanced Education & Technology								
Post-Secondary Excellence Division	0	0	0	0	0	0	0	0
Research and Innovation Division	0	0	0	0	0	125	0	0
Research Capacity Planning	0	0	0	0	0	0	0	0
Alberta Innovates - Energy and Environment Solutions	3,489	0	0	0	4,037	0	9,978	0
Advanced Technology Industries Division	500	0	0	0	1,300	10,150	0	0
Alberta Innovates Bio-Solutions	0	0	0	0	0	0	0	14,230
Alberta Innovates - Health Solutions	0	0	0	0	0	73,549	0	0
Alberta Innovates Technology Futures	0	0	0	0	13,701	3,834	41,299	7,564
Total Advanced Education & Technology	3,989	0	0	0	19,038	87,658	51,277	21,794
Agriculture and Rural Development	0	0	0	0	0	0	0	35,916
Children and Youth Services	0	0	0	0	0	0	0	0
Culture and Community Spirit	0	0	0	0	0	0	0	0
Education	0	0	0	0	0	0	0	0
Employment and Immigration	0	0	0	0	0	0	0	0
Energy	0	0	0	0	41,100	0	24,400	0
Environment	0	0	0	0	34,624	0	0	0
Finance and Enterprise	0	0	0	0	0	0	0	0
Health and Wellness	0	0	0	0	15,909	14,591	0	0
Housing and Urban Affairs	0	0	0	0	0	0	0	0
Infrastructure	0	0	0	13,039	0	0	0	0
Justice and Attorney General	0	0	0	0	0	0	0	0
Seniors and Community Supports	0	0	0	0	0	14	0	0
Solicitor General and Public Security	0	0	0	0	0	0	0	0
Sustainable Resource Development	8,734	0	0	1,935	10,234	0	0	0
Tourism, Parks and Recreation	0	0	0	0	229	0	0	0
Transportation	0	11,579	0	0	0	0	0	0
Total	12,723	11,579	0	14,974	121,134	102,263	75,677	57,710

Table 21 Objectives of expenditures by department, ministry or agency, 2010/2011 preliminary (continued)

Department, ministry 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	0	0	0	0	0	0	0	0
Post-Secondary Excellence Division	0	0	0	193	0	0	0	193
Research and Innovation Division	0	0	0	2,028	0	1,367	0	3,520
Research Capacity Planning	0	0	0	0	0	13,049	0	13,049
Alberta Innovates - Energy and Environment Solutions	0	0	150	0	0	12,597	0	30,251
Advanced Technology Industries Division	0	0	8,225	0	0	0	5,150	25,325
Alberta Innovates Bio-Solutions	0	5,821	1,010	0	0	0	0	21,061
Alberta Innovates - Health Solutions	0	0	0	0	0	0	0	73,549
Alberta Innovates Technology Futures	0	6,058	34,785	0	0	49,126	0	156,367
Total Advanced Education & Technology	0	11,879	44,170	2,221	0	76,139	5,150	323,315
Agriculture and Rural Development	0	0	0	0	0	0	0	35,916
Children and Youth Services	0	0	0	2,400	0	0	0	2,400
Culture and Community Spirit	0	0	0	3,929	0	0	0	3,929
Education	0	0	0	27,120	0	0	0	27,120
Employment and Immigration	0	0	0	2,285	0	0	0	2,285
Energy	0	0	0	0	0	0	0	65,500
Environment	0	0	0	0	0	0	0	34,624
Finance and Enterprise	0	0	0	0	0	860	0	860
Health and Wellness	0	0	0	0	0	0	0	30,500
Housing and Urban Affairs	0	0	0	631	0	0	0	631
Infrastructure	0	0	0	0	0	0	0	13,039
Justice and Attorney General	0	0	0	2,987	0	0	0	2,987
Seniors and Community Supports	0	0	0	151	0	0	0	165
Solicitor General and Public Security	0	0	0	301	0	165	0	466
Sustainable Resource Development	0	12,753	0	250	0	0	0	33,906
Tourism, Parks and Recreation	0	0	0	0	0	0	820	1,049
Transportation	0	0	0	0	0	0	0	11,579
Total	0	24,632	44,170	42,275	0	77,164	5,970	590,271

Table 22 Objectives of expenditures by activity, 2010/2011 preliminary					
Objectives	Intramural		Extramural		Total
	Research and development	Related scientific activities	Research and development	Related scientific activities	
	thousands of dollars				
Exploration & exploitation of the Earth	500	4,217	3,467	4,539	12,723
Infrastructure and general planning of land use					
Transportation systems	10	2,653	731	8,185	11,579
Telecommunications systems	0	0	0	0	0
Other	300	6,872	6,757	1,045	14,974
Control and care of the environment	10,480	35,168	49,321	26,165	121,134
Protection and improvement of human health	6,897	2,647	85,054	7,665	102,263
Production, distribution and rational utilization of energy	41,440	3,259	30,749	229	75,677
Agricultural production and technology	32,911	12,323	12,476	0	57,710
Fishing	0	0	0	0	0
Forestry	8,112	4,359	6,500	5,661	24,632
Industrial production and technology	19,688	9,046	13,286	2,150	44,170
Social structures and relationships	273	25,114	1,066	15,822	42,275
Exploration and exploitation of space	0	0	0	0	0
Basic research	18,190	1,140	56,179	1,655	77,164
Other civil research	50	416	0	5,504	5,970
Total	138,851	107,214	265,586	78,620	590,271

Table 23 Total expenditures in the natural sciences, by activity, 2005/2006 to 2010/2011 preliminary						
Activity	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011 ^P
thousands of dollars						
Research and Development (R&D)						
Current expenditures:						
In-house R&D	46,765	51,917	63,258	68,097	50,950	50,039
R&D contracts	35,452	46,761	74,280	82,527	157,475	167,654
R&D grants and contributions	140,416	176,507	194,292	211,845	175,641	148,796
Research fellowships	2,335	1,468	816	475	19	20
Administration of extramural R&D	13,502	14,502	19,063	17,194	20,558	28,272
Sub-total current R&D	238,470	291,155	351,709	380,138	404,643	394,781
Capital expenditures	27,916	16,128	8,427	12,201	2,740	2,470
Total R&D	266,386	307,283	360,136	392,339	407,383	397,251
Related scientific activities (RSA)						
Current expenditures:						
Education support	80	592	980	510	506	1,095
Technical Surveys	37,588	66,897	80,342	85,588	54,943	41,253
Information services	17,376	19,206	24,090	31,342	18,696	20,052
Special services and studies	28,209	19,151	32,299	33,971	49,832	52,650
Museum services	2,200	1,797	2,825	6,204	2,418	12,162
Administration of extramural RSA	668	2,769	3,698	1,684	5,655	5,119
Sub-total current RSA	86,121	110,412	144,234	159,299	132,050	132,331
Capital expenditures	4,327	7,015	4,369	1,628	619	619
Total RSA	90,448	117,427	148,603	160,927	132,669	132,950
Total	356,834	424,710	508,739	553,266	540,052	530,201

Table 24 Total expenditures in the natural sciences, by department, ministry or agency, 2005/2006 to 2010/2011 preliminary

Department, ministry or agency	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011 ^P
thousands of dollars						
Advanced Education & Technology¹						
Research and Innovation Division	...	...	...	...	1,189	1,492
University Research and Strategic Investments Branch	...	25,319	11,511	21,722	...	...
Research Capacity Planning	...	...	...	...	22,409	13,049
Alberta Energy Research Institute	...	29,276	47,952	26,462	...	...
Alberta Innovates - Energy and Environment Solutions	...	...	...	...	26,888	30,251
Technology Commercialization Division	...	4,938	8,880	21,553	...	...
Alberta ICT Institute	...	3,122	3,162	9,139	...	...
Advanced Technology Industries Division	...	...	...	...	17,641	25,325
Life Sciences Branch	...	14,125	10,162	18,989	...	...
Alberta Innovates Bio-Solutions	...	...	...	...	24,291	21,061
Alberta Heritage Foundation for Medical Research	...	56,559	69,727	72,274	...	...
Alberta Innovates - Health Solutions	...	...	...	...	77,886	73,549
Alberta Research Council Inc.	...	93,543	104,377	113,779	...	...
iCORE Inc.	...	10,866	12,557	12,843	...	...
Alberta Ingenuity Fund	...	30,229	36,550	46,710	...	...
Alberta Innovates Technology Futures	...	...	...	...	162,592	156,367
Total Advanced Education & Technology	...	267,977	304,878	343,471	332,896	321,094
Agriculture and Food	...	32,131	...	...	...	...
Agriculture and Rural Development	...	...	41,903	36,226	35,916	35,916
Agriculture, Food and Rural Development	28,654	...	...	...	...	...
Community Development	2,684	...	...	...	...	...
Culture and Community Spirit	...	...	2,700	2,688	2,418	2,418
Energy ²	...	150	22,867	24,522	26,793	65,500
Environment ³	14,507	24,646	36,985	38,024	57,509	32,179
Health and Wellness	17,308	19,699	12,595	15,399	13,799	14,591
Infrastructure	...	...	6,430	12,076	18,174	13,039
Infrastructure and Transportation	37,657	27,358	...	...	...	...
Innovation and Science	226,959	...	...	...	...	...
Municipal Affairs	219	...	121	165	27	0
Municipal Affairs and Housing	...	15	...	...	...	...
Sustainable Resource Development⁴	28,846	49,963	67,491	68,721	39,912	33,656
Tourism, Parks and Recreation	...	...	429	381	311	229
Tourism, Parks, Recreation and Culture	...	2,771	...	...	...	...
Transportation	...	...	12,340	11,593	12,297	11,579
Total	356,834	424,710	508,739	553,266	540,052	530,201
Note(s): Departments shaded in grey are the active departments reporting scientific and technological activities.						

Table 25 Total expenditures in the natural sciences, by performing sector, 2005/2006 to 2010/2011 preliminary

Performing sector	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011 ^P
	thousands of dollars					
Intramural	190,588	203,564	215,319	235,949	206,345	217,549
Business Enterprise	26,014	51,080	118,663	125,879	103,894	125,100
Higher Education	128,275	125,180	130,046	149,313	183,970	141,067
Hospitals and Health organizations	200	17,542	18,181	17,862	14,843	19,470
Provincial Research Organizations	...	...	...	...	...	...
Other	11,757	27,344	26,530	24,263	31,000	27,015
Total	356,834	424,710	508,739	553,266	540,052	530,201

Table 26 Total expenditures on R&D, in the natural sciences, by performing sector, 2005/2006 to 2010/2011 preliminary

Performing sector	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011 ^P
	thousands of dollars					
Intramural	121,827	123,970	138,568	150,373	136,522	137,485
Business Enterprise	11,354	21,808	62,545	66,186	58,827	91,057
Higher Education	126,611	123,922	129,395	148,469	181,107	139,132
Hospitals and Health organizations	200	16,942	13,311	12,187	8,558	11,905
Provincial Research Organizations	...	...	...	...	...	...
Other	6,394	20,641	16,317	15,124	22,369	17,672
Total	266,386	307,283	360,136	392,339	407,383	397,251

Table 27 Total expenditures on R&D, in the natural sciences, by department, ministry or agency, 2005/2006 to 2010/2011 preliminary

Department, ministry or agency	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011 ^P
thousands of dollars						
Advanced Education & Technology¹						
Research and Innovation Division	...	...	...	...	1,189	1,492
University Research and Strategic Investments Branch	...	25,192	11,501	21,722	...	...
Research Capacity Planning	...	...	...	...	22,409	13,049
Alberta Energy Research Institute	...	28,999	47,512	24,921	...	...
Alberta Innovates - Energy and Environment Solutions	...	...	...	...	25,100	26,995
Technology Commercialization Division	...	2,913	7,680	7,768	...	...
Alberta ICT Institute	...	3,010	2,836	8,339	...	...
Advanced Technology Industries Division	...	...	...	...	12,005	18,125
Life Sciences Branch	...	13,418	9,758	18,958	...	...
Alberta Innovates Bio-Solutions	...	...	...	...	24,291	21,061
Alberta Heritage Foundation for Medical Research	...	56,559	68,187	70,131	...	...
Alberta Innovates - Health Solutions	...	...	...	...	75,861	70,989
Alberta Research Council Inc.	...	83,912	92,937	103,819	...	...
iCORE Inc.	...	10,866	12,557	12,843	...	...
Alberta Ingenuity Fund	...	30,229	36,550	46,710	...	...
Alberta Innovates Technology Futures	...	...	...	...	153,538	138,367
Total Advanced Education & Technology	...	255,098	289,518	315,211	314,393	290,078
Agriculture and Food	...	14,761	...	...	...	...
Agriculture and Rural Development	...	...	21,508	19,733	23,593	23,593
Agriculture, Food and Rural Development	12,243	...	...	...	...	...
Energy ²	...	150	22,867	24,522	26,793	65,500
Environment ³	130	801	5,682	9,316	15,877	606
Health and Wellness	13,789	18,057	7,650	9,446	7,172	6,853
Infrastructure	...	...	3,389	8,109	13,899	6,858
Infrastructure and Transportation	24,016	11,466	...	...	...	...
Innovation and Science	213,316	...	...	...	...	...
Municipal Affairs	219	...	...	47	0	0
Municipal Affairs and Housing	...	15	...	...	...	...
Sustainable Resource Development	2,673	6,935	7,571	4,963	3,785	3,022
Tourism, Parks and Recreation	...	...	47	60	...	...
Transportation	...	...	1,904	932	1,871	741
Total	266,386	307,283	360,136	392,339	407,383	397,251
Note(s): Departments shaded in grey are the active departments reporting scientific and technological activities.						

Table 28 Personnel engaged in the natural sciences, by activity and category, 2005/2006 to 2010/2011 preliminary

Activity and category	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011 ^P
	full-time equivalent					
Research and development (R&D):						
Scientific and Professional	201.9	333.4	329.8	261.5	237.5	238.2
Technical	211.5	168.9	240.2	241.4	231.6	233.2
Other	156	118.9	142.8	178.5	196.4	201.3
Sub-total	569.4	621.2	712.8	681.4	665.5	672.7
Administration of extramural R&D programs						
Scientific and Professional	49.4	45.8	46.2	43.3	59.8	54.1
Technical	12.2	17.6	16.0	20.0	16.6	12.6
Other	42.5	38.9	47.0	57.3	51.5	64.0
Sub-total	104.1	102.2	109.2	120.6	127.9	130.7
Total R&D personnel	673.5	723.4	822.0	802.0	793.4	803.4
Related scientific activities intramural (RSA):						
Scientific and Professional	343.6	267.1	270.7	245.4	259.6	260.8
Technical	211.1	264.5	232.1	256.8	205.3	199.8
Other	16	79.8	47.3	80.5	57.5	54.5
Sub-total	570.7	611.3	550.1	582.7	522.4	515.1
Administration of extramural RSA programs						
Scientific and Professional	5.6	21.1	16.0	38.6	38.8	39.4
Technical	5.5	8.3	4.0	11.3	12.5	11.5
Other	1	10.8	11.0	12.0	10.3	7.3
Sub-total	12.1	40.2	31.0	61.9	61.6	58.2
Total RSA personnel	582.8	651.5	581.1	644.6	584.0	573.3
Total science activities						
Scientific and Professional	600.5	667.3	662.7	588.8	595.7	592.5
Technical	440.3	459.2	492.3	529.5	466.0	457.1
Other	215.5	248.4	248.1	328.3	315.7	327.1
Total scientific personnel	1,256.30	1,374.90	1403.1	1446.6	1377.4	1376.7

Table 29 Total expenditures in the natural sciences, by department, ministry or agency and source of funds, 2009/2010

Department, ministry or agency	Department, ministry or agency budget	Transfers from other departments, ministries or agencies	Transfers from federal governments	From trust funds	From business enterprises	From other sources	Total
thousands of dollars							
Advanced Education & Technology							
Research and Innovation Division	1,189	0	0	0	0	0	1,189
Research Capacity Planning	22,409	0	0	0	0	0	22,409
Alberta Innovates - Energy and Environment Solutions	22,904	734	0	3,250	0	0	26,888
Advanced Technology Industries Division	17,641	0	0	0	0	0	17,641
Alberta Innovates - Health Solutions	24,291	0	0	0	0	0	24,291
Alberta Heritage Foundation for Medical Research	0	6,016	0	0	0	71,870	77,886
Alberta Innovates Technology Futures	88,035	20,948	1,378	0	47,493	4,738	162,592
Total Advanced Education & Technology	176,469	27,698	1,378	3,250	47,493	76,608	332,896
Agriculture and Rural Development	24,849	5,980	968	0	4,119	0	35,916
Culture and Community Spirit	2,418	0	0	0	0	0	2,418
Energy	2,032	0	0	0	0	24,761	26,793
Environment	32,809	0	24,700	0	0	0	57,509
Health and Wellness	13,799	0	0	0	0	0	13,799
Infrastructure	18,174	0	0	0	0	0	18,174
Municipal Affairs	27	0	0	0	0	0	27
Sustainable Resource Development	33,824	0	4,553	0	0	1,535	39,912
Tourism, Parks and Recreation	311	0	0	0	0	0	311
Transportation	12,297	0	0	0	0	0	12,297
Total	317,009	33,678	31,599	3,250	51,612	102,904	540,052

Table 30 Total expenditures in the natural sciences, by activity and performing sector, 2009/2010							
Activity	Intramural	Business enterprises	Higher education	Hospitals and health organizations	PROs*	Other	Total
thousands of dollars							
Research and Development (R&D)							
Current expenditures:							
In-house R&D	50,950	...	...	...	...	...	50,950
R&D contracts	62,265	33,132	48,479	0	...	13,599	157,475
R&D grants and contributions	...	25,695	132,618	8,558	...	8,770	175,641
Research fellowships	9	0	10	0	...	0	19
Administration of extramural R&D	20,558	...	...	...	...	...	20,558
Sub-total current R&D	133,782	58,827	181,107	8,558	...	22,369	404,643
Capital expenditures	2,740	...	...	...	...	...	2,740
Total R&D	136,522	58,827	181,107	8,558	...	22,369	407,383
Related scientific activities (RSA)							
Current expenditures:							
Education support	88	181	0	0	...	237	506
Technical Surveys	21,714	24,243	1,782	0	...	7,204	54,943
Information services	12,380	6,097	175	0	...	44	18,696
Special services and studies	26,949	14,546	906	6,285	...	1,146	49,832
Museum services	2,418	0	0	0	...	0	2,418
Administration of extramural RSA	5,655	...	...	...	...	...	5,655
Sub-total current RSA	69,204	45,067	2,863	6,285	...	8,631	132,050
Capital expenditures	619	...	...	...	...	...	619
Total RSA	69,823	45,067	2,863	6,285	...	8,631	132,669
Total	206,345	103,894	183,970	14,843	...	31,000	540,052

*Provincial Research Organizations

Table 31 Total expenditures in the natural sciences, by department, ministry or agency and performing sector, 2009/2010

Department, ministry or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	PROs*	Other	Total
thousands of dollars							
Advanced Education & Technology							
Research and Innovation Division	0	0	179	0	...	1,010	1,189
Research Capacity Planning	757	0	21,152	0	...	500	22,409
Alberta Innovates - Energy and Environment Solutions	3,646	13,081	9,776	0	...	385	26,888
Advanced Technology Industries Division	600	9,151	5,240	650	...	2,000	17,641
Alberta Innovates Bio-Solutions	3,384	7,429	9,358	0	...	4,120	24,291
Alberta Innovates - Health Solutions	4,458	510	72,095	823	...	0	77,886
Alberta Innovates Technology Futures	107,865	6,261	48,466	0	...	0	162,592
Total Advanced Education & Technology	120,710	36,432	166,266	1,473	...	8,015	332,896
Agriculture and Rural Development	35,916	0	0	0	...	0	35,916
Culture and Community Spirit	2,418	0	0	0	...	0	2,418
Energy	1,500	25,293	0	0	...	0	26,793
Environment	20,289	16,774	15,385	0	...	5,061	57,509
Health and Wellness	91	0	338	13,370	...	0	13,799
Infrastructure	4,575	0	0	0	...	13,599	18,174
Municipal Affairs	22	0	0	0	...	5	27
Sustainable Resource Development	17,020	18,569	248	0	...	4,075	39,912
Tourism, Parks and Recreation	157	44	15	0	...	95	311
Transportation	3,647	6,782	1,718	0	...	150	12,297
Total	206,345	103,894	183,970	14,843	...	31,000	540,052

*Provincial Research Organizations

Table 32 Total expenditures in the natural sciences by, department, ministry or agency and activity, 2009/2010											
Department, ministry or agency	Research & development			Related scientific activities							Total
	Current	AEP ¹	Capital	Education support	Technical surveys	Information services	Special services & studies	Museum services	AEP ¹	Capital	
thousands of dollars											
Advanced Education & Technology											
Research and Innovation Division	1,189	0	0	0	0	0	0	0	0	0	1,189
Research Capacity Planning	21,652	757	0	0	0	0	0	0	0	0	22,409
Alberta Innovates - Energy and Environment Solutions	22,036	3,064	0	0	0	0	1,206	0	582	0	26,888
Advanced Technology Industries Division	11,605	400	0	0	0	5,436	0	0	200	0	17,641
Alberta Innovates Bio-Solutions	20,907	3,384	0	0	0	0	0	0	0	0	24,291
Alberta Innovates - Health Solutions	73,428	2,433	0	0	0	203	1,822	0	0	0	77,886
Alberta Innovates Technology Futures	142,392	8,406	2,740	0	0	0	9,054	0	0	0	162,592
Total Advanced Education & Technology	293,209	18,444	2,740	0	0	5,639	12,082	0	782	0	332,896
Agriculture and Rural Development	23,593	0	0	0	1,232	10,475	616	0	0	0	35,916
Culture and Community Spirit	0	0	0	0	0	0	0	2,418	0	0	2,418
Energy	25,293	1,500	0	0	0	0	0	0	0	0	26,793
Environment	15,720	157	0	293	12,284	38	27,323	0	1,075	619	57,509
Health and Wellness	7,154	18	0	0	0	0	6,554	0	73	0	13,799
Infrastructure	13,749	150	0	0	4,275	0	0	0	0	0	18,174
Municipal Affairs	0	0	0	0	0	0	5	0	22	0	27
Sustainable Resource Development	3,501	284	0	213	29,053	2,541	969	0	3,351	0	39,912
Tourism, Parks and Recreation	0	0	0	0	311	0	0	0	0	0	311
Transportation	1,866	5	0	0	7,788	3	2,283	0	352	0	12,297
Total	384,085	20,558	2,740	506	54,943	18,696	49,832	2,418	5,655	619	540,052
1. Administration of extramural programs											

Table 33 Total expenditures on R&D in the natural sciences, by department, ministry or agency and performing sector, 2009/2010							
Department, ministry or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	PROs*	Other	Total
thousands of dollars							
Advanced Education & Technology							
Research and Innovation Division	0	0	179	0	...	1,010	1,189
Research Capacity Planning	757	0	21,152	0	...	500	22,409
Alberta Innovates - Energy and Environment Solutions	3,064	12,316	9,380	0	...	340	25,100
Advanced Technology Industries Division	400	3,890	5,065	650	...	2,000	12,005
Alberta Innovates Bio-Solutions	3,384	7,429	9,358	0	...	4,120	24,291
Alberta Innovates - Health Solutions	2,433	510	72,095	823	...	0	75,861
Alberta Innovates Technology Futures	98,811	6,261	48,466	0	...	0	153,538
Total Advanced Education & Technology	108,849	30,406	165,695	1,473	...	7,970	314,393
Agriculture and Rural Development	23,593	0	0	0	...	0	23,593
Energy	1,500	25,293	0	0	...	0	26,793
Environment	157	300	15,120	0	...	300	15,877
Health and Wellness	18	0	69	7,085	...	0	7,172
Infrastructure	300	0	0	0	...	13,599	13,899
Sustainable Resource Development	965	2,247	223	0	...	350	3,785
Transportation	1,140	581	0	0	...	150	1,871
Total	136,522	58,827	181,107	8,558	...	22,369	407,383

*Provincial Research Organizations

Table 34 Intramural expenditures in the natural sciences, by department, ministry or agency and type of expenditure, 2009/2010			
Department, ministry or agency	Current expenditures		Capital expenditures
	Personnel costs	Other costs	Total
thousands of dollars			
Advanced Education & Technology			
Research Capacity Planning	616	141	0
Alberta Innovates - Energy and Environment Solutions	1,917	1,729	0
Advanced Technology Industries Division	550	50	0
Alberta Innovates Bio-Solutions	1,945	1,439	0
Alberta Innovates - Health Solutions	3,269	1,189	0
Alberta Innovates Technology Futures	61,776	43,349	2,740
Total Advanced Education & Technology	70,073	47,897	2,740
Agriculture and Rural Development	32,324	3,592	0
Culture and Community Spirit	1,934	484	0
Energy	1,500	0	0
Environment	13,145	6,525	619
Health and Wellness	91	0	0
Infrastructure	870	3,705	0
Municipal Affairs	22	0	0
Sustainable Resource Development	16,672	348	0
Tourism, Parks and Recreation	157	0	0
Transportation	3,564	83	0
Total	140,352	62,634	3,359

Table 35.1 Personnel engaged in the natural sciences, by department, ministry or agency and activities, 2009/2010— Intramural scientific activities

Department, ministry 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								
Research and Innovation Division	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Research Capacity Planning	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alberta Innovates - Energy and Environment Solutions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Technology Industries Division	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alberta Innovates Bio-Solutions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alberta Innovates - Health Solutions	0.0	7.5	0.0	0.0	0.0	4.0	0.0	11.5
Alberta Innovates Technology Futures	173.0	10.0	127.0	47.0	193.0	16.0	493.0	73.0
Total Advanced Education & Technology	173.0	17.5	127.0	47.0	193.0	20.0	493.0	84.5
Agriculture and Rural Development	55.0	85.8	93.6	54.3	2.9	0.0	151.5	140.1
Children and Youth Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Culture and Community Spirit	0.0	27.9	0.0	0.0	0.0	0.0	0.0	27.9
Education	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Employment and Immigration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Environment	0.0	42.0	0.0	29.0	0.0	32.0	0.0	103.0
Finance and Enterprise	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Health and Wellness	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Housing and Urban Affairs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Infrastructure	2.5	9.5	0.0	0.0	0.0	0.0	2.5	9.5
Justice and Attorney General	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Municipal Affairs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Seniors and Community Supports	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Solicitor General and Public Security	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sustainable Resource Development	7.0	74.7	1.0	75.0	0.5	5.5	8.5	155.2
Tourism, Parks and Recreation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation	0.0	2.2	10.0	0.0	0.0	0.0	10.0	2.2
Total	237.5	259.6	231.6	205.3	196.4	57.5	665.5	522.4

Table 35.2 Personnel engaged in the natural sciences, by department, ministry or agency and activities, 2009/2010— Administration of extramural programs

Department, ministry 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								
Research and Innovation Division	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Research Capacity Planning	4.0	0.0	0.0	0.0	3.0	0.0	7.0	0.0
Alberta Innovates - Energy and Environment Solutions	8.0	0.0	0.0	0.0	6.0	2.0	14.0	2.0
Advanced Technology Industries Division	3.0	1.5	0.0	0.0	1.0	0.5	4.0	2.0
Alberta Innovates Bio-Solutions	8.0	0.0	0.0	0.0	4.5	0.0	12.5	0.0
Alberta Innovates - Health Solutions	0.0	0.0	3.0	0.0	20.5	0.0	23.5	0.0
Alberta Innovates Technology Futures	10.0	0.0	12.0	0.0	16.0	0.0	38.0	0.0
Total Advanced Education & Technology	33.0	1.5	15.0	0.0	51.0	2.5	99.0	4.0
Agriculture and Rural Development	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Children and Youth Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Culture and Community Spirit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Education	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Employment and Immigration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Energy	14.0	0.0	1.0	0.0	0.0	0.0	15.0	0.0
Environment	1.0	4.0	0.5	4.0	0.5	4.0	2.0	12.0
Finance and Enterprise	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Health and Wellness	0.1	0.9	0.1	0.0	0.0	0.0	0.2	0.9
Housing and Urban Affairs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Infrastructure	2.5	0.0	0.0	0.0	0.0	0.0	2.5	0.0
Justice and Attorney General	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Municipal Affairs	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.3
Seniors and Community Supports	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Solicitor General and Public Security	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sustainable Resource Development	3.2	29.3	0.0	6.5	0.0	3.8	3.2	39.6
Tourism, Parks and Recreation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation	6.0	2.8	0.0	2.0	0.0	0.0	6.0	4.8
Total	59.8	38.8	16.6	12.5	51.5	10.3	127.9	61.6

Table 35.3 Personnel engaged in the natural sciences, by department, ministry or agency and activities, 2009/2010 — Total scientific activities

Department, ministry 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								
Research and Innovation Division	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Research Capacity Planning	4.0	0.0	0.0	0.0	3.0	0.0	7.0	0.0
Alberta Innovates - Energy and Environment Solutions	8.0	0.0	0.0	0.0	6.0	2.0	14.0	2.0
Advanced Technology Industries Division	3.0	1.5	0.0	0.0	1.0	0.5	4.0	2.0
Alberta Innovates Bio-Solutions	8.0	0.0	0.0	0.0	4.5	0.0	12.5	0.0
Alberta Innovates - Health Solutions	0.0	7.5	3.0	0.0	20.5	4.0	23.5	11.5
Alberta Innovates Technology Futures	183.0	10.0	139.0	47.0	209.0	16.0	531.0	73.0
Total Advanced Education & Technology	206.0	19.0	142.0	47.0	244.0	22.5	592.0	88.5
Agriculture and Rural Development	55.0	85.8	93.6	54.3	2.9	0.0	151.5	140.1
Children and Youth Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Culture and Community Spirit	0.0	27.9	0.0	0.0	0.0	0.0	0.0	27.9
Education	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Employment and Immigration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Energy	14.0	0.0	1.0	0.0	0.0	0.0	15.0	0.0
Environment	1.0	46.0	0.5	33.0	0.5	36.0	2.0	115.0
Finance and Enterprise	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Health and Wellness	0.1	0.9	0.1	0.0	0.0	0.0	0.2	0.9
Housing and Urban Affairs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Infrastructure	5.0	9.5	0.0	0.0	0.0	0.0	5.0	9.5
Justice and Attorney General	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Municipal Affairs	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.3
Seniors and Community Supports	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Solicitor General and Public Security	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sustainable Resource Development	10.2	104.0	1.0	81.5	0.5	9.3	11.7	194.8
Tourism, Parks and Recreation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation	6.0	5.0	10.0	2.0	0.0	0.0	16.0	7.0
Total	297.3	298.4	248.2	217.8	247.9	67.8	793.4	584.0

Table 36 Objectives of expenditures in the natural sciences, by department, ministry or agency, 2009/2010

Department, ministry 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								
Research and Innovation Division	0	0	0	0	0	179	0	0
Research Capacity Planning	0	0	0	0	0	0	0	0
Alberta Innovates - Energy and Environment Solutions	3,893	0	0	0	258	0	11,508	0
Advanced Technology Industries Division	0	0	0	0	0	4,400	0	250
Alberta Innovates Bio-Solutions	0	0	0	0	0	220	0	11,580
Alberta Innovates - Health Solutions	0	0	0	0	0	77,886	0	0
Alberta Innovates Technology Futures	0	0	0	0	13,701	3,834	46,860	7,564
Total Advanced Education & Technology	3,893	0	0	0	13,959	86,519	58,368	19,394
Agriculture and Rural Development	0	0	0	0	0	0	0	35,916
Children and Youth Services	0	0	0	0	0	0	0	0
Culture and Community Spirit	0	0	0	0	0	0	0	0
Education	0	0	0	0	0	0	0	0
Employment and Immigration	0	0	0	0	0	0	0	0
Energy	0	0	0	0	1,632	0	25,161	0
Environment	0	0	0	0	57,509	0	0	0
Finance and Enterprise	0	0	0	0	0	0	0	0
Health and Wellness	0	0	0	0	0	13,799	0	0
Housing and Urban Affairs	0	0	0	0	0	0	0	0
Infrastructure	0	0	0	18,174	0	0	0	0
Justice and Attorney General	0	0	0	0	0	0	0	0
Municipal Affairs	0	0	0	0	27	0	0	0
Seniors and Community Supports	0	0	0	0	0	0	0	0
Solicitor General and Public Security	0	0	0	0	0	0	0	0
Sustainable Resource Development	9,334	0	0	1,703	10,305	0	0	0
Tourism, Parks and Recreation	0	0	0	0	311	0	0	0
Transportation	0	12,297	0	0	0	0	0	0
Total	13,227	12,297	0	19,877	83,743	100,318	83,529	55,310

Table 36 Objectives of expenditures in the natural sciences, by department, ministry or agency, 2009/2010 (continued)

Department, ministry 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								
Research and Innovation Division	0	0	0	0	0	1,010	0	1,189
Research Capacity Planning	0	0	0	0	0	22,409	0	22,409
Alberta Innovates - Energy and Environment Solutions	0	0	0	0	0	11,229	0	26,888
Advanced Technology Industries Division	0	0	5,005	3,536	0	0	4,450	17,641
Alberta Innovates Bio-Solutions	0	11,961	530	0	0	0	0	24,291
Alberta Innovates - Health Solutions	0	0	0	0	0	0	0	77,886
Alberta Innovates Technology Futures	0	6,058	27,663	0	0	56,912	0	162,592
Total Advanced Education & Technology	0	18,019	33,198	3,536	0	91,560	4,450	332,896
Agriculture and Rural Development	0	0	0	0	0	0	0	35,916
Children and Youth Services	0	0	0	0	0	0	0	0
Culture and Community Spirit	0	0	0	2,418	0	0	0	2,418
Education	0	0	0	0	0	0	0	0
Employment and Immigration	0	0	0	0	0	0	0	0
Energy	0	0	0	0	0	0	0	26,793
Environment	0	0	0	0	0	0	0	57,509
Finance and Enterprise	0	0	0	0	0	0	0	0
Health and Wellness	0	0	0	0	0	0	0	13,799
Housing and Urban Affairs	0	0	0	0	0	0	0	0
Infrastructure	0	0	0	0	0	0	0	18,174
Justice and Attorney General	0	0	0	0	0	0	0	0
Municipal Affairs	0	0	0	0	0	0	0	27
Seniors and Community Supports	0	0	0	0	0	0	0	0
Solicitor General and Public Security	0	0	0	0	0	0	0	0
Sustainable Resource Development	0	18,570	0	0	0	0	0	39,912
Tourism, Parks and Recreation	0	0	0	0	0	0	0	311
Transportation	0	0	0	0	0	0	0	12,297
Total	0	36,589	33,198	5,954	0	91,560	4,450	540,052

Table 37 Objectives of expenditures in the natural sciences, by activity, 2009/2010					
Objectives	Intramural		Extramural		Total
	Research and development	Related scientific activities	Research and development	Related scientific activities	
	thousands of dollars				
Exploration & exploitation of the Earth	490	4,390	2,506	5,841	13,227
Infrastructure and general planning of land use					
Transportation systems	1,140	2,507	731	7,919	12,297
Telecommunications systems	0	0	0	0	0
Other	309	4,645	13,848	1,075	19,877
Control and care of the environment	9,253	32,618	16,394	25,478	83,743
Protection and improvement of human health	6,445	2,098	85,221	6,554	100,318
Production, distribution and rational utilization of energy	45,288	3,300	34,803	138	83,529
Agricultural production and technology	33,705	12,323	9,282	0	55,310
Fishing	0	0	0	0	0
Forestry	7,770	5,124	13,686	10,009	36,589
Industrial production and technology	21,632	0	11,566	0	33,198
Social structures and relationships	0	2,518	0	3,436	5,954
Exploration and exploitation of space	0	0	0	0	0
Basic research	10,490	200	80,474	396	91,560
Other civil research	0	100	2,350	2,000	4,450
Total	136,522	69,823	270,861	62,846	540,052

Table 38 Total expenditures in the natural sciences, by activity and performing sector, 2010/2011 preliminary							
Activity	Intramural	Business enterprises	Higher education	Hospitals and health organizations	PROs*	Other	Total
thousands of dollars							
Research and Development (R&D)							
Current expenditures:							
In-house R&D	50,039	...	...	...	...	...	50,039
R&D contracts	56,704	75,868	28,524	0	...	6,558	167,654
R&D grants and contributions	...	15,189	110,588	11,905	...	11,114	148,796
Research fellowships	0	0	20	0	...	0	20
Administration of extramural R&D	28,272	...	...	...	...	...	28,272
Sub-total current R&D	135,015	91,057	139,132	11,905	...	17,672	394,781
Capital expenditures	2,470	...	...	...	...	...	2,470
Total R&D	137,485	91,057	139,132	11,905	...	17,672	397,251
Related scientific activities (RSA)							
Current expenditures:							
Education support	528	181	0	0	...	386	1,095
Technical Surveys	12,944	21,347	24	0	...	6,938	41,253
Information services	12,008	8,000	0	0	...	44	20,052
Special services and studies	36,684	4,515	1,911	7,565	...	1,975	52,650
Museum services	12,162	0	0	0	...	0	12,162
Administration of extramural RSA	5,119	...	...	...	...	...	5,119
Sub-total current RSA	79,445	34,043	1,935	7,565	...	9,343	132,331
Capital expenditures	619	...	...	...	...	...	619
Total RSA	80,064	34,043	1,935	7,565	...	9,343	132,950
Total	217,549	125,100	141,067	19,470	...	27,015	530,201

*Provincial Research Organizations

Table 39 Total expenditures in the natural sciences, by department, ministry or agency and performing sector, 2010/2011 preliminary

Department, ministry or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	PROs *	Other	Total
thousands of dollars							
Advanced Education & Technology							
Research and Innovation Division	0	0	125	0	...	1,367	1,492
Research Capacity Planning	757	0	11,692	0	...	600	13,049
Alberta Innovates - Energy and Environment Solutions	5,416	12,269	11,111	0	...	1,455	30,251
Advanced Technology Industries Division	600	7,000	9,725	5,000	...	3,000	25,325
Alberta Innovates Bio-Solutions	2,940	598	13,281	0	...	4,242	21,061
Alberta Innovates - Health Solutions	5,455	1,300	65,924	170	...	700	73,549
Alberta Innovates Technology Futures	117,197	10,700	28,470	0	...	0	156,367
Total Advanced Education & Technology	132,365	31,867	140,328	5,170	...	11,364	321,094
Agriculture and Rural Development	35,916	0	0	0	...	0	35,916
Culture and Community Spirit	2,418	0	0	0	...	0	2,418
Energy	1,500	64,000	0	0	...	0	65,500
Environment	19,659	7,194	265	0	...	5,061	32,179
Health and Wellness	91	0	200	14,300	...	0	14,591
Infrastructure	6,481	0	0	0	...	6,558	13,039
Sustainable Resource Development	16,256	13,123	274	0	...	4,003	33,656
Tourism, Parks and Recreation	200	0	0	0	...	29	229
Transportation	2,663	8,916	0	0	...	0	11,579
Total	217,549	125,100	141,067	19,470	...	27,015	530,201

*Provincial Research Organizations

Table 40 Total expenditures in the natural sciences, by department, ministry or agency and activity, 2010/2011 preliminary											
Department, ministry or agency	Research & development			Related scientific activities						Total	
	Current	AEP ¹	Capital	Education support	Technical surveys	Information services	Special services & studies	Museum services	AEP ¹	Capital	
thousands of dollars											
Advanced Education & Technology											
Research and Innovation Division	1,492	0	0	0	0	0	0	0	0	0	1,492
Research Capacity Planning	12,292	757	0	0	0	0	0	0	0	0	13,049
Alberta Innovates - Energy and Environment Solutions	22,094	4,901	0	124	29	0	2,588	0	515	0	30,251
Advanced Technology Industries Division	17,725	400	0	0	0	7,000	0	0	200	0	25,325
Alberta Innovates Bio-Solutions	18,121	2,940	0	0	0	0	0	0	0	0	21,061
Alberta Innovates - Health Solutions	68,094	2,895	0	0	0	300	2,260	0	0	0	73,549
Alberta Innovates Technology Futures	121,274	14,623	2,470	0	0	0	18,000	0	0	0	156,367
Total Advanced Education & Technology	261,092	26,516	2,470	124	29	7,300	22,848	0	715	0	321,094
Agriculture and Rural Development	23,593	0	0	0	1,232	10,475	616	0	0	0	35,916
Culture and Community Spirit	0	0	0	0	0	0	0	2,418	0	0	2,418
Energy	64,000	1,500	0	0	0	0	0	0	0	0	65,500
Environment	600	6	0	293	12,284	38	17,743	0	596	619	32,179
Health and Wellness	6,835	18	0	0	0	0	7,665	0	73	0	14,591
Infrastructure	6,708	150	0	0	6,181	0	0	0	0	0	13,039
Sustainable Resource Development	2,950	72	0	678	13,438	2,239	1,153	9,744	3,382	0	33,656
Tourism, Parks and Recreation	0	0	0	0	229	0	0	0	0	0	229
Transportation	731	10	0	0	7,860	0	2,625	0	353	0	11,579
Total	366,509	28,272	2,470	1,095	41,253	20,052	52,650	12,162	5,119	619	530,201
1. Administration of extramural programs											

Table 41 Total expenditures on R&D in the natural sciences, by department, ministry or agency and performing sector, 2010/2011 preliminary

Department, ministry or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	PROs*	Other	Total
thousands of dollars							
Advanced Education & Technology							
Research and Innovation Division	0	0	125	0	...	1,367	1,492
Research Capacity Planning	757	0	11,692	0	...	600	13,049
Alberta Innovates - Energy and Environment Solutions	4,901	11,648	9,541	0	...	905	26,995
Advanced Technology Industries Division	400	0	9,725	5,000	...	3,000	18,125
Alberta Innovates Bio-Solutions	2,940	598	13,281	0	...	4,242	21,061
Alberta Innovates - Health Solutions	2,895	1,300	65,924	170	...	700	70,989
Alberta Innovates Technology Futures	99,197	10,700	28,470	0	...	0	138,367
Total Advanced Education & Technology	111,090	24,246	138,758	5,170	...	10,814	290,078
Agriculture and Rural Development	23,593	0	0	0	...	0	23,593
Energy	1,500	64,000	0	0	...	0	65,500
Environment	6	300	0	0	...	300	606
Health and Wellness	18	0	100	6,735	...	0	6,853
Infrastructure	300	0	0	0	...	6,558	6,858
Sustainable Resource Development	968	1,780	274	0	...	0	3,022
Transportation	10	731	0	0	...	0	741
Total	137,485	91,057	139,132	11,905	...	17,672	397,251

*Provincial Research Organizations

Table 42.1 Personnel engaged in the natural sciences, by department, ministry or agency and activities, 2010/2011 preliminary — Intramural scientific activities

Department, ministry 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								
Research and Innovation Division	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Research Capacity Planning	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alberta Innovates - Energy and Environment Solutions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Technology Industries Division	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alberta Innovates Bio-Solutions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alberta Innovates - Health Solutions	0.0	10.0	0.0	0.0	0.0	3.0	0.0	13.0
Alberta Innovates Technology Futures	173.0	10.0	127.0	47.0	198.0	16.0	498.0	73.0
Total Advanced Education & Technology	173.0	20.0	127.0	47.0	198.0	19.0	498.0	86.0
Agriculture and Rural Development	55.0	85.8	93.6	54.3	2.9	0.0	151.5	140.1
Children and Youth Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Culture and Community Spirit	0.0	27.9	0.0	0.0	0.0	0.0	0.0	27.9
Education	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Employment and Immigration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Environment	0.0	42.0	0.0	29.0	0.0	32.0	0.0	103.0
Finance and Enterprise	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Health and Wellness	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Housing and Urban Affairs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Infrastructure	2.5	10.6	0.0	0.0	0.0	0.0	2.5	10.6
Justice and Attorney General	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Municipal Affairs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Seniors and Community Supports	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Solicitor General and Public Security	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sustainable Resource Development	7.7	72.9	2.6	69.5	0.4	3.5	10.7	145.9
Tourism, Parks and Recreation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation	0.0	1.6	10.0	0.0	0.0	0.0	10.0	1.6
Total	238.2	260.8	233.2	199.8	201.3	54.5	672.7	515.1

Table 42.2 Personnel engaged in the natural sciences, by department, ministry or agency and activities, 2010/2011 preliminary — Administration of extramural programs

Department, ministry or agency	Scientific & professional		Technical		Other		Total	
	Research and develop-ment	Related scientific activities	Research and develop-ment	Related scientific activities	Research and develop-ment	Related scientific activities	Research and develop-ment	Related scientific activities
	full-time equivalent							
Advanced Education & Technology								
Research and Innovation Division	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Research Capacity Planning	4.0	0.0	0.0	0.0	3.0	0.0	7.0	0.0
Alberta Innovates - Energy and Environment Solutions	8.0	0.0	0.0	0.0	6.0	2.0	14.0	2.0
Advanced Technology Industries Division	2.0	4.0	0.0	0.0	0.0	0.0	2.0	4.0
Alberta Innovates Bio-Solutions	11.2	0.0	0.0	0.0	4.5	0.0	15.7	0.0
Alberta Innovates - Health Solutions	0.0	0.0	3.0	0.0	24.0	0.0	27.0	0.0
Alberta Innovates Technology Futures	5.0	0.0	8.0	0.0	26.0	0.0	39.0	0.0
Total Advanced Education & Technology	30.2	4.0	11.0	0.0	63.5	2.0	104.7	6.0
Agriculture and Rural Development	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Children and Youth Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Culture and Community Spirit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Education	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Employment and Immigration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Energy	14.0	0.0	1.0	0.0	0.0	0.0	15.0	0.0
Environment	0.5	2.0	0.5	2.0	0.5	2.0	1.5	6.0
Finance and Enterprise	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Health and Wellness	0.1	0.9	0.1	0.0	0.0	0.0	0.2	0.9
Housing and Urban Affairs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Infrastructure	2.5	0.0	0.0	0.0	0.0	0.0	2.5	0.0
Justice and Attorney General	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Municipal Affairs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Seniors and Community Supports	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Solicitor General and Public Security	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sustainable Resource Development	0.8	29.2	0.0	7.5	0.0	3.3	0.8	40.0
Tourism, Parks and Recreation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation	6.0	3.3	0.0	2.0	0.0	0.0	6.0	5.3
Total	54.1	39.4	12.6	11.5	64.0	7.3	130.7	58.2

Table 42.3 Personnel engaged in the natural sciences, by department, ministry or agency and activities, 2010/2011 preliminary — Total scientific activities

Department, ministry 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								
Research and Innovation Division	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Research Capacity Planning	4.0	0.0	0.0	0.0	3.0	0.0	7.0	0.0
Alberta Innovates - Energy and Environment Solutions	8.0	0.0	0.0	0.0	6.0	2.0	14.0	2.0
Advanced Technology Industries Division	2.0	4.0	0.0	0.0	0.0	0.0	2.0	4.0
Alberta Innovates Bio-Solutions	11.2	0.0	0.0	0.0	4.5	0.0	15.7	0.0
Alberta Innovates - Health Solutions	0.0	10.0	3.0	0.0	24.0	3.0	27.0	13.0
Alberta Innovates Technology Futures	178.0	10.0	135.0	47.0	224.0	16.0	537.0	73.0
Total Advanced Education & Technology	203.2	24.0	138.0	47.0	261.5	21.0	602.7	92.0
Agriculture and Rural Development	55.0	85.8	93.6	54.3	2.9	0.0	151.5	140.1
Children and Youth Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Culture and Community Spirit	0.0	27.9	0.0	0.0	0.0	0.0	0.0	27.9
Education	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Employment and Immigration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Energy	14.0	0.0	1.0	0.0	0.0	0.0	15.0	0.0
Environment	0.5	44.0	0.5	31.0	0.5	34.0	1.5	109.0
Finance and Enterprise	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Health and Wellness	0.1	0.9	0.1	0.0	0.0	0.0	0.2	0.9
Housing and Urban Affairs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Infrastructure	5.0	10.6	0.0	0.0	0.0	0.0	5.0	10.6
Justice and Attorney General	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Municipal Affairs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Seniors and Community Supports	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Solicitor General and Public Security	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sustainable Resource Development	8.5	102.1	2.6	77.0	0.4	6.8	11.5	185.9
Tourism, Parks and Recreation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation	6.0	4.9	10.0	2.0	0.0	0.0	16.0	6.9
Total	292.3	300.2	245.8	211.3	265.3	61.8	803.4	573.3

Table 43 Objectives of expenditures in the natural sciences, by department, ministry or agency, 2010/2011 preliminary								
Department, ministry or agency	Exploration and exploitation of the earth	Infrastructure and general planning of land use			Control and care of the environment	Protection and improve-ment of human health	Production distribution and rational utilization of energy	Agriculture production and technology
		Transportation systems	Telecom-munications systems	Other				
thousands of dollars								
Advanced Education & Technology								
Research and Innovation Division	0	0	0	0	0	125	0	0
Research Capacity Planning	0	0	0	0	0	0	0	0
Alberta Innovates - Energy and Environment Solutions	3,489	0	0	0	4,037	0	9,978	0
Advanced Technology Industries Division	500	0	0	0	1,300	10,150	0	0
Alberta Innovates Bio-Solutions	0	0	0	0	0	0	0	14,230
Alberta Innovates - Health Solutions	0	0	0	0	0	73,549	0	0
Alberta Innovates Technology Futures	0	0	0	0	13,701	3,834	41,299	7,564
Total Advanced Education & Technology	3,989	0	0	0	19,038	87,658	51,277	21,794
Agriculture and Rural Development	0	0	0	0	0	0	0	35,916
Children and Youth Services	0	0	0	0	0	0	0	0
Culture and Community Spirit	0	0	0	0	0	0	0	0
Education	0	0	0	0	0	0	0	0
Employment and Immigration	0	0	0	0	0	0	0	0
Energy	0	0	0	0	41,100	0	24,400	0
Environment	0	0	0	0	32,179	0	0	0
Finance and Enterprise	0	0	0	0	0	0	0	0
Health and Wellness	0	0	0	0	0	14,591	0	0
Housing and Urban Affairs	0	0	0	0	0	0	0	0
Infrastructure	0	0	0	13,039	0	0	0	0
Justice and Attorney General	0	0	0	0	0	0	0	0
Municipal Affairs	0	0	0	0	0	0	0	0
Seniors and Community Supports	0	0	0	0	0	0	0	0
Solicitor General and Public Security	0	0	0	0	0	0	0	0
Sustainable Resource Development	8,734	0	0	1,935	10,234	0	0	0
Tourism, Parks and Recreation	0	0	0	0	229	0	0	0
Transportation	0	11,579	0	0	0	0	0	0
Total	12,723	11,579	0	14,974	102,780	102,249	75,677	57,710

Table 43 Objectives of expenditures in the natural sciences, by department, ministry or agency, 2010/2011 preliminary (continued)								
Department, ministry 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								
Research and Innovation Division	0	0	0	0	0	1,367	0	1,492
Research Capacity Planning	0	0	0	0	0	13,049	0	13,049
Alberta Innovates - Energy and Environment Solutions	0	0	150	0	0	12,597	0	30,251
Advanced Technology Industries Division	0	0	8,225	0	0	0	5,150	25,325
Alberta Innovates Bio-Solutions	0	5,821	1,010	0	0	0	0	21,061
Alberta Innovates - Health Solutions	0	0	0	0	0	0	0	73,549
Alberta Innovates Technology Futures	0	6,058	34,785	0	0	49,126	0	156,367
Total Advanced Education & Technology	0	11,879	44,170	0	0	76,139	5,150	321,094
Agriculture and Rural Development	0	0	0	0	0	0	0	35,916
Children and Youth Services	0	0	0	0	0	0	0	0
Culture and Community Spirit	0	0	0	2,418	0	0	0	2,418
Education	0	0	0	0	0	0	0	0
Employment and Immigration	0	0	0	0	0	0	0	0
Energy	0	0	0	0	0	0	0	65,500
Environment	0	0	0	0	0	0	0	32,179
Finance and Enterprise	0	0	0	0	0	0	0	0
Health and Wellness	0	0	0	0	0	0	0	14,591
Housing and Urban Affairs	0	0	0	0	0	0	0	0
Infrastructure	0	0	0	0	0	0	0	13,039
Justice and Attorney General	0	0	0	0	0	0	0	0
Municipal Affairs	0	0	0	0	0	0	0	0
Seniors and Community Supports	0	0	0	0	0	0	0	0
Solicitor General and Public Security	0	0	0	0	0	0	0	0
Sustainable Resource Development	0	12,753	0	0	0	0	0	33,656
Tourism, Parks and Recreation	0	0	0	0	0	0	0	229
Transportation	0	0	0	0	0	0	0	11,579
Total	0	24,632	44,170	2,418	0	76,139	5,150	530,201

Table 44 Objectives of expenditures in the natural sciences, by activity, 2010/2011 preliminary					
Objectives	Intramural		Extramural		Total
	Research and development	Related scientific activities	Research and development	Related scientific activities	
	thousands of dollars				
Exploration & exploitation of the Earth	500	4,217	3,467	4,539	12,723
Infrastructure and general planning of land use					
Transportation systems	10	2,653	731	8,185	11,579
Telecommunications systems	0	0	0	0	0
Other	300	6,872	6,757	1,045	14,974
Control and care of the environment	9,702	31,684	44,637	16,757	102,780
Protection and improvement of human health	6,897	2,633	85,054	7,665	102,249
Production, distribution and rational utilization of energy	41,440	3,259	30,749	229	75,677
Agricultural production and technology	32,911	12,323	12,476	0	57,710
Fishing	0	0	0	0	0
Forestry	8,112	4,359	6,500	5,661	24,632
Industrial production and technology	19,688	9,046	13,286	2,150	44,170
Social structures and relationships	0	2,418	0	0	2,418
Exploration and exploitation of space	0	0	0	0	0
Basic research	17,875	500	56,109	1,655	76,139
Other civil research	50	100	0	5,000	5,150
Total	137,485	80,064	259,766	52,886	530,201

Table 45 Total expenditures in the social sciences and humanities, by activity, 2005/2006 to 2010/2011 preliminary						
Activity	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011 ^P
	thousands of dollars					
Research and Development (R&D)						
Current expenditures:						
In-house R&D	0	197	1,121	192	466	578
R&D contracts	120	1,934	1,461	1,477	516	291
R&D grants and contributions	7,816	8,243	11,663	12,824	3,982	5,529
Administration of extramural R&D	179	364	531	508	778	788
Sub-total current R&D	8,115	10,738	14,776	15,001	5,742	7,186
Capital expenditures	0	1	1	0	23	0
Total R&D	8,115	10,739	14,777	15,001	5,765	7,186
Related scientific activities (RSA)						
Current expenditures	14,819	18,525	66,946	50,545	54,807	49,895
Administration of extramural RSA	1,981	1,843	1,690	2,028	3,292	2,954
Sub-total current RSA	16,800	20,368	68,636	52,573	58,099	52,849
Capital expenditures	20	109	21	1,812	35	35
Total RSA	16,820	20,477	68,657	54,385	58,134	52,884
Total	24,935	31,216	83,434	69,386	63,899	60,070

Table 46 Total expenditures in the social sciences and humanities, by department, ministry or agency, 2005/2006 to 2010/2011 preliminary

Department, ministry or agency	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011 ^p
	thousands of dollars					
Aboriginal Affairs and Northern Development	101	...	...	...	...	...
Advanced Education	497	...	...	...	...	...
Advanced Education & Technology ¹						
Post-Secondary Excellence Division	...	...	...	449	313	193
Research Division	...	...	...	282	...	...
Policy and Planning Branch	...	327	855	...	...	...
Research and Innovation Division	...	...	...	...	2,028	2,028
Total Advanced Education & Technology	...	327	855	731	2,341	2,221
Children and Youth Services	...	...	5,135	5,170	2,200	2,400
Children's Services	2,253	4,179	...	...	...	...
Community Development	505	...	...	...	...	...
Culture and Community Spirit	...	...	...	1,632	1,514	1,511
Economic Development	2,315	...	...	...	...	...
Education	473	3,241	25,748	35,440	31,625	27,120
Employment and Immigration	...	...	2,333	2,733	2,295	2,285
Employment, Immigration and Industry	...	3,185	...	...	...	...
Energy	100	0	0	0	0	0
Environment ²	...	1,029	4,111	1,065	3,956	2,445
Finance	590	565	...	...	...	...
Finance and Enterprise	...	...	710	595	595	860
Gaming	1,725	...	...	...	...	...
Health and Wellness	11,546	12,308	37,067	16,474	14,488	15,909
Housing and Urban Affairs	...	...	...	365	887	631
Human Resources and Employment	1,701	...	...	...	...	...
Innovation and Science	54	...	...	...	...	...
Justice and Attorney General	1,557	1,591	1,699	2,014	2,140	2,987
Municipal Affairs	...	...	44	...	17	0
Municipal Affairs and Housing	...	45	...	...	...	...
Seniors and Community Supports ³	418	434	3,873	1,127	292	165
Solicitor General and Public Security	1,100	2,709	808	897	530	466
Sustainable Resource Development ⁴	...	...	64	35	229	250
Tourism, Parks and Recreation	...	...	987	1,108	790	820
Tourism, Parks, Recreation and Culture	...	1,603	...	...	...	...
Total	24,935	31,216	83,434	69,386	63,899	60,070

Note(s): Departments shaded in grey are the active departments reporting scientific and technological activities.

Table 47 Total expenditures in the social sciences and humanities, by performing sector, 2005/2006 to 2010/2011 preliminary						
Performing sector	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011 ^P
	thousands of dollars					
Intramural	6,418	8,275	27,321	31,181	30,334	28,516
Business Enterprise	2,433	3,845	5,813	4,647	3,080	2,733
Higher Education	5,976	7,747	1,467	888	5,397	3,341
Hospitals and Health organizations	1,854	1,745	38,199	15,782	10,070	11,954
Provincial Research Organizations	...	...	...	...	...	...
Other	8,254	9,604	10,634	16,888	15,018	13,526
Total	24,935	31,216	83,434	69,386	63,899	60,070

Table 48 Total expenditures on R&D, in the social sciences and humanities, by performing sector, 2005/2006 to 2010/2011 preliminary						
Performing sector	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011 ^P
	thousands of dollars					
Intramural	179	562	2,125	800	1,307	1,366
Business Enterprise	0	8	866	888	465	246
Higher Education	3,114	5,667	902	162	1,107	2,154
Hospitals and Health organizations	54	340	6,561	5,235	2,886	3,420
Provincial Research Organizations	...	...	...	...	...	...
Other	4,768	4,162	4,323	7,916	0	0
Total	8,115	10,739	14,777	15,001	5,765	7,186

Table 49 Total expenditures on R&D, in the social sciences and humanities, by department, ministry or agency, 2005/2006 to 2010/2011 preliminary						
Department, ministry or agency	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011 ^P
	thousands of dollars					
Children and Youth Services	...	...	4,326	4,361	0	0
Children's Services	2,150	4,076	...	...	...	...
Community Development	5	...	...	...	...	...
Education	...	...	2,391	4,182	0	0
Environment	...	367	112	64	0	0
Finance and Enterprise	...	...	...	...	145	270
Gaming	1,620	...	...	...	...	...
Health and Wellness	4,340	4,417	4,571	5,092	4,760	5,462
Housing and Urban Affairs	...	...	...	187	703	439
Justice and Attorney General	...	41	57	58	0	845
Seniors and Community Supports ¹	...	43	3,165	741	58	55
Solicitor General and Public Security	...	1,795	91	301	99	115
Sustainable Resource Development ²	...	...	64	15	0	0
Total	8,115	10,739	14,777	15,001	5,765	7,186
Note(s): Departments shaded in grey are the active departments reporting scientific and technological activities.						

Table 50 Personnel engaged in the social sciences and humanities, by activity and category, 2005/2006 to 2010/2011 preliminary

Activity and category	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011 ^P
	full-time equivalent					
Research and development (R&D):						
Scientific and Professional	0.0	2.3	8.2	1.8	5.4	5.5
Technical	0.0	0.0	3.6	0.0	0.0	0.5
Other	0.0	0.5	0.9	0.0	1.0	0.6
Sub-total	0.0	2.8	12.7	1.8	6.4	6.6
Administration of extramural R&D programs						
Scientific and Professional	1.4	4.9	4.5	4.8	9.9	10.0
Technical	0.0	0.2	0.4	0.0	0.0	0.0
Other	0.0	0.0	0.4	0.0	1.6	1.6
Sub-total	1.4	5.1	5.3	4.8	11.5	11.6
Total R&D personnel	1.4	7.9	18.0	6.6	17.9	18.2
Related scientific activities intramural (RSA):						
Scientific and Professional	36.2	66.9	72.2	94.8	88.4	89.9
Technical	1.0	1.5	7.0	15.3	13.0	5.3
Other	1.0	0.0	59.7	63.8	61.8	57.6
Sub-total	38.2	68.4	138.9	173.9	163.2	152.8
Administration of extramural RSA programs						
Scientific and Professional	29.5	20.9	14.3	16.7	31.1	30.0
Technical	0.2	0.2	2.7	3.5	0.6	0.3
Other	3.6	7.6	2.6	1.5	3.6	4.7
Sub-total	33.3	28.7	19.6	21.7	35.3	35.0
Total RSA personnel	71.5	97.1	158.5	195.6	198.5	187.8
Total science activities						
Scientific and Professional	67.1	95.0	99.2	118.1	134.8	135.4
Technical	1.2	1.9	13.7	18.8	13.6	6.1
Other	4.6	8.1	63.6	65.3	68.0	64.5
Total scientific personnel	72.9	105.0	176.5	202.2	216.4	206.0

Table 51 Total expenditures in the social sciences and humanities, by department, ministry or agency and source of funds, 2009/2010

Department, ministry or agency	Department, ministry or agency budget	Transfers from other departments, ministries 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	313	0	0	0	0	0	313
Research and Innovation Division	2,028	0	0	0	0	0	2,028
Total Advanced Education & Technology	2,341	0	0	0	0	0	2,341
Children and Youth Services	2,200	0	0	0	0	0	2,200
Culture and Community Spirit	1,514	0	0	0	0	0	1,514
Education	31,625	0	0	0	0	0	31,625
Employment and Immigration	1,651	100	544	0	0	0	2,295
Environment	2,956	0	1,000	0	0	0	3,956
Finance and Enterprise	595	0	0	0	0	0	595
Health and Wellness	14,488	0	0	0	0	0	14,488
Housing and Urban Affairs	887	0	0	0	0	0	887
Justice and Attorney General	2,140	0	0	0	0	0	2,140
Municipal Affairs	17	0	0	0	0	0	17
Seniors and Community Supports	292	0	0	0	0	0	292
Solicitor General and Public Security	530	0	0	0	0	0	530
Sustainable Resource Development	229	0	0	0	0	0	229
Tourism, Parks and Recreation	790	0	0	0	0	0	790
Total	62,255	100	1,544	0	0	0	63,899

Table 52 Total expenditures in the social sciences and humanities, by activity and performing sector, 2009/2010

Activity	Intramural	Business enterprises	Higher education	Hospitals and health organizations	PROs*	Other	Total
thousands of dollars							
Research and Development (R&D)							
Current expenditures:							
In-house R&D	466	...	...	...	...	...	466
R&D contracts	40	465	0	11	...	0	516
R&D grants and contributions	...	0	1,107	2,875	...	0	3,982
Research fellowships	0	0	0	0	...	0	0
Administration of extramural R&D	778	...	...	...	...	...	778
Sub-total current R&D	1,284	465	1,107	2,886	...	0	5,742
Capital expenditures	23	...	...	...	...	...	23
Total R&D	1,307	465	1,107	2,886	...	0	5,765
Related scientific activities (RSA)							
Current expenditures	25,700	2,615	4,290	7,184	...	15,018	54,807
Administration of extramural RSA	3,292	...	...	...	...	...	3,292
Sub-total current RSA	28,992	2,615	4,290	7,184	...	15,018	58,099
Capital expenditures	35	...	...	...	...	...	35
Total RSA	29,027	2,615	4,290	7,184	...	15,018	58,134
Total	30,334	3,080	5,397	10,070	...	15,018	63,899

*Provincial Research Organizations

Table 53 Total expenditures in the social sciences and humanities, by department, ministry or agency and performing sector, 2009/2010

Department, ministry or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	PROs*	Other	Total
thousands of dollars							
Advanced Education & Technology							
Post-Secondary Excellence Division	23	290	0	0	...	0	313
Research and Innovation Division	0	282	0	0	...	1,746	2,028
Total Advanced Education & Technology	23	572	0	0	...	1,746	2,341
Children and Youth Services	200	0	0	0	...	2,000	2,200
Culture and Community Spirit	911	0	0	0		603	1,514
Education	20,181	96	2,983	0	...	8,365	31,625
Employment and Immigration	1,060	854	0	0	...	381	2,295
Environment	2,231	239	21	0	...	1,465	3,956
Finance and Enterprise	570	25	0	0	...	0	595
Health and Wellness	2,085	-	2,372	10,031	...	0	14,488
Housing and Urban Affairs	447	440	0	0	...	0	887
Justice and Attorney General	1,692	48	0	0	...	400	2,140
Municipal Affairs	8	0	0	0	...	9	17
Seniors and Community Supports	159	73	21	39	...	0	292
Solicitor General and Public Security	451	79	0	0	...	0	530
Sustainable Resource Development	0	229	0	0	...	0	229
Tourism, Parks and Recreation	316	425	0	0	...	49	790
Total	30,334	3,080	5,397	10,070	...	15,018	63,899

*Provincial Research Organizations

Table 54 Total expenditures in the social sciences and humanities, by department, ministry or agency and activity, 2009/2010

Department, ministry or agency	Research and development			Related scientific activities			Total
	Current	AEP ¹	Capital	Current	AEP ¹	Capital	
thousands of dollars							
Advanced Education & Technology							
Post-Secondary Excellence Division	0	0	0	290	23	0	313
Research and Innovation Division	0	0	0	2,028	0	0	2,028
Total Advanced Education & Technology	0	0	0	2,318	23	0	2,341
Children and Youth Services	0	0	0	2,000	200	0	2,200
Culture and Community Spirit	0	0	0	1,514	0	0	1,514
Education	0	0	0	30,839	786	0	31,625
Employment and Immigration	0	0	0	1,785	510	0	2,295
Environment	0	0	0	3,835	86	35	3,956
Finance and Enterprise	145	0	0	450	0	0	595
Health and Wellness	3,982	778	0	8,421	1,307	0	14,488
Housing and Urban Affairs	703	0	0	184	0	0	887
Justice and Attorney General	0	0	0	2,140	0	0	2,140
Municipal Affairs	0	0	0	9	8	0	17
Seniors and Community Supports	35	0	23	178	56	0	292
Solicitor General and Public Security	99	0	0	431	0	0	530
Sustainable Resource Development	0	0	0	229	0	0	229
Tourism, Parks and Recreation	0	0	0	474	316	0	790
Total	4,964	778	23	54,807	3,292	35	63,899

1. Administration of extramural programs

Table 55 Total expenditures on R&D in the social sciences and humanities, by department, ministry or agency and performing sector, 2009/2010							
Department, ministry or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	PROs*	Other	Total
thousands of dollars							
Finance and Enterprise	120	25	0	0	...	0	145
Health and Wellness	778	0	1,107	2,875	...	0	4,760
Housing and Urban Affairs	263	440	0	0	...	0	703
Seniors and Community Supports	47	0	0	11	...	0	58
Solicitor General and Public Security	99	0	0	0	...	0	99
Total	1,307	465	1,107	2,886	...	0	5,765

*Provincial Research Organizations

Table 56 Intramural expenditures in the social sciences and humanities, by department, ministry or agency and type of expenditure, 2009/2010				
Department, ministry or agency	Current expenditures		Capital expenditures	Total
	Personnel costs	Other costs		
thousands of dollars				
Advanced Education & Technology				
Post-Secondary Excellence Division	23	0	0	23
Total Advanced Education & Technology	23	0	0	23
Children and Youth Services	200	0	0	200
Culture and Community Spirit	729	182	0	911
Education	12,109	8,072	0	20,181
Employment and Immigration	850	210	0	1,060
Environment	1,556	640	35	2,231
Finance and Enterprise	570	0	0	570
Health and Wellness	2,085	0	0	2,085
Housing and Urban Affairs	447	0	0	447
Justice and Attorney General	1,692	0	0	1,692
Municipal Affairs	8	0	0	8
Seniors and Community Supports	136	0	23	159
Solicitor General and Public Security	451	0	0	451
Tourism, Parks and Recreation	287	29	0	316
Total	21,143	9,133	58	30,334

Table 57.1 Personnel engaged in the social sciences and humanities, by department, ministry or agency and activities, 2009/2010— Intramural scientific activities								
Department, ministry 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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Research and Innovation Division	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Advanced Education & Technology	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Agriculture and Rural Development	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Children and Youth Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Culture and Community Spirit	0.0	13.0	0.0	0.0	0.0	0.0	0.0	13.0
Education	0.0	31.2	0.0	13.0	0.0	56.4	0.0	100.6
Employment and Immigration	0.0	7.0	0.0	0.0	0.0	0.0	0.0	7.0
Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Environment	0.0	7.0	0.0	0.0	0.0	4.5	0.0	11.5
Finance and Enterprise	1.5	4.5	0.0	0.0	0.0	0.0	1.5	4.5
Health and Wellness	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Housing and Urban Affairs	2.7	2.3	0.0	0.0	1.0	0.6	3.7	2.9
Justice and Attorney General	0.0	17.5	0.0	0.0	0.0	0.0	0.0	17.5
Municipal Affairs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Seniors and Community Supports	0.3	0.5	0.0	0.0	0.0	0.3	0.3	0.8
Solicitor General and Public Security	0.9	5.4	0.0	0.0	0.0	0.0	0.9	5.4
Sustainable Resource Development	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tourism, Parks and Recreation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	5.4	88.4	0.0	13.0	1.0	61.8	6.4	163.2

Table 57.2 Personnel engaged in the social sciences and humanities, by department, ministry or agency and activities, 2009/2010— Administration of extramural programs

Department, ministry 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	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4
Research and Innovation Division	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Advanced Education & Technology	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4
Agriculture and Rural Development	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Children and Youth Services	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0
Culture and Community Spirit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Education	0.0	1.3	0.0	0.5	0.0	1.2	0.0	3.0
Employment and Immigration	0.0	6.5	0.0	0.0	0.0	0.0	0.0	6.5
Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Environment	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0
Finance and Enterprise	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Health and Wellness	9.9	16.1	0.0	0.1	1.6	2.4	11.5	18.6
Housing and Urban Affairs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Justice and Attorney General	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Municipal Affairs	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Seniors and Community Supports	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.7
Solicitor General and Public Security	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sustainable Resource Development	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tourism, Parks and Recreation	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0
Total	9.9	31.1	0.0	0.6	1.6	3.6	11.5	35.3

Table 57.3 Personnel engaged in the social sciences and humanities, by department, ministry or agency and activities, 2009/2010— Total scientific activities

Department, ministry 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	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4
Research and Innovation Division	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Advanced Education & Technology	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4
Agriculture and Rural Development	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Children and Youth Services	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0
Culture and Community Spirit	0.0	13.0	0.0	0.0	0.0	0.0	0.0	13.0
Education	0.0	32.5	0.0	13.5	0.0	57.6	0.0	103.6
Employment and Immigration	0.0	13.5	0.0	0.0	0.0	0.0	0.0	13.5
Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Environment	0.0	8.0	0.0	0.0	0.0	4.5	0.0	12.5
Finance and Enterprise	1.5	4.5	0.0	0.0	0.0	0.0	1.5	4.5
Health and Wellness	9.9	16.1	0.0	0.1	1.6	2.4	11.5	18.6
Housing and Urban Affairs	2.7	2.3	0.0	0.0	1.0	0.6	3.7	2.9
Justice and Attorney General	0.0	17.5	0.0	0.0	0.0	0.0	0.0	17.5
Municipal Affairs	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Seniors and Community Supports	0.3	1.2	0.0	0.0	0.0	0.3	0.3	1.5
Solicitor General and Public Security	0.9	5.4	0.0	0.0	0.0	0.0	0.9	5.4
Sustainable Resource Development	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tourism, Parks and Recreation	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0
Total	15.3	119.5	0.0	13.6	2.6	65.4	17.9	198.5

Table 58 Objectives of expenditures in the social sciences and humanities, by department, ministry or agency, 2009/2010

Department, ministry or agency	Exploration and exploitation of the earth	Infrastructure and general planning of land use			Control and care of the enviro- nment	Protection and improve- ment of human health	Production distribution and rational utilization of energy	Agriculture production and technology
		Transport- ation systems	Telecom- munications systems	Other				
thousands of dollars								
Advanced Education & Technology								
Post-Secondary Excellence Division	0	0	0	0	0	0	0	0
Research and Innovation Division	0	0	0	0	0	0	0	0
Total Advanced Education & Technology	0	0	0	0	0	0	0	0
Agriculture and Rural Development	0	0	0	0	0	0	0	0
Children and Youth Services	0	0	0	0	0	0	0	0
Culture and Community Spirit	0	0	0	0	0	0	0	0
Education	0	0	0	0	0	0	0	0
Employment and Immigration	0	0	0	0	0	0	0	0
Energy	0	0	0	0	0	0	0	0
Environment	0	0	0	0	3,956	0	0	0
Finance and Enterprise	0	0	0	0	0	0	0	0
Health and Wellness	0	0	0	0	0	14,488	0	0
Housing and Urban Affairs	0	0	0	0	0	0	0	0
Justice and Attorney General	0	0	0	0	0	0	0	0
Municipal Affairs	0	0	0	0	0	17	0	0
Seniors and Community Supports	0	0	0	0	0	91	0	0
Solicitor General and Public Security	0	0	0	0	0	0	0	0
Sustainable Resource Development	0	0	0	17	0	0	0	0
Tourism, Parks and Recreation	0	0	0	0	0	0	0	0
Total	0	0	0	17	3,956	14,596	0	0

Table 58 Objectives of expenditures in the social sciences and humanities, by department, ministry or agency, 2009/2010 (continued)

Department, ministry 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	0	0	0	313	0	0	0	313
Research and Innovation Division	0	0	0	2,028	0	0	0	2,028
Total Advanced Education & Technology	0	0	0	2,341	0	0	0	2,341
Agriculture and Rural Development	0	0	0	0	0	0	0	0
Children and Youth Services	0	0	0	2,200	0	0	0	2,200
Culture and Community Spirit	0	0	0	1,514	0	0	0	1,514
Education	0	0	0	31,625	0	0	0	31,625
Employment and Immigration	0	0	0	2,295	0	0	0	2,295
Energy	0	0	0	0	0	0	0	0
Environment	0	0	0	0	0	0	0	3,956
Finance and Enterprise	0	0	0	0	0	595	0	595
Health and Wellness	0	0	0	0	0	0	0	14,488
Housing and Urban Affairs	0	0	0	887	0	0	0	887
Justice and Attorney General	0	0	0	2,140	0	0	0	2,140
Municipal Affairs	0	0	0	0	0	0	0	17
Seniors and Community Supports	0	0	0	201	0	0	0	292
Solicitor General and Public Security	0	0	0	375	0	155	0	530
Sustainable Resource Development	0	0	0	212	0	0	0	229
Tourism, Parks and Recreation	0	0	0	0	0	0	790	790
Total	0	0	0	43,790	0	750	790	63,899

Table 59 Objectives of expenditures in the social sciences and humanities, by activity, 2009/2010					
Objective	Intramural		Extramural		Total
	Research and development	Related scientific activities	Research and development	Related scientific activities	
	thousands of dollars				
Exploration & exploitation of the Earth	0	0	0	0	0
Infrastructure and general planning of land use					
Transportation systems	0	0	0	0	0
Telecommunications systems	0	0	0	0	0
Other	0	0	0	17	17
Control and care of the environment	0	2,231	0	1,725	3,956
Protection and improvement of human health	825	1,359	3,982	8,430	14,596
Production, distribution and rational utilization of energy	0	0	0	0	0
Agricultural production and technology	0	0	0	0	0
Fishing	0	0	0	0	0
Forestry	0	0	0	0	0
Industrial production and technology	0	0	0	0	0
Social structures and relationships	263	24,615	451	18,461	43,790
Exploration and exploitation of space	0	0	0	0	0
Basic research	219	506	25	0	750
Other civil research	0	316	0	474	790
Total	1,307	29,027	4,458	29,107	63,899

Table 60 Total expenditures in the social sciences and humanities, by activity and performing sector, 2010/2011 preliminary							
Activity	Intramural	Business enterprises	Higher education	Hospitals and health organizations	PROs*	Other	Total
thousands of dollars							
Research and Development (R&D)							
Current expenditures:							
In-house R&D	578	...	...	...	...	...	578
R&D contracts	0	246	0	45	...	0	291
R&D grants and contributions	...	0	2,154	3,375	...	0	5,529
Research fellowships	0	0	0	0	...	0	0
Administration of extramural R&D	788	...	...	...	...	...	788
Sub-total current R&D	1,366	246	2,154	3,420	...	0	7,186
Capital expenditures	0	...	...	...	...	...	0
Total R&D	1,366	246	2,154	3,420	...	0	7,186
Related scientific activities (RSA)							
Current expenditures	24,161	2,487	1,187	8,534	...	13,526	49,895
Administration of extramural RSA	2,954	...	...	...	...	...	2,954
Sub-total current RSA	27,115	2,487	1,187	8,534	...	13,526	52,849
Capital expenditures	35	...	...	...	...	...	35
Total RSA	27,150	2,487	1,187	8,534	...	13,526	52,884
Total	28,516	2,733	3,341	11,954	...	13,526	60,070

*Provincial Research Organizations

Table 61 Total expenditures in the social sciences and humanities, by department, ministry or agency and performing sector, 2010/2011 preliminary							
Department, ministry or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	PROs*	Other	Total
thousands of dollars							
Advanced Education & Technology							
Post-Secondary Excellence Division	23	170	0	0	...	0	193
Research and Innovation Division	0	0	0	0	...	1,729	2,028
Total Advanced Education & Technology	23	469	0	0	...	1,729	2,221
Children and Youth Services	400	0	0	0	...	2,000	2,400
Culture and Community Spirit	911	0	0	0	...	600	1,511
Education	18,156	96	503	0	...	8,365	27,120
Employment and Immigration	1,020	885	0	0	...	380	2,285
Environment	2,185	239	21	0	...	0	2,445
Finance and Enterprise	790	70	0	0	...	0	860
Health and Wellness	2,077	0	1,972	11,860	...	0	15,909
Housing and Urban Affairs	455	176	0	0	...	0	631
Justice and Attorney General	1,692	50	845	0	...	400	2,987
Seniors and Community Supports	50	21	0	94	...	0	165
Solicitor General and Public Security	441	25	0	0	...	0	466
Sustainable Resource Development	0	250	0	0	...	0	250
Tourism, Parks and Recreation	316	452	0	0	...	52	820
Total	28,516	2,733	3,341	11,954	...	13,526	60,070

*Provincial Research Organizations

Table 62 Total expenditures in the social sciences and humanities, by department, ministry or agency and activity, 2010/2011 preliminary							
Department, ministry or agency	Research and development			Related scientific activities			Total
	Current	AEP ¹	Capital	Current	AEP ¹	Capital	
	thousands of dollars						
Advanced Education & Technology							
Post-Secondary Excellence Division	0	0	0	170	23	0	193
Research and Innovation Division	0	0	0	2,028	0	0	2,028
Total Advanced Education & Technology	0	0	0	2,198	23	0	2,221
Children and Youth Services	0	0	0	2,200	200	0	2,400
Culture and Community Spirit	0	0	0	1,511	0	0	1,511
Education	0	0	0	26,564	556	0	27,120
Employment and Immigration	0	0	0	1,775	510	0	2,285
Environment	0	0	0	2,370	40	35	2,445
Finance and Enterprise	270	0	0	590	0	0	860
Health and Wellness	4,684	778	0	9,148	1,299	0	15,909
Housing and Urban Affairs	439	0	0	192	0	0	631
Justice and Attorney General	845	0	0	2,142	0	0	2,987
Seniors and Community Supports	45	10	0	100	10	0	165
Solicitor General and Public Security	115	0	0	351	0	0	466
Sustainable Resource Development	0	0	0	250	0	0	250
Tourism, Parks and Recreation	0	0	0	504	316	0	820
Total	6,398	788	0	49,895	2,954	35	60,070
1. Administration of extramural programs							

Table 63 Total expenditures on R&D in the social sciences and humanities, by department, ministry or agency and performing sector, 2010/2011 preliminary

Department, ministry or agency	Intramural	Business enterprises	Higher education	Hospitals and health organizations	PROs*	Other	Total
thousands of dollars							
Finance and Enterprise	200	70	0	0	...	0	270
Health and Wellness	778	0	1,309	3,375	...	0	5,462
Housing and Urban Affairs	263	176	0	0	...	0	439
Justice and Attorney General	0	0	845	0	...	0	845
Seniors and Community Supports	10	0	0	45	...	0	55
Solicitor General and Public Security	115	0	0	0	...	0	115
Total	1,366	246	2,154	3,420	...	0	7,186

*Provincial Research Organizations

Table 64.1 Personnel engaged in the social sciences and humanities, by department, ministry or agency and activities, 2010/2011 preliminary — Intramural scientific activities

Department, ministry 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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Research and Innovation Division	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Advanced Education & Technology	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Children and Youth Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Culture and Community Spirit	0.0	13.0	0.0	0.0	0.0	0.0	0.0	13.0
Education	0.0	32.6	0.0	4.8	0.0	56.6	0.0	94.0
Employment and Immigration	0.0	6.5	0.0	0.0	0.0	0.0	0.0	6.5
Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Environment	0.0	7.0	0.0	0.0	0.0	0.0	0.0	7.0
Finance and Enterprise	1.5	5.5	0.5	0.5	0.0	0.0	2.0	6.0
Health and Wellness	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Housing and Urban Affairs	2.3	2.7	0.0	0.0	0.6	1.0	2.9	3.7
Justice and Attorney General	0.0	17.5	0.0	0.0	0.0	0.0	0.0	17.5
Municipal Affairs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Seniors and Community Supports	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4
Solicitor General and Public Security	1.7	4.7	0.0	0.0	0.0	0.0	1.7	4.7
Sustainable Resource Development	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tourism, Parks and Recreation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	5.5	89.9	0.5	5.3	0.6	57.6	6.6	152.8

Table 64.2 Personnel engaged in the social sciences and humanities, by department, ministry or agency and activities, 2010/2011 preliminary — Administration of extramural programs

Department, ministry 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	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4
Research and Innovation Division	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Advanced Education & Technology	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4
Children and Youth Services	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0
Culture and Community Spirit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Education	0.0	1.4	0.0	0.2	0.0	2.4	0.0	4.0
Employment and Immigration	0.0	6.5	0.0	0.0	0.0	0.0	0.0	6.5
Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Environment	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.5
Finance and Enterprise	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Health and Wellness	9.9	16.1	0.0	0.1	1.6	2.3	11.5	18.5
Housing and Urban Affairs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Justice and Attorney General	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Municipal Affairs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Seniors and Community Supports	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1
Solicitor General and Public Security	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sustainable Resource Development	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tourism, Parks and Recreation	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0
Total	10.0	30.0	0.0	0.3	1.6	4.7	11.6	35.0

Table 64.3 Personnel engaged in the social sciences and humanities, by department, ministry or agency and activities, 2010/2011 preliminary — Total scientific activities

Department, ministry 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	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4
Research and Innovation Division	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Advanced Education & Technology	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4
Children and Youth Services	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0
Culture and Community Spirit	0.0	13.0	0.0	0.0	0.0	0.0	0.0	13.0
Education	0.0	34.0	0.0	5.0	0.0	59.0	0.0	98.0
Employment and Immigration	0.0	13.0	0.0	0.0	0.0	0.0	0.0	13.0
Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Environment	0.0	7.5	0.0	0.0	0.0	0.0	0.0	7.5
Finance and Enterprise	1.5	5.5	0.5	0.5	0.0	0.0	2.0	6.0
Health and Wellness	9.9	16.1	0.0	0.1	1.6	2.3	11.5	18.5
Housing and Urban Affairs	2.3	2.7	0.0	0.0	0.6	1.0	2.9	3.7
Justice and Attorney General	0.0	17.5	0.0	0.0	0.0	0.0	0.0	17.5
Municipal Affairs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Seniors and Community Supports	0.1	0.5	0.0	0.0	0.0	0.0	0.1	0.5
Solicitor General and Public Security	1.7	4.7	0.0	0.0	0.0	0.0	1.7	4.7
Sustainable Resource Development	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tourism, Parks and Recreation	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0
Total	15.5	119.9	0.5	5.6	2.2	62.3	18.2	187.8

Table 65 Objectives of expenditures in the social sciences and humanities, by department, ministry or agency, 2010/2011 preliminary

Department, ministry 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	0	0	0	0	0	0	0	0
Research and Innovation Division	0	0	0	0	0	0	0	0
Total Advanced Education & Technology	0	0	0	0	0	0	0	0
Children and Youth Services	0	0	0	0	0	0	0	0
Culture and Community Spirit	0	0	0	0	0	0	0	0
Education	0	0	0	0	0	0	0	0
Employment and Immigration	0	0	0	0	0	0	0	0
Energy	0	0	0	0	0	0	0	0
Environment	0	0	0	0	2,445	0	0	0
Finance and Enterprise	0	0	0	0	0	0	0	0
Health and Wellness	0	0	0	0	15,909	0	0	0
Housing and Urban Affairs	0	0	0	0	0	0	0	0
Justice and Attorney General	0	0	0	0	0	0	0	0
Municipal Affairs	0	0	0	0	0	0	0	0
Seniors and Community Supports	0	0	0	0	0	14	0	0
Solicitor General and Public Security	0	0	0	0	0	0	0	0
Sustainable Resource Development	0	0	0	0	0	0	0	0
Tourism, Parks and Recreation	0	0	0	0	0	0	0	0
Total	0	0	0	0	18,354	14	0	0

Table 65 Objectives of expenditures in the social sciences and humanities, by department, ministry or agency, 2010/2011 preliminary (continued)								
Department, ministry 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	0	0	0	193	0	0	0	193
Research and Innovation Division	0	0	0	2,028	0	0	0	2,028
Total Advanced Education & Technology	0	0	0	2,221	0	0	0	2,221
Children and Youth Services	0	0	0	2,400	0	0	0	2,400
Culture and Community Spirit	0	0	0	1,511	0	0	0	1,511
Education	0	0	0	27,120	0	0	0	27,120
Employment and Immigration	0	0	0	2,285	0	0	0	2,285
Energy	0	0	0	0	0	0	0	0
Environment	0	0	0	0	0	0	0	2,445
Finance and Enterprise	0	0	0	0	0	860	0	860
Health and Wellness	0	0	0	0	0	0	0	15,909
Housing and Urban Affairs	0	0	0	631	0	0	0	631
Justice and Attorney General	0	0	0	2,987	0	0	0	2,987
Municipal Affairs	0	0	0	0	0	0	0	0
Seniors and Community Supports	0	0	0	151	0	0	0	165
Solicitor General and Public Security	0	0	0	301	0	165	0	466
Sustainable Resource Development	0	0	0	250	0	0	0	250
Tourism, Parks and Recreation	0	0	0	0	0	0	820	820
Total	0	0	0	39,857	0	1,025	820	60,070

Table 66 Objectives of expenditures in the social sciences and humanities, by activity, 2010/2011 preliminary					
Objectives	Intramural		Extramural		Total
	Research and development	Related scientific activities	Research and development	Related scientific activities	
	thousands of dollars				
Exploration & exploitation of the Earth	0	0	0	0	0
Infrastructure and general planning of land use					
Transportation systems	0	0	0	0	0
Telecommunications systems	0	0	0	0	0
Other	0	0	0	0	0
Control and care of the environment	778	3,484	4,684	9,408	18,354
Protection and improvement of human health	0	14	0	0	14
Production, distribution and rational utilization of energy	0	0	0	0	0
Agricultural production and technology	0	0	0	0	0
Fishing	0	0	0	0	0
Forestry	0	0	0	0	0
Industrial production and technology	0	0	0	0	0
Social structures and relationships	273	22,696	1,066	15,822	39,857
Exploration and exploitation of space	0	0	0	0	0
Basic research	315	640	70	0	1,025
Other civil research	0	316	0	504	820
Total	1,366	27,150	5,820	25,734	60,070

Respondents

The following Alberta government Departments and agencies are currently reporting 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.

Department/Agency	Coordinator	Contact
Advanced Education and Technology	Dale Miles	Tel. (780) 422-0280 dale.miles@gov.ab.ca
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Alberta Innovates – Technology Futures	Ian Potter	780 4272793 ian.potter@albertainnovates.ca
Alberta Innovates – Energy and Environment Solutions	Alice Barr	Tel. (403) 297-8650 alice.barr@albertainnovates.ca
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Justice and Attorney General	Tracy Wyrstiuk	780 422-5969 tracy.wyrstiuk@gov.ab.ca
Municipal Affairs	Jeff Pearson	780-415-0834 Jeff.Pearson@gov.ab.ca
Seniors and Community Supports	Angela Schubert	780-644-8182 angela.schubert@gov.ab.ca
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Sustainable Resource Development	Keith McClain	780-644-4657 keith.mcclain@gov.ab.ca
Tourism, Parks, and Recreation	Anderson Alder	(780) 427-0390 anderson.alder@gov.ab.ca
Transportation	Fred Cheng	780-415-1039 fred.cheng@gov.ab.ca

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.

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 refers to 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 Canadian hospitals and health organizations which do not belong to the higher education sector. Also include non-profit organizations related to health.

Provincial Research Organizations (PROs) 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. The provinces of British Columbia, Alberta, Ontario, Nova Scotia, Newfoundland and Labrador and Prince Edward Island do not have a provincial research organization. This sector in questions 1 and 6 do not apply to these provinces.

Other the federal government, municipal governments, individuals and institutions not identified with any other sector, and foreign performers. Also included are private non-profit organizations\ not serving the health field or business enterprise sector.

Expenditures are either current or capital. **Current expenditures** include costs of personnel (salaries and benefits), 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.

Department, ministry or agency 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, ministry or agency.