

***THE ECONOMIC IMPACT OF
AGRIUM KENAI NITROGEN OPERATIONS
IN ALASKA, 2001***

***PREPARED FOR:
RESOURCE SOLUTIONS
ANCHORAGE, ALASKA***

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PREPARED BY:



ANCHORAGE • JUNEAU

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Agrium Kenai Nitrogen Operations contracted with Resource Solutions and the McDowell Group, Alaska research and consulting firms, to quantify the economic impact of Agrium Kenai Nitrogen Operations on the Kenai Peninsula Borough and the Alaska economy during calendar year 2001. This report details the study findings of the economic impacts of Agrium's production on the Kenai Peninsula and Alaska. Findings are expressed in terms of direct, indirect, and induced impacts, which are explained below.

Agrium Kenai Nitrogen Operations is one of Alaska's few major manufacturing operations and contributes to Alaska's economy by adding value to Cook Inlet natural gas production. The Agrium complex is located near Nikiski, 10 miles north of Kenai and directly employs close to 300 people. The plant is the United State's second largest producer of ammonia and urea. It consists of two urea and two ammonia plants, a tidewater port facility, and a power cogeneration facility. The Agrium Kenai Nitrogen Operations complex has an annual production capacity of nearly 2 million tons. In 2001, the Kenai plants produced 1.4 million metric tons of anhydrous ammonia and urea. For feedstock, the plant uses approximately 155 million cubic feet of Cook Inlet natural gas daily. Virtually all of Agrium's Kenai production is destined for overseas markets. Agrium's total gross sales in 2001 were \$210 million.

Direct economic impacts. Direct impacts are the initial expenditures by Agrium Kenai Nitrogen Operations. These initial impacts include the amount directly spent by Agrium to purchase goods and services (such as materials, utilities, construction services, and transportation), payments to government (such as taxes and fees), cash contributions to membership organizations and charitable organizations, and the wages paid to Agrium employees.

Indirect and induced economic impacts. Indirect impacts result from Agrium's spending on goods and services that in turn circulate through the economy as Agrium's suppliers in the Borough and in Alaska conduct their business with Agrium's initial dollars. Induced impacts result from the spending of Agrium (and suppliers') payroll dollars by employee households. For instance, when Agrium employees and employees of Agrium suppliers spend money in the regional economy, induced impacts accumulate as these dollars continue to circulate. These indirect and induced impacts are estimated using econometric model multipliers developed specifically for Alaska and refined by McDowell Group for use in this study.

Summary of Economic Impacts

Agrium's total economic output in Alaska was \$333 million in 2001. Economic output is the gross sale value of Agrium's production (\$210 million) plus the impacts of spending in support of Agrium's operations (\$123 million). Total impacts include 1,000 Alaska jobs (292 direct plus 700 indirect and induced jobs), \$50 million in Alaska payroll (\$25 million in Agrium payroll plus indirect and induced payroll), and charitable support by Agrium of 87 organizations and programs, almost all of them in the Kenai Peninsula Borough.

The Kenai Peninsula Borough receives \$2.4 million in industrial property tax from Agrium, an estimated minimum of \$212,700 in residential property tax from Agrium employees' dwellings and \$1.4 million in state funding support for Agrium family school-age children's education - a total of \$4.0 million in direct revenue. The Agrium operation also accounts - directly and indirectly - for an estimated 5 percent of the population, 6 percent of employment, and 9 percent of wage and salary income in the Kenai Peninsula Borough.

Table 1
Summary of Agrium Kenai Nitrogen Operations Economic Impacts, 2001

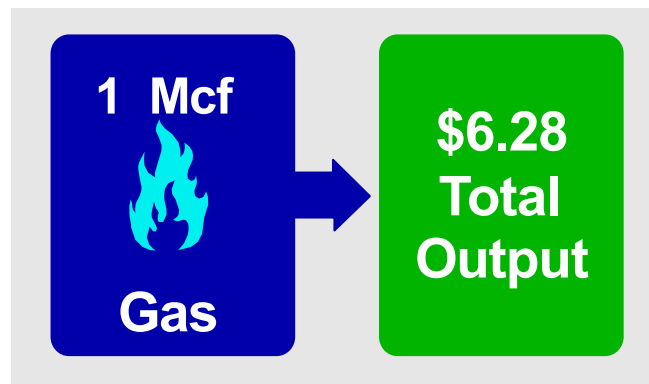
Economic Activity	Direct Impacts	Multiplier Effect	Indirect and Induced Impacts	Total Impacts
Economic Impacts				
Output	\$210 million	1.6	\$123 million	\$333 million
Economic value of Agrium production per Mcf of natural gas feedstock				\$6.28/Mcf
Employment	292 jobs	3.5	700 jobs	992 jobs
Payroll	\$25 million	2.0	\$25 million	\$50 million
AK goods & services purchased	\$95 million			
Employment (% of KPB total)				5.5%
Wage and salary income (% of Kenai Peninsula Borough total)				8.8%
Revenue to Kenai Peninsula Borough (KPB)				
Agrium industrial property tax	\$2.4 million			
Agrium employee property tax	\$212,700			
State revenue to KPB School District for Agrium dependents	\$1.4 million			
Total revenue to KPB	\$4.0 million			
Social Impacts				
Total population impacts (direct and indirect)				2,150 total 4.5% of KPB
Student enrollment (Agrium children as % of total KPB District enrollment)	3.3%			
Number of charities supported	87			

Major Findings

By Alaska economic standards, the Agrium operation is exceptional for its combination of high pay levels, amount and concentration of expenditures in the local area, and the degree of value-added manufacturing that occurs in Alaska prior to export. The result is a high multiplier impact.

Per one thousand cubic feet (Mcf) of Cook Inlet natural gas used by Agrium for feedstock and power generation, \$6.28 in total Alaska economic output is generated.

Figure 1
Total Output Impact per One Thousand
Cubic Feet (Mcf) of Natural Gas Used, 2001



Source: Agrium U.S. Inc., McDowell Group compilations

Agrium Kenai Nitrogen Operations is the Kenai Peninsula’s third largest private employer with direct employment of 292 in 2001. Only Peak Oilfield Services Company (367) and Safeway/Eagle Stores (342) employ more.

- If Peak Oilfield Services employees under contract to Agrium are included in Agrium’s employment figures, Agrium becomes the #1 private employer in the Kenai Peninsula Borough. In terms of payroll (not available for individual private companies), Agrium has either the largest or the second largest private payroll in the Kenai Peninsula Borough.
- All of Agrium’s employees live in the Kenai Peninsula Borough, increasing their local economic impact.

Multiplier impacts of Agrium Kenai Nitrogen Operations account for an additional 700 jobs in the Alaska and Kenai Peninsula Borough economies.

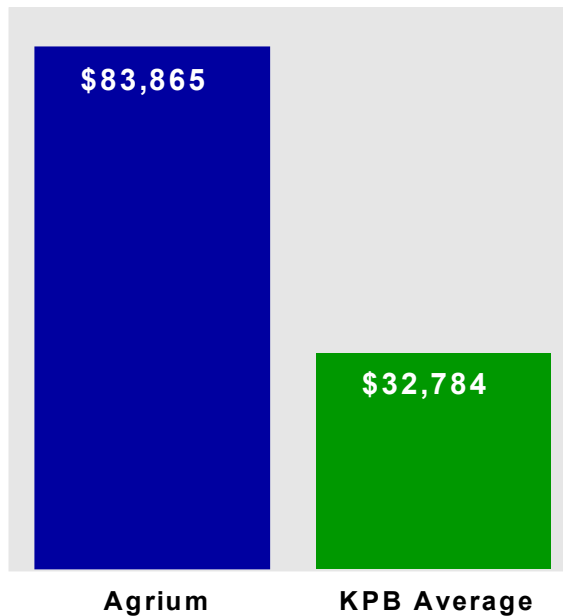
- Agrium spending on goods and services generates an additional 700 indirect and induced Kenai Peninsula Borough jobs. The secondary impacts of Agrium employee payroll spending bring the total employment impact to approximately 1,000 jobs.

- Agrium’s total direct, indirect, and induced employment impacts account for 5.5 percent of the Kenai Peninsula Borough’s total employment, and 8.0 percent of jobs in the Central Kenai Peninsula area (the area north of the Kasilof River and west of Skilak Lake).

Agrium Kenai Nitrogen Operations provides high-paying jobs in the value-added manufacturing sector.

- Agrium payroll average of \$83,865 per employee is more than double the average regional salary.
- Agrium Kenai Nitrogen Operations’ \$25 million in direct payroll generates additional indirect and induced earnings of \$25 million, a total of \$50 million in salaries and wages in the Kenai Peninsula Borough economy.
- Agrium’s total direct, indirect, and induced earnings account for 8.8 percent of Kenai Peninsula Borough’s total wage and salary payroll, and 13.4 percent of payroll in the Central Kenai Peninsula area.

**Figure 2
Comparison of Average Annual Earnings,
Agrium Kenai Nitrogen Operations Employees vs.
Kenai Peninsula Borough Average, 2001**



Source: Agrium U.S. Inc., Alaska Department of Labor and Workforce Development

Virtually all of Agrium's vendor spending in Alaska (95 percent of the amount purchased) is spent with companies based in the Kenai Peninsula Borough.

- In 2001, Agrium spent \$90.5 million on goods and services provided by 118 Kenai Peninsula companies. The remaining purchases of goods and services in Alaska (\$4.7 million) were made to 129 companies in Anchorage, Fairbanks, Wasilla, and Palmer. The variety of the almost 250 businesses from which Agrium made its purchases include gas producers, construction contractors, engineering firms, environmental service firms, utility companies, retail and wholesale businesses, and other types of businesses.

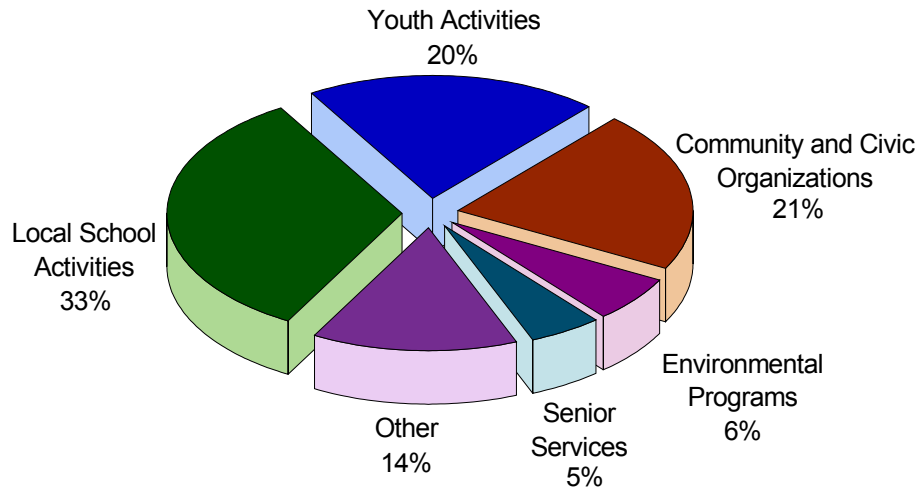
In 2001, the Kenai Peninsula Borough received \$4.0 million in Agrium-related revenues.

- In 2001, Agrium paid \$2.4 million in industrial property taxes to the Kenai Peninsula Borough, representing 8.8 percent of the Borough's total property tax receipts.
- Agrium families pay at least \$212,700 in residential property taxes exclusive of service area and city taxes on property (assuming an average KPB dwelling value of \$112,000). Because of the high average wage for Agrium employees, the actual figure, if known, likely would be significantly higher.
- Children of Agrium employee families account for \$1.4 million in state school funding support received by the Kenai Peninsula Borough School District.

Agrium is highly involved in the local community, supporting 87 membership and charitable organizations and events.

- In 2001, Agrium contributed \$138,329 to 87 non-profit organizations or programs, most of them located in the Kenai area.
- Charitable giving was provided to local schools athletic and academic programs, youth activities, community services and civic organizations, environmental programs, senior services, and other health and economic development programs.

**Figure 3
Agrium's Charitable Contributions,
by Type of Organization or Program, 2001**



Note: Percentages do not add up to 100 percent due to rounding.
Source: Agrium Kenai Nitrogen Operations

Agrium household incomes are supported by year-round, full-time, high-skilled, and professional positions.

- Home ownership and real estate value tend to be significantly higher among families with an income profile enjoyed by Agrium households.
- Higher salaries tend to attract stable, long-term, skilled professionals to the region.
- The high amount of discretionary income translates into a wider variety and volume of local expenditures on local household goods and services.
- Agrium's work force is 100 percent resident in the Kenai Peninsula area. This fact, in turn, directs household spending locally, as opposed to other income sectors that have significant non-resident components. According to the Alaska Department of Labor and Workforce Development, in 2000, non-residents held 19.7 percent of the private sector jobs in Kenai Peninsula Borough.

Based on the relationship between the employment and population on the Kenai Peninsula Borough, the 1,000 Agrium-related jobs support a population of 2,150.

- This population impact accounts for 4.3 percent of the Kenai Peninsula Borough's total population and 7.0 percent of the Central Kenai Peninsula population.

Agrium's families accounted for 3.3 percent of Kenai Peninsula Borough School District student enrollment and \$1.4 million of the \$42.5 million in state revenue support to the District in the 2001/2002 school year.

- Agrium dependents account for approximately 4.9 percent of student enrollment in the Central Peninsula area.

SCOPE OF WORK AND METHODOLOGY

Scope of Work

The purpose of this study is to measure the economic impact of Agrium's production of urea and anhydrous ammonia at its Kenai plant on the economies of the Kenai Peninsula Borough and Alaska in 2001. The study includes:

- A brief overview of Agrium's activities in Alaska
- Agrium direct spending for goods and services in Alaska
- Borough government revenues from Agrium
- Direct employment and annual payroll
- Agrium's donations to charities and membership organizations
- Indirect and induced payroll and employment from Agrium direct spending.

Methodology

Several methodologies were used to determine the economic impact of Agrium operations in Alaska, including primary research, secondary data collection, interviews with Agrium representatives and borough government officials, and use of predictive econometric models. The economic data was collected from several official sources.

Agrium Expenditures

In order to estimate Agrium spending, the study team utilized data on Alaska vendor spending by location and by industrial classification.

The vendor data was reviewed and aggregated into 14 sectors:

Natural Gas

Transportation

Utilities

Manufacturing

Information/communications

Wholesale and retail trade

Real estate, rental and leasing

Professional, scientific, and technical services

Administrative, support, waste management, and remediation services

Health care and social assistance
Services
Construction
Public Administration (Government)

Donations to charitable causes and payments to membership organizations were provided by Agrium U.S.

Government Revenue

Agrium U.S. provided information concerning tax and fee revenue paid to the Borough government. The Kenai Peninsula Borough provided additional supporting data on property and sales taxes.

Employment and Payroll

Direct employment and aggregate payroll data were derived from official Alaska Department of Labor and Workforce Development reports that Agrium files with the state. Use of this database allows for direct comparisons to all other official employment and payroll data for the Kenai Peninsula Borough and for accurate econometric modeling results. Full-time, part-time, and seasonal employment is accounted for in this database. Other sector employment and payroll data was collected from the Alaska Department of Labor and Workforce Development and the Kenai Peninsula Borough.

Analysis of population, employment, and payroll impacts at the sub-region level of the Central Kenai Peninsula Borough was based on 2000 Census data from the following census districts: Funny River, Sterling, Soldotna, Ridgeway, Kenai, Nikiski, Kalifonsky, Salamatof, Kasilof, and Cohoe.

Indirect and Induced Economic Impacts

The study team used the IMPLAN econometric model for Alaska to estimate indirect impacts from Agrium output. As a verification check, results of IMPLAN modeling for this study were compared to results of other Alaska modeling methods (University of Alaska Institute of Social and Economic Research (ISER) Input-Output Model), previous McDowell Group modeling in the oil and gas and other Alaska industries, and to national multiplier data from IMPLAN and the U.S. Department of Commerce Bureau of Economic Analysis. IMPLAN multipliers were chosen for this study over U.S. Department of Commerce and ISER multipliers because the IMPLAN model provides specific multipliers at the Kenai Peninsula Borough level and for the nitrogenous and phosphatic fertilizer manufacture sector.

The reason for this extensive testing was the apparently high multipliers for Agrium. However, a number of explanations allow the study team to conclude the multipliers in this study are valid.

- Agrium average wages are more than twice the Kenai Peninsula Borough average, leading to high multiplier impacts as this money circulates in the economy.
- A significant portion (two-thirds) of Agrium Kenai Nitrogen Operations spending on goods and services is in Kenai Peninsula Borough and Southcentral Alaska, concentrating the impacts in the region.
- Agrium is a major value-added manufacturing operation that has significant multiplier impacts when compared to the relatively low level of manufacturing that is involved before the export of most of Alaska's resources.
- The Kenai Peninsula Borough support sector economy (retail, service, transportation) has grown significantly in its ability to absorb household and industry spending, therefore increasing the multiplier impacts of local industrial activity.

In summary, by Alaska economic standards, the Agrium operation is exceptional by its combination of high pay levels, amount and concentration of expenditures in the local area, and the degree of value-added manufacturing that occurs in Alaska prior to export. The result is a high multiplier impact.

The table below compares IMPLAN model multipliers of selected industries, some of which are dominant (for instance, seafood processing, oil and gas production, and visitor accommodations) in the Kenai Peninsula Borough. For instance, Agrium's output multiplier of 1.6 is similar to the 1.5 for both forest products and seafood products. The IMPLAN multiplier for crude petroleum and natural gas production is 1.4. Even though the extraction of oil is expensive and intensive, the actual treatment (or value-added) of the product is minimal before export.

Table 2
Comparison of IMPLAN Multipliers, by Industry Aggregation,
for Output, Earnings, and Employment for Kenai Peninsula Borough

Sector	IMPLAN
Output Multiplier	
Agrium Kenai Nitrogen Operations	1.6
Agricultural, forestry and fishery services	1.5
Natural gas and crude petroleum	1.4
New residential structure construction	1.3
Prepared fresh or frozen fish or seafood	1.3
Telecommunications	1.3
Hotel and lodging facilities	1.4
Earnings Multiplier	
Agrium Kenai Nitrogen Operations	2.0
Agricultural, forestry and fishery services	1.3
Natural gas and crude petroleum	1.5
New residential structure construction	1.4
Prepared fresh or frozen fish or seafood	1.5
Telecommunications	1.5
Hotel and lodging facilities	1.4
Employment Multiplier	
Agrium Kenai Nitrogen Operations	3.5
Agricultural, forestry and fishery services	1.2
Natural gas and crude petroleum	2.4
New residential structure construction	1.5
Prepared fresh or frozen fish or seafood	1.4
Telecommunications	2.3
Hotel and lodging facilities	1.3

Because the IMPLAN output, employment, and earnings multipliers for the Kenai Peninsula Borough were based on 1997 dollars, it was necessary to convert 2001 gross sales from 2001 dollars to 1997 dollars. This adjustment was made using the Alaska Consumer Price Index (CPI). Agrium Kenai Nitrogen Operations adjusted gross sales were entered into IMPLAN Pro version 2.0 as an event occurring in the Nitrogenous and Phosphatic Fertilizer Manufacture sector. This input yielded direct, indirect, and induced impacts on the Kenai Peninsula Borough output, employment, and payroll.

To verify the relevancy of the IMPLAN model, the study team used the known direct expenditures provided by Agrium to evaluate the relationships between Agrium-related activities and other businesses in Kenai Peninsula Borough. The direct, indirect, and induced impacts on output, employment, and payroll were aggregated to obtain total impact. Dividing total impact by direct impact produces a multiplier.

OVERVIEW OF AGRIMUM U.S. INC. ACTIVITIES

Background on Agrium Kenai Nitrogen Operations

Agrium contributes to Alaska's economy by adding value to Cook Inlet natural gas production. In September 2000, Unocal completed the sale of its agricultural products business, including its subsidiary, Alaska Nitrogen Products LLC (ANP) to Calgary-based Agrium Inc. Unocal's Alaska oil and gas business unit continues to supply natural gas to Agrium from Cook Inlet fields and onshore production facilities as part of a 1998 agreement. The agreement expires in 2009. The Agrium Kenai Nitrogen Operations complex is located near Nikiski, 10 miles north of Kenai. When it was built in 1968, it consisted of one urea and one ammonia plant. Production started in 1969. In 1977, the complex doubled in size, adding another urea and ammonia plant with supporting utilities.

The Nikiski Cogeneration Project, a partnership between Homer Electric Association, Agrium, and Alaska Electric Generation and Transmission was completed in 2001. The project moved the Soldotna #1 turbine from the Soldotna location, which had been used for stand-by service, to Agrium's Nikiski plant to run full time. About 5MW of the power produced will be used by Agrium; the remainder will be fed into the electric grid to stabilize future electric rates and improve reliability.

Currently, the Kenai plant is the United States second largest producer of ammonia and urea (after CF Industries' Louisiana operations). The Kenai plant represents 65 percent of Agrium's ammonia production from its three U.S. ammonia plants and 91 percent of its urea production from its two U.S. urea plants. The Agrium Kenai Nitrogen Operations complex has an annual production capacity of nearly 2 million tons. In 2001, the Kenai plants produced 1,397,374 metric tons of anhydrous ammonia and urea. The Kenai plant accounts for about 6 percent of North America's nitrogen production. For feedstock, the plant uses approximately 150 million cubic feet of natural gas daily. In 2001, Agrium's sales totaled \$210 million.

Virtually all (97 percent) of Agrium's Kenai production is destined for overseas markets, including Mexico, Korea, Taiwan, Thailand, Australia, France, Chile, the Philippines, and New Zealand. Within Alaska, product is distributed and sold to Alaska Garden & Pet, Alaska Farmers Cooperative, and the State of Alaska. In 2001, Agrium Kenai's production was exported to 14 countries, valued at \$190 million in exports and the company was named as the recipient of the 2001 Governor's Exporter of the Year award.

The Alaska facilities include a tidewater port facility in Cook Inlet to expedite global shipping. On the average 70 ocean vessels and barges, carrying up to 35,000 metric tons, ship the bulk of Agrium's production overseas.

Agrium, Inc. is a leading global producer and marketer of fertilizer and a major supplier of agricultural products and services in North America and Argentina. The company produces more than 11 million tons of fertilizers annually from its 14 production facilities. Nitrogen fertilizers account for approximately 8.2 millions tons while potash accounts for 1.7 million tons and phosphate fertilizers 1.1 million tons. In addition, Agrium is one of the largest agricultural retailers in the United States, supplying products and related services in 24 states under the retail banners of Crop Production Services and Western Farm Service.

AGRIUM DIRECT ECONOMIC IMPACTS

Agrium spent \$122 million in Alaska in 2001. Direct impacts include the money actually spent by Agrium in its normal business activity for:

- Payroll for Agrium's direct employees
- Goods and services
- Government taxes and fees
- Charitable contributions

The components of these four types of direct spending, including direct employment, are described in the following sections.

Direct Employment and Payroll

All of Agrium's Alaska employees live on the Kenai Peninsula. In 2001, Agrium employed an annual average of 292 workers in the Kenai Peninsula, earning an annual \$24.6 million in wages. When adding employee benefits, total payroll and benefits expenditures are \$35.3 million. While it is beyond the scope of this study to capture the economic impacts of employee benefits, it is assumed that some portion of the \$10.7 million Agrium spends on employee benefits remains in Alaska. For example, Agrium's employee benefit expenditures circulate in the Alaska economy when employees' health care and retirement payments are made locally to those retirees remaining in the area.

According to the Alaska Department of Labor and Workforce Development, in 2001, Agrium was the third largest private employer in the Kenai Peninsula Borough. Peak Oilfield Service Company is the largest private employer. However, an average of 39 Peak Oilfield Service Company employees were contracted to Agrium on a year-round average basis. Were these employees added to Agrium's total, Agrium would slightly exceed Peak Oilfield Service Company and would be the largest private employer in the Borough. Safeway/Eagle Stores' employment was the second highest employer, but their payroll would be substantially smaller than Agrium's payroll (payroll data by individual company is not publicly available). When public employers are included, Agrium Kenai Nitrogen Operations was the eighth largest employer.

Table 3
The Top 10 Private Employers in the Kenai Peninsula Borough, 2001

Company	Annual Average Employment
Peak Oilfield Services Company	367
Safeway/Eagle Stores	342
Agrium Kenai Nitrogen Operations	292
Fred Meyer	249
Frontier Community Services	222
Alaska Petroleum Contractors	191
Tesoro Alaskan Petroleum Company	178
Union Oil of California	175
Veco Alaska	141
Kmart	138

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

Agrium employment is seasonably stable. During its production peak (November and December), Agrium employs approximately 302 people. The Kenai facility uses contract employees to handle fluctuating maintenance needs, security, and janitorial services. In 2001, the contractor workforce averaged 52 year-round employees. These contract employees are captured in the indirect and induced employment data.

Approximately two-thirds of Agrium employees are assigned to maintenance and operations, while the remaining third are technical, supervisory, and management staff. Maintenance employees include: millwrights and machinists, welders and pipe fitters, general craftsman, instrument and electrical technicians, and warehouse supply workers.

Agrium employees are among the highest paid workers in the Kenai Peninsula, with an average annual salary of \$84,000. Salaries paid to Agrium employees are higher than the average wages paid in all industries (\$32,784) in the Borough (256 percent higher), including oil and gas extraction wages (\$69,204, 121 percent higher).

Table 4
Kenai Peninsula Borough Annual Average Monthly Employment and Earnings, by Industry, 2001

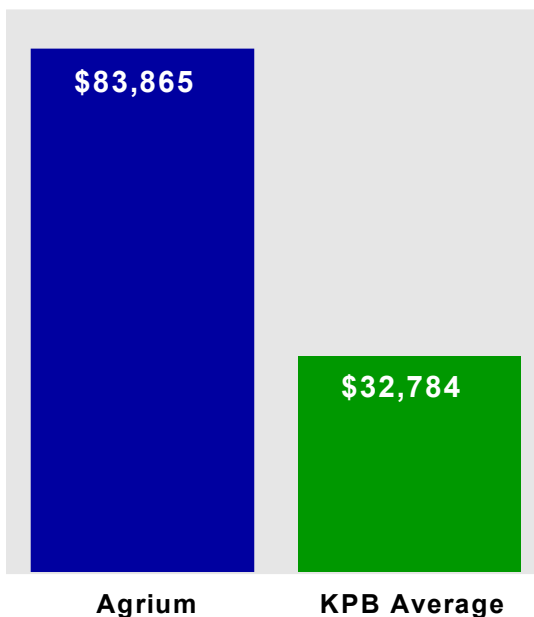
Industry	Annual Average Monthly Employment*	Average Monthly Earnings*	Average Annual Earnings*
Agrium Kenai Nitrogen Operations	292	\$6,989	\$83,865
Oil and gas extraction	1,287	5,767	69,204
Construction	1,118	3,348	40,176
Manufacturing	982	3,091	37,092
Transportation, communications and utilities	1,127	3,571	42,852
Retail and wholesale trade	3,873	1,640	19,680
Finance, insurance & real estate	361	2,188	26,256
Services	3,718	1,670	20,040
Federal government	414	4,305	51,660
State government	1,059	3,029	36,348
Local government	3,013	2,845	34,140
All industries average	17,368**	\$2,732	\$32,784

*2001 preliminary figures

**Subtotals do not add up to total because not all subtotals for every industry categories available are presented.

Source: Agrium Kenai Nitrogen Operations, Alaska Department of Labor and Workforce Development

Figure 4
Comparison of Average Annual Earnings,
Agrium Kenai Nitrogen Operations Employees vs.
Kenai Peninsula Borough Average, 2001



Source: Agrium U.S. Inc., Alaska Department of Labor and Workforce Development

Expenditures on Goods and Services

In the process of manufacturing urea and ammonia, Agrium spent approximately \$95.2 million on Alaska goods and services during 2001. This includes expenditures for capital projects and for operations. Ninety-five percent of this was spent locally in the Kenai Peninsula.

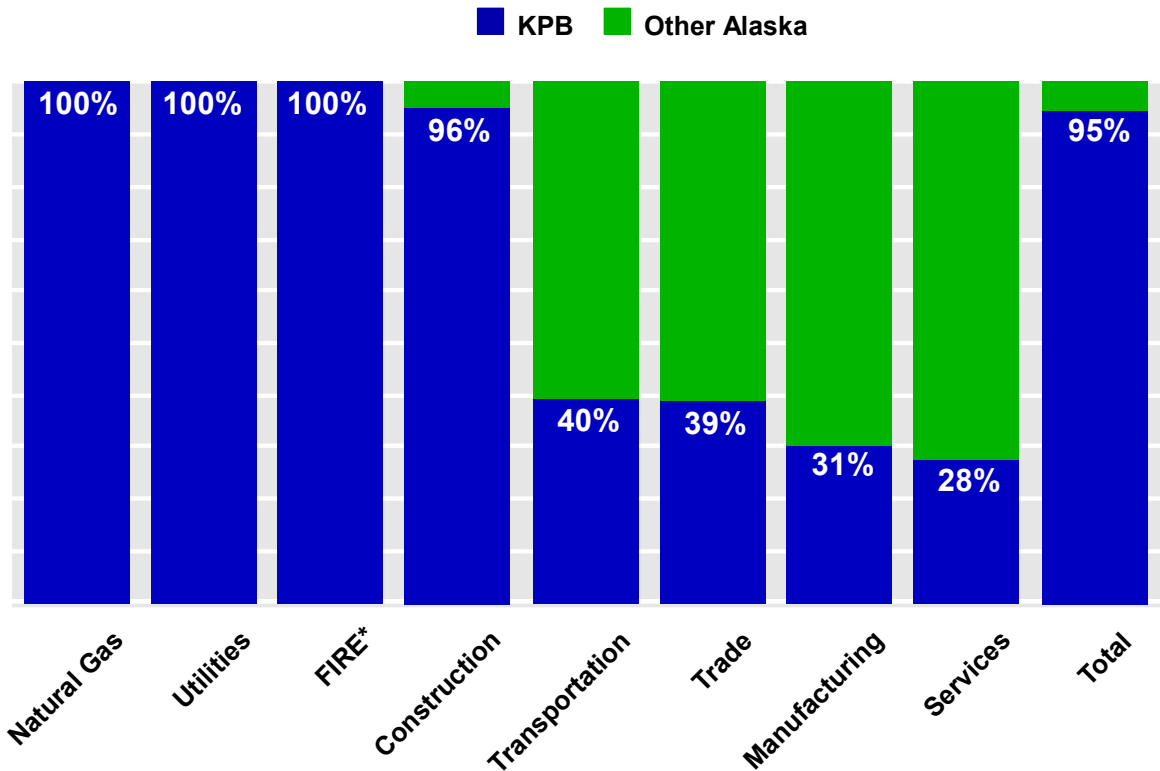
This spending was distributed among 250 Alaska businesses from nearly all sectors of the economy. The single largest category (\$80.2 million) was purchases of natural gas used in feedstock and power generation. Purchases of construction services (new construction and maintenance) represent the second largest expenditure category (\$6.5 million). Third in line are purchases from wholesale and retail businesses (\$3.0 million). The table below provides total direct purchases of Alaska goods and services by expenditure category.

Table 5
Agrium Expenditures on Goods and Services in Alaska,
by Expenditure Category, 2001

Category	Spending (\$)
Natural gas	\$80,180,929
Construction	6,456,232
Wholesale and retail trade	2,984,433
Utilities	1,849,359
Transportation	851,387
Professional, scientific & technical services	738,897
Information/communications	610,641
Services	684,823
Administrative, support, waste management & remediation services	451,118
Manufacturing	156,665
Health care and social assistance	133,849
Miscellaneous sectors (accommodations, food services, real estate)	75,626
Total Local Purchases of Goods and Services	\$95,173,960

Source: Agrium Kenai Nitrogen Operations, McDowell Group compilations

Figure 5
Percent of Agrium Spending in
Kenai Peninsula Borough (KPB) and Other Alaska, by Sector



*Finance, Insurance, and Real Estate

Source: Agrium Kenai Nitrogen Operations, McDowell Group compilations

Borough Taxes

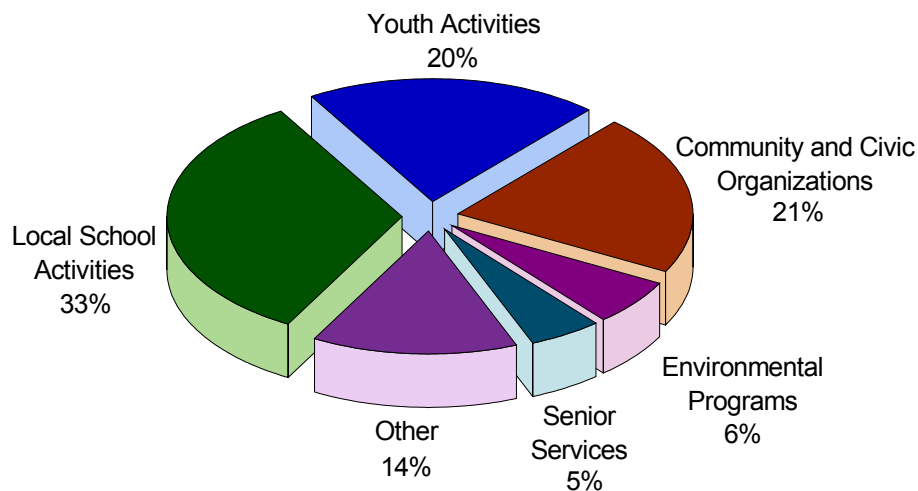
Agrium pays taxes and fees directly to the Kenai Peninsula Borough. Local borough taxes paid by Agrium include property tax for facilities owned and operated by Agrium to manufacture urea and ammonia; that is, their production facilities and transportation facilities. The total tax revenues paid to the Kenai Peninsula Borough in 2001 based on the assessed value of Agrium's plant and equipment was \$2.4 million, representing 8.8 percent of Kenai Peninsula Borough's total property tax receipts.

Charitable Contributions and Membership Organizations

Agrium had an additional impact of \$138,329 on the local and Alaska economies through its charitable donations and the membership fees paid to local organizations. In 2001, Agrium made cash contributions to 80 non-profit charitable organizations in Nikiski, Kenai, Soldotna, Homer, and Anchorage totaling \$121,894.

These non-profit organizations ranged from local school programs (27 different sports and academic activities), youth athletic and academic programs (16 activities), community services and civic organizations (17), environmental programs (5), senior services (4), and a variety of other health, sport, and economic development programs (11).

Figure 6
Agrium's Charitable Contributions, by Type of Organization, 2001



Note: Percentages do not add up to 100 percent due to rounding.
Source: Agrium Kenai Nitrogen Operations

Agrium Kenai Nitrogen Operations matched dollar-to-dollar its employees' contributions to the United Way of Kenai. In 2001, the total contribution to United Way, including employee contributions, was \$45,437. Agrium also sponsors the *Caring for the Kenai* program. This program challenges high schools students to create, invent, or improve ways to better care for the Kenai Peninsula's environment.

In addition, Agrium is involved with local civic and business organizations. Of the total contributions, an estimated \$16,435 was spent on these membership organizations, i.e., Alaska State Chamber of Commerce, Alaska Support Industry Alliance, Resource Development Council, Kenai Chamber of Commerce, North Peninsula Chamber of Commerce, Soldotna Chamber of Commerce, Kenai Peninsula Convention and Visitors Bureau.

While it is unclear how these charitable donations are distributed within the state, it is likely that a significant portion remains in the Kenai Peninsula. In-kind donations made by Agrium and its employees were not captured in this study, but it is known that some employees are actively giving back to their community, through volunteering and provision of skills, equipment, and material.

Table 6
Charitable Donations by Agrium, 2001

Donations (2001)	Amount (\$)
Charitable Organizations	\$121,894
Membership organizations	16,435
Total Contributions	\$138,329

Source: Agrium U.S. Inc.

As Agrium-related spending circulates through the economy, it creates additional jobs and income for Kenai Peninsula and Alaska residents. These indirect output, employment, and earnings impacts are discussed in the following section.

Summary of Direct Spending

Agrium's total 2001 direct spending in Alaska was \$122 million. This amount was used to pay its employee's payroll, local property taxes, purchases of Alaska goods and services, and charitable contributions.

Table 7
Summary of Direct Spending by Agrium, 2001

Category	Value
Annual average employment	292 employees
Total employee payroll	\$25 million
Total Agrium payments to Kenai Peninsula Borough	\$2.4 million
Purchases of Goods and Services	\$95 million
Charitable Giving	\$138,329
Total Direct Spending	\$122 million

INDIRECT AND INDUCED IMPACTS

In addition to the \$210 million in gross sales of Agrium's 2001 production, 292 jobs and \$24.6 million in total annual payroll resulting from direct employment, Agrium Kenai Nitrogen Operations also indirectly creates sales, jobs and earnings through the Kenai Peninsula and Alaska support sectors. This activity is often referred to as a "ripple effect" or a "multiplier impact."

Using the example of employment impacts, additional jobs are created in two ways. First, local spending by Agrium on services and supplies creates jobs in the businesses providing those services and supplies. These jobs are termed "indirect" jobs. Second, spending by Agrium employees in local stores and with local service providers (i.e., banks, doctors, auto repair shops, etc.) also creates jobs. These are termed "induced" jobs. Commonly, indirect and induced impacts are lumped together under the label of indirect employment.

Indirect employment (including induced) can be estimated using multipliers. By applying a multiplier to known direct employment, total employment (direct plus indirect) can be calculated. In Alaska, multipliers are typically between 1.5 and 2.5, meaning that the total (direct and indirect) employment impact of a business that employs 100 workers is between 150 and 250 jobs. In other words, for every direct job, one-half to 1.5 additional jobs are created in the support sector. Payroll impacts are estimated in the same way.

As Agrium spends money locally on goods and services, new earnings are created. Multipliers reflect the fact that money circulates through an economy at different rates depending upon the type of business at which money is spent and the economy in question. The magnitude of the output, employment, and earnings multipliers depends on, first, how much money the employer spends locally on goods and services, the average salary of employees, and the residency of those employees. Because Agrium spends over \$122 million in the Alaska economy and supports high-paying jobs located in the Kenai Peninsula, the multiplier impact of Agrium is higher than the multiplier for most of Alaska's industries, with the notable exception of oil and gas production.

Calculating multipliers that specifically apply to Agrium Kenai Nitrogen Operations would require complex econometric modeling of the Kenai Peninsula Borough that is far beyond the scope of this study. However, using IMPLAN, a predictive model of local and state economies, it is possible to calculate reasonable estimates of multiplier impacts. For the Kenai Peninsula Borough, IMPLAN produces multipliers for more than 500 industrial categories. For the nitrogenous and phosphatic fertilizer manufacture sector in the Kenai Peninsula Borough, IMPLAN reports an output multiplier of 1.6, and employment and earnings multipliers of 3.5 and 2.0, respectively.

Indirect and Induced Output Impacts

In 2001, Agrium's gross sales were \$210 million. The gross sales of Agrium's production plus the indirect and induced impacts of spending in support of Agrium's operations -- an additional \$123 million -- results in a total estimated economic output of \$333 million.

The output multiplier is used to assess the interdependence of sectors within the local economy. For instance, if more of the supplies and services are purchased outside the local area, the output multiplier falls. In the case of Agrium, approximately two-thirds (67 percent) of its supply and services were purchased outside of Alaska and produced an estimated multiplier impact of 1.6.

In 2001, Agrium purchased 53 billion cubic feet of Cook Inlet natural gas. Per one thousand cubic feet (Mcf) of Cook Inlet natural gas used by Agrium for feedstock and power generation, \$6.28 in total economic output is generated.

Indirect and Induced Employment and Earning Impacts

Applying an employment multiplier of 3.5 and an earnings multiplier of 2.0 to Agrium's 292 direct jobs and \$25 million in annual payroll, Agrium's total employment and payroll impact on the Kenai Peninsula Borough economy is estimated at 1,000 direct, indirect and induced jobs and \$50 million in direct, indirect, and induced payroll (700 indirect and induced jobs, and \$25 million indirect and induce payroll).

The sectors most affected by Agrium's indirect impacts are transportation, natural gas production, retail and wholesale trade, and maintenance and repair services.

When factoring in the total direct, indirect, and induced employment and payroll impacts, Agrium's total payroll supports 8.8 percent of total Kenai Peninsula Borough payroll, and 5.5 percent of total Kenai Peninsula Borough employment. When looking at the Central Peninsula (including Funny River, Sterling, Soldotna, Ridgeway, Kenai, Nikiski, Kalifonsky, Salamatof, Kasilof, and Coho Census Districts), Agrium total employment and payroll supports 13.4 percent of Central Kenai Peninsula payroll and 8.0 percent of Central Kenai Peninsula employment.

Social Impacts

Population

Based on the relationship between the employment and population on the Kenai Peninsula Borough, the 1,000 Agrium-related jobs support a population of 2,150.¹ This population impact accounts for 4.3 percent of the Kenai Peninsula Borough's total population (49,691) and 7.0 percent of the Central Kenai Peninsula population (30,540).

¹ 1,000 total jobs divided by the labor participation rate for Kenai Peninsula Borough (46.5 percent).

Student Enrollment and Kenai Peninsula Borough School District Revenue

Agrium employees have 326 school-age dependents (between the years of 5 and 18). Assuming most of these dependents are enrolled in public schools in the Kenai Peninsula, Agrium's families accounted for 3.3 percent of Kenai Peninsula Borough School District school enrollment (9,971) in the 2001/2002 school year. When looking at school enrollment in the Central Peninsula area, Agrium dependents account for approximately 4.9 percent of student enrollment.

According to the School District, the State of Alaska provided \$42.5 million to the District in FY02. On average, the District received \$4,263 per student from the State of Alaska. Thus, Agrium school-age dependents accounted for \$1.4 million in state revenue to the Kenai Peninsula Borough School District. When including Borough revenue (\$30.2 million), federal revenue (\$0.8 million), and other revenue (\$0.1 million), the average per student contribution is \$7,523. Therefore, Agrium school-age dependents could account for up to \$2.5 million in Kenai Peninsula Borough School District General Fund revenue.

Property Tax Revenue

Property tax on employees' homes is not specifically calculated in this study. Several methods for evaluating property tax impacts were considered. Without specific data on number of homes owned or rented by Agrium employees, the study team used a more general measure. Using average taxable value for single-family units (\$112,046) at the Borough mill rate of 6.5, and assuming that all Agrium employees own their own home, Agrium families pay at least \$212,700 in Borough property taxes exclusive of additional service area and city taxes on residential property. Because of the high average wage for Agrium employees and the propensity of higher income earners to own higher valued homes, the actual figure, if known, could be significantly higher. In addition, this figure does not include property tax contributions by the population of homeowners affected indirectly by Agrium's activity.

Sales Tax Revenue

It is not possible to calculate the Borough's sales tax collection that is due to all of Agrium's economic impacts on the Peninsula. However, the general range could be identified through the following methods. Including multiplier impacts, Agrium accounts for about 9 percent of total payroll, 6 percent of employment and 5 percent of total population. Borough sales tax data is a total that results from a complex system of variable taxation depending on specific location of the expenditure, per invoice limit of \$500 regardless of the total value of the product purchased, expenditures by both residents and non-residents, and expenditures by Peninsula businesses and industries that are not exempt from sales taxation due to the resale provision of the sales tax code.

Because of this complexity, it is not possible to calculate any single entity impacts, such as Agrium, to the taxable sales total. The study team conservatively assumed that an average of first and fourth quarter taxable sales (\$141 million per quarter) is generally indicative of Peninsula resident spending. This quarterly average was applied to the entire 2001 year (\$567 million). It was further assumed that most of the spending is made in the cities of Soldotna and Kenai, and that per capita and per Agrium employee taxable purchases are average for the Peninsula. Based on all of these assumptions, then Agrium's 4.5 percent total population impact would mean \$1.2 million in sales tax revenue, its 5.5 percent total employment impact would mean \$1.6 million in revenue, and its total payroll impact of 8.8 percent would \$2.5 million in revenue to the Kenai Peninsula Borough governments.

Again, in summary, this is the most general possible methodology for approximating what may be Agrium economic impact on sales tax revenue. These figures are not included in the *Executive Summary* because of the nearly impossible complexity of determining a truly accurate figure was not included in the scope of this report.