



University
of Regina

The University of Regina's
Operations Forecast
for 2019-2020

Approved by the Board of Governors,
May 4, 2018

Operating Budget Projections

The tables below contain three operating budget scenarios for 2018-19 to 2020-21. The starting point in each table is the the University of Regina's operating budget for 2018-19. The other columns show estimated revenues and expenditures for the subsequent three years based on the following assumptions:

- The 2018-19 operating budget accurately reflects current operations.
- Directed funding, which consists of Saskatchewan Advantage Scholarship and Saskatchewan Innovation and Opportunity Scholarship funding and federal-provincial funding for La Cité, is assumed not to change over the period. If any of them do change, there would be offsetting changes in the relevant expenditure lines
- No changes in revenue from the federal government grants for indirect costs of research and from other income. Infrastructure recoveries from Luther and Campion colleges are assumed to increase by the provincial grant percentage increase.
- Tuition fees, credit and non-credit, are assumed to increase by 2.5% in future years
- A 2 % increase in utility costs
- A 1% increase in cost recovery revenue, much of which is for utilities supplied to other organizations
- Enrolments are assumed to remain constant. Revenue from enrolment growth would be offset by increased teaching and student support expenditures.
- Salary and benefits costs are based on an estimate of the costs of salary increments (progression through the ranks as well as annualized merit) and economic adjustments
- 2% increases in expenditures for scholarships, library acquisitions, and other expenditures

As required by the ministry's guidelines, three scenarios are presented. Table 1 presents an estimate of the provincial operating grant increase required to maintain status quo operations with a balanced operating budget. **The estimated required increases in the operating grant to maintain status quo operations are 2.4% (2019-20), 4.4% (2020-21) and 2.9% (2021-22).**

Table 2 presents a scenario with a grant increase of 0% throughout the forecast period while Table 3 presents a scenario with 2% annual decreases in the operating grant. In Tables 2 and 3, the assumption is made that in each forecast year the University will balance the operating budget, eliminating the projected deficit shown at the bottom of each column by reducing salary and benefit expenditures. This reduced salary and benefit number becomes the base for the subsequent year's calculation of salary and benefit expenditures.

Tables 2 and 3 also includes an estimate of the reduction in full-time employee positions that would be required to balance the operating budget, assuming all budget reductions come from salary and benefits expenditures, the reductions are distributed by employee group based on the percentage of full-time salaries for each group, and the eliminated positions have average salaries equal to the average salary for their employee group. (Note: numbers may not add to the total due to rounding.)

For the constant grant scenario the estimated reductions in expenditures average \$3.5 million per year and range from 1.1% in 2019-20 to 2.0% in 2020-21. They total \$10.4 million, resulting in the elimination of an estimated 117 full-time employee positions.

For the 2% grant decrease scenario the estimated reductions in expenditures average \$5.5 million per year and range from 2.0% in 2019-20 to 2.9% in 2021-22 and total \$16.4 million, resulting in the elimination of an estimated 185 full-time employee positions.

Neither of the Table 2 and Table 3 scenarios provides funds for emerging needs.

**TABLE 1: STATUS QUO OPERATIONS FORECAST
FOR THE 2018-19 to 2021-22 FISCAL YEARS**

	2018-19	2019-20	2020-21	2021-22
	Preliminary Budget	Status Quo	Status Quo	Status Quo
Average Undergraduate Tuition Rate Increase		2.5%	2.5%	2.5%
Average Graduate Tuition Rate Increase		2.5%	2.5%	2.5%
Grant Increase		2.4%	4.4%	2.9%
Revenues				
Provincial government grants:				
Base funding	105,194	107,690	112,473	115,781
La Cite' Canadian Heritage Grant	1,341	1,341	1,341	1,341
Directed funding	3,987	3,987	3,987	3,987
Provincial government grants	110,522	113,018	117,801	121,109
Federal government grants:				
Research Support Fund	2,360	2,360	2,360	2,360
Federal government grants	2,360	2,360	2,360	2,360
Tuition and fees				
Undergrad tuition	70,084	71,863	73,660	75,501
Graduate tuition	10,856	11,052	11,245	11,442
Co-op/Non-credit/Other fees	8,096	8,276	8,460	8,648
Tuition, non-credit and other fees	89,036	91,191	93,365	95,591
Other Income:				
Other income	1,111	1,119	1,128	1,136
Infrastructure recoveries	1,340	1,372	1,433	1,475
Other income	2,451	2,491	2,561	2,611
Recoveries	18,330	18,513	18,698	18,885
Total Revenues	222,699	227,573	234,785	240,556
Expenditures				
Salaries and benefits	165,615	169,347	175,394	179,977
Scholarships	9,178	9,362	9,549	9,740
Library acquisitions	3,020	3,080	3,142	3,205
Utilities	7,247	7,392	7,540	7,691
Other expenditures	37,639	38,392	39,160	39,943
Total Expenditures	222,699	227,573	234,785	240,556
Annual Deficit/(Surplus)	\$ -	\$ -	\$ -	\$ -

UNIVERSITY OF REGINA
TABLE 2: OPERATIONS FORECAST - NO PROVINCIAL GRANT INCREASE
FOR THE 2018-19 to 2021-22 FISCAL YEARS

	2018-19	2019-20	2020-21	2021-22
	Preliminary Budget	No Grant Increase	No Grant Increase	No Grant Increase
Average Undergraduate Tuition Rate Increase		2.5%	2.5%	2.5%
Average Graduate Tuition Rate Increase		2.5%	2.5%	2.5%
Grant Increase		0.0%	0.0%	0.0%
Revenues				
Provincial government grants:				
Base funding	105,194	105,194	105,194	105,194
La Cite' Canadian Heritage Grant	1,341	1,341	1,341	1,341
Directed funding	3,987	3,987	3,987	3,987
Provincial government grants	110,522	110,522	110,522	110,522
Federal government grants:				
Research Support Fund	2,360	2,360	2,360	2,360
Federal government grants	2,360	2,360	2,360	2,360
Tuition and fees				
Graduate tuition	10,856	11,052	11,245	11,442
Co-op/Non-credit/Other fees	8,096	8,276	8,460	8,648
Tuition, non-credit and other fees	89,036	91,191	93,365	95,591
Other Income:				
Other income	1,111	1,119	1,128	1,136
Infrastructure recoveries	1,340	1,340	1,340	1,340
Other income	2,451	2,459	2,468	2,476
Recoveries	18,330	18,513	18,698	18,885
Total Revenues	222,699	225,045	227,413	229,834
Expenditures				
Salaries and benefits	165,615	169,347	172,749	172,370
Scholarships	9,178	9,362	9,549	9,740
Library acquisitions	3,020	3,080	3,142	3,205
Utilities	7,247	7,392	7,540	7,691
Other expenditures	37,639	38,392	39,160	39,943
Total Expenditures	222,699	227,573	232,140	232,949
Annual Deficit	\$ -	\$ 2,528	\$ 4,727	\$ 3,115
Required Position Elimination to Balance Budget Each Year				
CUPE	-	9	16	10
Administrative, Professional and Technical	-	7	13	8
Out of Scope	-	3	6	4
Academic	-	10	18	12
Total Positions	-	29	53	34

UNIVERSITY OF REGINA
TABLE 3: OPERATIONS FORECAST - 2% PROVINCIAL GRANT DECREASE
FOR THE 2018-19 to 2021-22 FISCAL YEARS

	2018-19	2019-20	2020-21	2021-22
	Preliminary Budget	2% Grant Decrease	2% Grant Decrease	2% Grant Decrease
Average Undergraduate Tuition Rate Increase		2.5%	2.5%	2.5%
Average Graduate Tuition Rate Increase		2.5%	2.5%	2.5%
Grant Increase		-2.0%	-2.0%	-2.0%
Revenues				
Provincial government grants:				
Base funding	105,194	103,090	101,028	99,008
La Cite' Canadian Heritage Grant	1,341	1,341	1,341	1,341
Directed funding	3,987	3,987	3,987	3,987
Provincial government grants	110,522	108,418	106,356	104,336
Federal government grants:				
Research Support Fund	2,360	2,360	2,360	2,360
Federal government grants	2,360	2,360	2,360	2,360
Tuition and fees				
Undergrad tuition	70,084	71,863	73,660	75,501
Graduate tuition	10,856	11,052	11,245	11,442
Co-op/Non-credit/Other fees	8,096	8,276	8,460	8,648
Tuition, non-credit and other fees	89,036	91,191	93,365	95,591
Other Income:				
Other income	1,111	1,119	1,128	1,136
Infrastructure recoveries	1,340	1,313	1,287	1,261
Other income	2,451	2,432	2,415	2,397
Recoveries	18,330	18,513	18,698	18,885
Total Revenues	222,699	222,914	223,194	223,569
Expenditures				
Salaries and benefits	165,615	169,347	170,520	168,016
Scholarships	9,178	9,362	9,549	9,740
Library acquisitions	3,020	3,080	3,142	3,205
Utilities	7,247	7,392	7,540	7,691
Other expenditures	37,639	38,392	39,160	39,943
Total Expenditures	222,699	227,573	229,911	228,595
Annual Deficit	\$ -	\$ 4,659	\$ 6,717	\$ 5,026
Required Position Elimination to Balance Budget Each Year				
CUPE	-	16	23	17
Administrative, Professional and Technical	-	13	18	14
Out of Scope	-	6	8	6
Academic	-	19	26	19
Total Positions	-	54	75	55

Financial Statement Fund Balances

The requested information will, as in the past, be provided separately.

Future Plans

The University of Regina is renewing its request, submitted in December 2017 as a supplement to its 2018-19 Operations Forecast, for funding for a Community-Based Transitions Program Pilot.

In response to information and pleas received from representatives of northern Saskatchewan communities, the University of Regina is requesting funding of \$1.2 million in the 2019-20 provincial budget to enable the creation and pilot delivery in selected northern Saskatchewan communities of a university transitions Pathways Program for students from northern communities.

Context

In September 2017, the President of the University of Regina, Dr. Vianne Timmons, accompanied by several deans and other university officials, visited the communities of Fond du Lac, Stony Rapids, and La Ronge, during the President's annual Northern Tour. They met with community and school leaders, including politicians representing the communities, mayors and councillors, school board members, school principals and directors of education, and band chiefs and councillors, as well as many other community members including University of Regina alumni.

A persistent and consistent theme during these discussions was the difficulties that residents of northern Saskatchewan have in accessing and being successful in university education. Identified barriers included educational preparation (readiness), lack of familiarity with university expectations and practices (especially for first generation students), culture shock when moving to major urban centres, lack of community and other supports and the burden of being far from home, and the expensive costs and limited accessibility of suitable accommodations and child care. Lack of support for students in on-line courses available in the northern communities was also identified as an issue. In particular, community representatives called for transition programs that would prepare students to be successful in such professional programs as education, business administration and entrepreneurship, nursing, counselling and therapy (psychology), and social work, occupations where the community agencies have great difficulty in recruiting and retaining qualified staff. Upgrading of current staff in fields such as social work and education (e.g., physical education) is also a pressing need.

Community representatives volunteered an interest in engaging in a pilot project that would include entry-level arts and science courses with on-site instructors. A variety of other suggestions for program content were put forward, including Dene language content, particular content for social workers, indigenization features, and out-of-class supports.

It has been noted that First Nations University has largely withdrawn from its community-based program initiatives that included a transitions program because these activities were not financially viable without additional public funding.

As economist Eric Howe observed in 2016, closing the indigenous education gap could bring up to \$90 billion in economic benefits to Saskatchewan over the lifespan of its current population — about 20 per cent more than the total value of all potash produced in the province to date. Johnson-Shoyama professor Ken Coates has added, “Unless the appropriate steps are taken, the alleged shift to a knowledge-based, high-technology economy could well exacerbate the challenges faced by rural, remote and northern communities and regions ... without well-developed and carefully considered policy, and without the direct engagement of universities, governments and business in responding creatively.”

Proposal

The University of Regina is requesting funding in the 2018-19 provincial budget to support the creation and pilot delivery in selected northern Saskatchewan communities of a university transitions Pathways Program for students from northern communities. The program will be developed and delivered, in partnership with northern regional colleges, school divisions, northern bands, and local governments, by academic and academic support units at the University of Regina and draw on experience at First Nations University of Canada and available local resources.

A blended model of delivery is under consideration combining on-site face-to-face instruction with on-line courses facilitated by on-site learning support personnel.

Initial thoughts on course content include the following:

- A one-year (two semester, fall and winter) program combining academic for-credit courses and non-credit student success workshops
- Credit courses could include “Academic Discourse, Writing, Research & Learning Strategies” (ACAD 100) and “Critical Reading & Writing I” (English 100), Indigenous studies courses, and and/or an introductory professional course such as Social Work 100.
- The non-credit component would focus on academic skill-building and student success with material developed by the Student Success Centre on such topics as financial literacy, accessing support services, time management, academic integrity, study planning, presentation skills, etc. It would also include career specific components prepared and presented by individual faculties at the university.

Admission requirements would be somewhat relaxed and successful completion would allow the student entry into the academic program of choice with perhaps 18 credit hours of credit (30 credit hours = one full academic year).

Funding requested is \$1.2 million for start-up and pilot delivery. Full accounting for expenditures will be provided.

If the pilot is successful, on-going support would additionally be required for continuing delivery, cycling through various locations and iterations.

Initial funding would enable:

- Curriculum development and instructional design
- Community partner consultations
- Delivery planning
- Pilot delivery in selected communities, including instructional costs, travel and accommodation, materials, etc.
- Evaluation of the pilot
- Financial support for student needs such as accommodation and child care, as required
- On-site academic and support services
- Facilities rental and preparation, as required
- Information technology assistance
- Other needs as identified in planning and delivery.

University of Regina
Supplement to 2019-20 Operations Forecast
Funding for a University of Regina International Office in Mexico
and a Centre for Mexican, Central and South American Studies

Summary

In order to maintain and build upon recent successes and exploit new opportunities the University of Regina is proposing supplemental funding of \$120,000 annually, beginning in the 2019-20 provincial budget, to enable the creation of a University of Regina International Office in Mexico and an additional \$130,000 annually for a Centre on Mexican, Central and South American Studies. Total: \$250,000 annually.

International Office in Mexico

Background

Collaboration on higher education, innovation and research is a key factor to build a competitive and prosperous North American region that in turn will contribute to a prosperous Saskatchewan. In 2014, Mexico and Canada created a bilateral forum to encourage academic cooperation through student mobility, joint research and innovation.

The results of these efforts have been outstanding. By 2017, academic cooperation between Mexico and Canada had increased significantly (16.4% for student visas issued by the Canadian Embassy in Mexico). This outcome was influenced by the elimination of visa requirements for short term programs and student preferences to go to Canada rather than the United States.

Moreover, the Mexican and Canadian institutions found a common ground for cooperation in areas such as energy, agricultural sciences, and aerospace. These actions were aligned with the interests of the Mexican government to develop the human capital and knowledge required to modernize key strategic economic sectors; they were accompanied by important structural reforms, such as in the energy sector.

A new president will take office in Mexico on December 1, 2018. This constitutes a unique opportunity for the U of R to consolidate and expand existing links for student and faculty mobility and international education programs funded by the Mexican Government. Furthermore, a new administration is also a fantastic opportunity for finding new and innovative cooperation schemes. For example, the current administration created a new brand for academic cooperation and pursued a strategic vision with *Proyecto 10,000*. While this program will be closing by the end of 2018, the potential gains from engaging the new administration in the early months of government are substantial. Mexico needs 135,000 high level experts and technicians to cope with the demand produced by reforms in the energy sector alone.

The Mexican government has an annual expected investment of MXP \$1.2 billion (CAD \$113 million) per year until 2020 in R&D funds for the energy sector. The future in the Mexico-Canada relations is bright, and U of R can and should be part of it.

Analysis and strategy

Peyak aski kikawinaw, “Together we are stronger”, is the theme of University of Regina’s 2015-2020 Strategic Plan. It is not a coincidence that, since 2014, the Government of Mexico, through the initiative *Proyecta 10,000*, has been working to increase academic mobility to Canada. For 2017 Mexico reported that more than 13,000 Mexicans were engaged in higher education experiences in Canada, compared to 4,809 in 2016. This means the mobility of Mexicans towards Canada tripled in just one year.

Out of these 13,000 mobile academics, only an estimated 163 were at U of R, less than 2% of the total exchange with Canada. This rate can certainly be improved. One example that demonstrates the benefits of a local office in Mexico is the experience of Lakehead University. After the opening of its International Office in Mexico in 2016, Lakehead went from 33 students enrolled in short term programs to 531 in 2017, an increase of more than 1600%.

The opportunities for the expansion of the U of R presence in Mexico are large and diverse. Intercultural education is becoming more relevant. Research in energy, education, healthcare, telecomm and the environment funded by the Government of Mexico and the private sector is growing. Mexican institutions are looking for linkages with Canada and for ways to internationalize themselves; the U of R would be an excellent source of good practice models and relevant experience. Together, Mexico and Regina will be stronger.

General Objective: To promote and facilitate the University of Regina’s engagement in Mexico by supporting recruitment, cultivating local relationships, both academic and governmental, and facilitating academic activities.

Specific Objectives:

Objective 1: Increase the U of R presence in Mexico and support the recruitment of students.

Activities:

1. Strengthen relations with key Mexican Federal Government actors, including:
 - Ministry of Public Education (public higher education subsystems and agencies)
 - Ministry of Foreign Affairs/Mexican Agency for International Development Cooperation
 - National Council of Science and Technology
 - Fund for the Training of Human Resources - Central Bank (Banco de México)
 - Ministry of Energy
 - Ministry of Culture

- Ministry of Health
- 2. Strengthen relations with Mexican State and Local Governments, particularly those with funds for mobility and scholarship programs (states of Mexico, Guanajuato, Jalisco, Queretaro)
- 3. Participate in academic recruitment fairs and events all over the country, promoting the U of R as a leading education and research institution with a strong ESL program.
- 4. Follow up on Mexican scholarship calls launched by governmental entities or NGO's
- 5. Strengthen relations with the Public Affairs, Trade and Education officers at the Canadian Embassy in Mexico and its consulates within the country (Monterrey and Guadalajara)

Objective 2: Access Mexican governmental funds for research, development and workforce training in Energy (Energy Sustainability Fund, Energy R&D Fund, and Hydrocarbons Fund) and in other fields of knowledge (CONACYT-SRE, CONACYT-SSALUD, CONACYT-FONCA/INBA, etc.).

Activities:

1. Arrange high level meetings of U of R authorities with the new administration authorities in order to present the U of R and its academic programs of potential interest (Energy/Engineering, Arts, Nursing, Education, and Health Studies) and its Research Office.
2. Follow up on the launching of RFP's from CONACYT-SENER and other sponsors
3. Identify potential partners, both from the public education system and the private sector, especially for the Energy Funds.
4. Coordinate the drafting and submission of proposals
5. Arrange regular meetings with Mexican governmental fund stakeholders to identify new opportunities of collaboration for U of R

Objective 3: Foster and promote academic mobility – long and short term – with Mexican private higher education institutions.

Activities:

1. Arrange high level meetings of U of R authorities with authorities of the largest private higher education systems, such as ITESM, Universidad Iberoamericana, and Universidad LaSalle, to promote the U of R, its academic programs and Research Office.
2. Identify potential new partners in the sector and arrange regular meetings with their leading faculty, administrative staff and international offices.
3. Prioritize institutions located within the country.
4. Propose, negotiate and sign cooperation agreements with new partners

Objective 4: Improve and renew U of R existing relationships with Mexican partners

Activities:

1. Strengthen the relationship with the National Association of Universities and Higher Education Institutions and members who already collaborate with U of R
2. Contact and arrange meetings with all the international/linkage/institutional offices from the current partners of the U of R to introduce its International Office and the new strategy

3. Organize faculty-led groups, both Mexican and Canadian, making the most of the existing collaboration agreements.
4. Explore new schemes of collaboration, prioritizing those areas of mutual interest.

Funding Required

Anticipated costs of \$120,000 are for the following:

- Salary and benefits of the UR Mexico representative
- Office rent
- Administrative costs (phone, computers, printer, cell phone, office supplies, brochures, social media, etc.)
- Travel to and from, and within, Mexico
- Hosting of Mexican officials
- Accommodation of visiting U of R officials

Centre for Mexican, Central and South American Studies

The creation of a Centre for Mexican, Central and South American Studies at the University of Regina will complement and contribute to the success of the Office in Mexico initiative while building on the U of R's existing strengths in academic matters (teaching, research and community service) in Mexico, Central and South America.

U of R researchers have collaborated with Central and South American colleagues, in addition to those in Mexico. For example, VACEA - Vulnerability and Adaptation to Climate Extremes in the Americas - was a five-year project that looked at how rural communities in Argentina, Brazil, Chile, Colombia and the Canadian prairies are affected by extreme weather. Researchers on the team from the U of R were from Geography, Environmental Studies, Sociology and Social Studies, and Justice Studies.

Potential collaborators include Dr Jose Condor, a PhD and MPA graduate of the U of R, who is a professor at Universidad Central del Ecuador where he is currently leading enhanced oil recovery projects and is working to establish a research institute at his university.

Recently, UR International received a request from the Ministry of Energy of Mexico. The Ministry was interested in promoting and creating a network among national and international carbon capture, usage and storage (CCUS) institutions for capacity building and knowledge and experience transfer as well as supporting Mexican partners to contact their counterparts abroad. The Mexican network is integrated with 17 Mexican institutions related to CCUS. During the past years, they have been working on different activities pursuing the integration of CCUS in many industrial, governmental and research projects. The Ministry was aware of the importance of establishing linkages with the international CCUS experts and asked U of R researchers active in areas such as capture, transport, storage, monitoring, among others, to identify themselves.

The U of R's involvement with Mexico, Central and South America is not limited to research. Our academics teach courses and publish about this part of the world in many disciplines: International Languages, Geography, Biology, Anthropology, Sociology and Social Studies, Fine Arts, International Studies, Business, and other disciplines.

As an example, Carlos Londono Sulkin, a professor in the department of Anthropology, is an expert on Indigenous Amazonia, conducting fieldwork in the region and teaching undergraduate and graduate courses based on this knowledge. He is currently the president of the Society for the Anthropology of Lowland South America.

Historically, the U of R has entered international agreements of co-operation with Mexican academic institutions. For example, while the 2016 agreement between MAP and the School of Arts and Culture of Universidad del Claustro de Sor Juana largely focused on student and faculty teaching exchanges, the agreement also supported faculty mobility for research.

Students in the Hill School of Business and in Education, International Studies and Arts have participated in study tours and study abroad experiences in Mexico in locations such as Mexico City and Guadalajara. Students in International Studies have experienced field trips to Guatemala. Study abroad opportunities (student mobility) have been arranged for students in many locations in Mexico and Central and South America. Faculty mobility opportunities also abound.

The Government of Canada is keen on enhancing academic, research, student mobility and professor mobility with the Americas. The U of R has already been very successful in attracting students from this region through the scholarship program Emerging Leaders of America (ELAP).

In summary, a U of R Centre on Mexican, Central and South American Studies would add coherence and connections to these manifold activities and encourage more agreements and collaborations internally at the U of R and with academic institutions and government authorities throughout the region. These linkages will bring students and faculty to Saskatchewan, promoting future trade in goods and services, immigration, and knowledge transfer.

Funding Required

Annual funding of \$130,000 is required for the following potential costs:

- Stipend for Centre director
- Administrative assistant (salary and benefits)
- Administrative costs (phone, computers, printer, cell phone, office supplies, brochures, social media, etc.)
- Student support – study abroad financial assistance, teaching assistants, research assistants
- Travel to and from, and within, Mexico and South America
- Hosting of Mexican and South American officials

University of Regina

Supplement to 2019-20 Operations Forecast

Funding for an Energy Systems and Security Hub

Summary

In response to an opportunity identified in a recent feasibility study, the University of Regina is proposing funding of \$2.5 million over five years, beginning in the 2019-20 provincial budget, to enable the creation and establishment of an energy systems and security hub. The mission of the hub is to connect the expertise and capacity of a broad cross-section of Saskatchewan stakeholders, including industry, First Nations, governments and the public and to stimulate research, development and deployment of energy systems and security solutions.

Context

The report *Energy Systems & Security Hub Feasibility Study* was commissioned by the University of Regina (U of R) and completed by Stokes Research Inc. of Regina in early 2017. (This report is available on request.)

Interviews were conducted with a total of 45 individuals working in energy-related academic disciplines from the province's universities, government agencies with relevant mandates, energy-provider crown corporations, research organizations that support the work of the energy industry, and the province's top producers and consumers of energy in the oil, mining, and steel industries.

The principal goal of the study was to inform the U of R on the feasibility of formalizing existing partnerships, and developing new partnerships, in the areas of clean energy and energy security with the creation of an energy systems and security hub. The U of R undertakes research in a critical mass of energy-related areas, pointing to the potential of the U of R as the anchor location for a hub. These U of R research areas include demonstrated capacity in, petroleum engineering, nuclear power, carbon capture and storage, energy systems modelling, biomass energy, water and soil remediation, climate adaptation, wind power, ecological economics, and energy-related public policy. Additional detail pertaining to applicable U of R research capabilities is presented in Appendix 1.

Interviews revealed highly positive feedback regarding the establishment of a cross-sectoral energy systems and security hub, and a willingness to participate in the hub.

Also, some common cross-sector themes emerged from the interviews with respect to R&D interests:

- Emissions reductions: R&D to advance development and deployment of carbon capture and conversion technologies for multiple applications and to reduce methane emissions.

- Energy efficiencies and/or use reduction: R&D that results in energy efficient industrial processes without negatively impacting production; advances in heat recovery, smart grids, distributed generation, and transmission efficiencies.
- Energy policy and economics: Examination of energy policy in Saskatchewan including in the areas of cogeneration, scaling renewables onto the grid, and off-peak usage, and examination of energy economics and long-term assessments of supply of and demand for electricity and natural gas.
- Renewables generation and integration: R&D to determine the best technical and economic way to integrate this type of generation including for remote communities and industrial sites.

Proposal

The University of Regina is requesting funding, beginning in the 2019-20 provincial budget, to support the creation and establishment of an Energy Systems and Security Hub. The hub would be a new office within the University of Regina headed by a director with business development and stakeholder engagement skills who will report directly to the Vice-President (Research). The hub will have an Advisory Committee drawn from industry and other interested parties that will have a major voice in informing the energy research agenda of the University.

The hub is envisioned to connect the expertise and capacity of a broad cross-section of Saskatchewan stakeholders, including industry, First Nations, governments and the public. Foreseeable benefits from the activities of the hub include:

- Identifying the needs of local, national, and international industry to mitigate greenhouse gas emissions by optimizing research, development, deployment, and commercialization opportunities.
- Communicating the identified needs to researchers at the University who can undertake funded projects to address them; promoting and facilitating collaborative activities and expediting project definitions and contracts.
- Advancing governmental objectives of a sustainable low carbon economy that includes growth in clean technology industries and advancements in renewable energy sources.
- Developing technological solutions and the social license required for the continued use of fossil fuels to preserve energy-producer and energy-intensive industries, providing affordable energy sources to the public, and capitalizing on natural resource endowments.
- Addressing technological issues associated with energy security in northern Aboriginal communities and northern industry, and the export of these technologies for global use in remote communities.

Funding requested is \$2.5 million over five years for hub creation and establishment of operations. It is expected that the hub will be successful in attracting further private and public-sector funding and will be self-sustaining after the initial five-year period.

Initial funding would enable:

- Staffing the hub with the Director and an administrative assistant
- The lease and provisioning of office space
- Business travel to build and formalize relationships; promote the hub at conferences and events; and, to connect with potential funders
- Building an online web and social media presence for the hub
- Support of the Advisory Committee's activities and regular meeting of hub stakeholders
- Acquisition of professional services as needed (e.g. technical writing, knowledge mobilization, contracts, marketing and communications).

Numerous economic benefits related to the creation of the Energy Systems and Security Hub were identified in the feasibility study:

- Increased ability to leverage and attract funding from governmental and other funding sources, and to undertake additional and more significant research, development, and demonstration through the pooling of hub participant resources.
- Cost-efficiencies in both the energy producing and major energy consuming industries through cross-sectoral collaboration.
- Maintenance of industry revenues and decreased penalties associated with the potential carbon levy through innovation in energy-producing and major energy-consuming industries
- Continued use of cost-effective fossil fuels through innovation in conventional resource production and energy generation.
- Capitalization on Saskatchewan's energy and resource endowments, and maintained industry investment and production levels in the province's key engines of economic growth.
- Advances in cost-efficient renewables technologies with industry applicability and grid compatibility
- Growth in green businesses and the green economy.
- Optimization of energy consumption costs for industrial and residential users through efficiencies in energy production, transmission, and conservation
- Provision of more cost-effective and reliable sources of energy to northern and Aboriginal communities and northern industry, and solutions applicable to global remote communities.
- Maintenance and expansion of the Government of Saskatchewan's revenue base.

June 26, 2018

Appendix 1: U of R Research Applicable to an Energy Systems and Security Hub

The following outlines the extensive list of research areas that the University of Regina operates in, research themes that cover a range including capture of industrial emissions, improved efficiencies to reduce the energy penalty of production, increased production and processing methods, energy policy, and adaptation to climate change.

Energy Research:

- Heavy and Tight Oil Production and Enhanced Oil Recovery (cold heavy oil production with sand (CHOPS); steam assisted gravity drainage (SAG-D); CO₂ and cyclic CO₂ injection; solvents)
- Nuclear (small modular reactors and SMR licensing)
- CO₂ capture, utilization and storage (amine solubility, kinetics, regeneration; catalyst enhanced capture; syngas to liquids)
- Oil Reservoir Characterization, Well Drilling
- Well Integrity
- Biomass, Biofuel & Bioenergy
- Hydrogen Energy
- Natural Gas Processing & Purification
- Renewable energy (wind and solar)
- Microgrids

Environmental Research:

- Climate modeling, impact assessment, and adaptation planning
- Waste management, treatment and site remediation
- Air pollution control and management
- GIS application in hydrological systems
- Erosion and sediment transport in rivers
- Groundwater contamination
- Tailings
- Water treatment protection and planning
- Traffic engineering, safety, and intelligent transportation

Materials Research:

- Fracture Mechanics
- Metallurgy, microstructures, welding
- Vessels, piping, and liquefied petroleum gas (LPG) transportation vehicles
- Polymers: membranes and structured packing
- Porous media
- Biotechnology (proteins and cells)
- Agricultural fiber and reclaimed material
- Geomaterials
- Mine Waste Management
- Civil Infrastructure.
- Corrosion inhibition and control
- Non-destructive testing and evaluation

Electronics Research:

- Remote sensing
- Microelectromechanical Systems
- Digital chip design
- High temperature superconductors
- Fibre optic sensors
- Image processing
- Robotic sensor systems – vision, touch, sonar
- Industrial electrical protection and coordination

Industrial Research:

- Noise and vibration
- Risk assessment
- Manufacturing system and supply chain management
- Systems optimization
- Robotics
- Computer integrated manufacturing, inspection, assembly
- Lean, Just in Time, Agile manufacturing

The Centre for the Study of Science and Innovation Policy (CSIP), a new creation of the Johnson-Shoyama Graduate School of Public Policy, has energy policy as a cornerstone of the Centre's research themes. In partnership with the Sylvia Fedoruk Centre for Nuclear Innovation, CSIP works to increase public awareness of the challenges and options associated with energy issues, and to inform decision making in energy-related policy areas.

The U of R also performs research through the Faculty of Arts regarding the social and economic impact of energy and resource-based economies, and the corresponding implications for urban, rural, and Aboriginal communities.

Research relative to the impact of climate change is another area of specialization at the University, wherein the U of R operates the Prairie Adaptation Research Collaborative (PARC).

Further, the U of R possesses several labs and pilot plants with applicability to an energy systems and security hub, including a carbon capture pilot plant, hydrogen and syngas pilot plant, catalyst manufacturing pilot plant, gasification unit, environmental design lab, hydraulics lab, petroleum lab, robotics lab, renewable energy lab, and water and wastewater lab.

University of Regina
Supplement to 2019-20 Operations Forecast
Funding for a Child Trauma Research Centre

Summary

In response to a pressing societal need and the opportunity to work with the Sheldon Kennedy Child Advocacy Centre (the SK-CAC) located in Calgary, the University of Regina is proposing funding of \$10 million over five years, beginning in the 2019-20 provincial budget, to enable the creation and operation of a centre for child trauma research at the University of Regina.

The need and opportunity

Child abuse in Canada has enormous personal and societal costs. According to the Sheldon Kennedy Child Advocacy Centre, one in every three Canadians reports experiencing some form of child abuse. Children who have been abused are:

- 30% less likely to graduate from high school
- 4 times more likely to be arrested as a juvenile
- 26 times more likely to experience homelessness

Victims of child abuse are 4 times more likely to report self-harm or suicidal ideas and have 4 times as many contacts with mental health services. 72% of individuals in a detox program report histories of abuse. 65% of youth assessed at the SK-CAC struggle with mental health, suicide ideation, self-harm, and sexualized behaviours.

Child abuse is estimated to cost \$2.4 billion annually in Alberta alone. That is almost \$560 per person. For Saskatchewan that figure would translate to more than \$650 million annually and for Canada more than \$20 billion every year.

The SK-CAC, working with partner agencies in Alberta and particularly Calgary and employing a multi-disciplinary approach, assesses, investigates, intervenes, and provides therapy and support for child victims of sexual abuse and the most severe and complex cases of physical abuse and neglect. It has amassed a substantial database of information on child abuse and has potential access to much more data from more than 20 other child advocacy centres across Canada. (There are also over 900 such centres in the United States.) The SK-CAC lacks, however, the capacity to perform research using these data. It is particularly interested in the evidenced-based evaluation and evolution of its integrated practice model of assessment, support and therapy for victims of child abuse.

Abuse is not the only cause of childhood trauma. Trauma can also result from health conditions of major disease or injury, from bereavements such as a death in the family, from challenging living conditions, and from family separation.

Adding trauma from other causes substantially increases the estimate of the financial impact of child trauma and, accordingly, the benefits from successful intervention and treatment. A less than 0.3% reduction in the annual societal costs resulting child trauma in Saskatchewan would more than pay for the costs of the proposed University of Regina Child Trauma Research Centre. These savings would arise from outcomes such as:

- More effective and timely delivery of care to child trauma sufferers
- More appropriate referrals within the mental health treatment services
- Higher quality planning for prediction, prevention and intervention, including effective public education programs and high quality safety plans for children at risk
- Reduced repeat instances of traumatic events for individual children
- Reduced costs in the child safety programs, the justice system, social services and other public programs
- Improved ability for caregivers to support child trauma sufferers

The Saskatchewan Context

Efforts are underway in Saskatchewan to create a horizontal cross-sector and coordinated approach that offers locally-relevant and targeted human service interventions. These interventions will focus on improving outcomes to address early childhood trauma, transform the lives of its individuals and families with the highest needs, while delivering value-for-money to ensure budget sustainability.

Integrated practice and multi-sectorial approaches are crucial to addressing the complex human services challenges and must be grounded in:

- **Evidence-Based Decision-Making:** Integrate broad data sets across government and organizations to build a holistic view of clients, identify key challenges and needs, and enable quantitative measurement of outcomes and value for money.
- **Local, Community-Based Solutions:** Solutions are developed and delivered by local organizations, ensuring solutions and programs are tailored to address each local community's needs and have local buy-in and ownership and include the voice of community members. This is particularly important for our Indigenous communities, whether remote or part of a larger urban setting.
- **Strategic Partnerships:** Identify, coordinate, and integrate people and resources across different sectors, organizations, and government to deliver a holistic solution, including local, regional, Indigenous, provincial, national and international partners.

- **Outcomes Based:** Focus on collective outcomes and value for resources to ensure long-term and sustainable impact.

Over the past five years, Saskatchewan has built several integrated delivery mechanisms to expedite delivery of services to citizens. The Hub, a model of integrated practice originating in Saskatchewan, identifies individuals or families with acutely elevated risk factors that cannot be addressed by a single agency alone, and mobilizes human service agencies (public and voluntary sector) toward a targeted and timely response specific to individual/family need. The Hub has broken down long-standing institutional silos, moving towards a shared philosophy of Collective Impact. Partnering with others, Saskatchewan is also aggressively developing integrated data sharing and analysis platforms to link this work and make evidence-based decision-making easier.

As well, philanthropic interests are looking for ways to improve outcomes through social innovation and social finance in partnership with the public, private and nonprofit sectors.

The University of Regina

The University of Regina is the home of world-leading experts in disciplines that are essential to meeting these needs:

- **Psychology:** the assessment and treatment of deep trauma, depression, and related conditions, and the use of cognitive behavioural therapy, the primary treatment approach at the SK-CAC
- **Computer Science:** the analysis and interpretation of big data
- A wide variety of health professions including social work, nursing, therapeutic recreation and health studies, and education, with potential in areas such as music therapy and art therapy.

Other expert resources exist within areas such as Justice Studies, the Graduate School of Public Policy's health policy and administration faculty, and First Nations University of Canada, as examples.

In addition, Dr. Laurentiu Givelichian, Provincial Head of the Department of Pediatrics at the University of Saskatchewan and the Saskatchewan Health Authority has expressed his interest in and support for this initiative. Other selected experts in the Faculty of Medicine and in other health programs at the University of Saskatchewan, and practicing health professionals in the province and region would augment this base of knowledge and interest.

A Child Trauma Research Centre

A Child Trauma Research Centre located at the University of Regina would address a major void in the Canadian landscape. While there are numerous centres in Canada that advocate, train and facilitate treatment with respect to child trauma, especially related to child abuse, and several centres in eastern Canada that do research on children and families (McGill) or on trauma across the age spectrum (a multi-institutional centre based in Montreal), we have been unable to identify any organization in this country that focuses predominantly on research on child trauma issues.

As an example in the United States, the Child Trauma Research Program in the Department of Psychiatry at the University of California, San Francisco, is “nationally recognized for its leadership in developing effective, family-centered interventions for children aged zero through five who experience traumatic events such as violence in the home or community; death of a loved one; or life-threatening accidents, illnesses, or disasters.” Its mission is “to develop, evaluate, implement, and disseminate effective treatment and service interventions....” But even this leading agency limits its scope to early childhood and is not multi-disciplinary. Other such programs are similarly restricted.

We have the opportunity to create at the University of Regina a centre that is exemplary in the North American context. Its work would encompass the following areas of need:

- Research to evaluate and advance best practices in therapy, intervention, victim and family support, volunteer programs, advocacy and public education (integrated practice)
- Research to establish the foundation and standard of evidence for Evidence-Based Decision-Making and Integrated Practice (EBDM/IP). Research evaluating and quantifying impacts for practitioners and end-users
- Data analytics to inform policy and practice, including analysis of provincial data via the Regional Data Centres and other data partners
- Measuring the social return on investment of various programs. Documenting the social and economic benefits of EBDM/IP
- Investigation of the relationship between child trauma and other social issues
- Development of exemplar training programs for health professionals, those in the justice system, and others working on various aspects of child trauma. Development of EBDM/IP curriculum across all faculties providing human service delivery – teaching practitioners how to share and examine issues differently using multiple lenses with an early intervention/prevention focus
- Examination of provincial and federal legislation and mapping out where legislative changes would help to accomplish EBDM/IP
- Building of the business case in support of an outcomes fund and social investment.
- Publication of the research and development results

Funding of \$10 million over the initial 5-year period is required for the following anticipated costs:

- Funding of initial research projects; support for preparation of grant applications; student research assistants
- Knowledge transfer through conferences and publications (staffing, events, website development, social media development and materials, document preparation and distribution)
- Non-salary costs (phone, computers, analytics, printing, office supplies, travel, memberships, professional development, etc.)
- Space rental
- Full-time academic director (to be recruited) (salary and benefits)
- Administrative assistant (salary and benefits)
- Development officer (salary and benefits)
- Recruitment and relocation costs (one-time)

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