

**Science and Community Environmental Knowledge (SCEK)
Fund**

STRATEGIC PLAN

Prepared on behalf of the British Columbia Oil and Gas Commission

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1. STRATEGIC VISION

To be responsive to the needs of our community and industry stakeholders while striving to achieve the highest level of integrity and accountability in the performance and management of the studies supported by the SCEK Fund.

2. MISSION STATEMENT

To support studies which facilitate improved understanding and enhance the ability to: predict environmental and socio-cultural impacts of oil and gas activities; identify and promote best practices and innovation; and, incorporate First Nations' and community environmental perspectives into resource management planning.

3. WHERE WE ARE NOW

3.1 Addressing the needs and concerns of stakeholders

Our stakeholders comprise the most important source of guidance. Capturing and addressing the needs and concerns of stakeholders through the studies supported by the Fund is our primary goal. Each year, the SCEK Forum provides an unparalleled opportunity to hear, first-hand, about the issues and realities of both industry and community stakeholders, and for us to communicate back on the results and applications of SCEK studies. Some of the key concerns articulated by our stakeholders include:

- communication of research findings to appropriate agencies and tracking of their use and implementation in the field;
- extension on projects, project findings and implementation of findings;
- promotion of the Fund's benefits to industry and community;
- diversification of projects; and
- input from SCEK annual forum

3.2 Results of SCEK Forum—2004

A great diversity of topics were discussed in-depth during the 2004 SCEK Forum held June 10th in Fort St. John, BC. This important networking opportunity captured detailed feedback from our stakeholders, and afforded researchers the chance to discuss their study findings, as well as the practical applications of these findings in the field. Overall, there was a high level of consistency of themes expressed by participants throughout the day's discussion groups. The Stakeholder Feedback Matrix (see Appendix 1) provides a

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condensed synopsis of the key issues and concerns raised by stakeholders at the SCEK Forum as they relate to each funding envelope. Following is a list of key topics and themes generated at the 2004 SCEK Forum:

- more planning that considers all aspects of oil and gas development and associated impacts (e.g., roads, wildlife & habitat, water use, concentrations of sites with emissions, reclamation);
- road/access planning;
- workers in the sector need to be educated about the benefits of operating in a manner which promotes environmental sustainability;
- road safety (speeding, consistent radio frequencies, transportation of dangerous materials);
- need to gather adequate Traditional Ecological Knowledge (TEK);
- integrated approach to incorporating TEK and Western science into planning;
- concerns about seismic activity—quantity and related impacts;
- increased reclamation planning, and on a broader scale;
- better quality baseline studies on effects of H²S;
- baseline studies needed on the effects of oil and gas activities on water quality, including groundwater and surface water;
- greater monitoring post-approval;
- compliance of regulations tied to industry incentives/rewards; and
- greater recognition of best practices and innovation

4. PROJECTS TO DATE

A total of 13 projects were completed during fiscal 2003/04. This, in addition to the 10 studies completed in previous years, accounts for 23 completed projects that have been supported by the SCEK Fund since its inception. (For a detailed break-down of projects see appendix 2 and 3).

5. STRATEGIC GOALS

5.1 Improved ability to address stakeholder needs and concerns

The following strategic goals reflect the needs and concerns of our stakeholders as well as the general performance objectives identified by the SCEK Fund during the 2003/04 fiscal year.

- communicate research findings to appropriate agencies and track their use/implementation;

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- conduct more extension activities on research projects, project findings, and implementation of findings;
- continue to fund a diversity of projects reflective of the 5 funding envelopes;
- ensure that research projects are reflective of stakeholders' input;
- develop and implement a bi-annual cycle that incorporates all desired activities of the Fund in a timely manner;
- develop streamlined invoicing processes;
- ensure adequate staffing is supplied to operate the Fund in an efficient and effective manner;
- develop partnerships with organizations with similar interests;
- increase extension on Fund's existence through innovative approaches; and
- develop and implement performance measures

5.2 Strengthening and refining processes

5.2.1 RFPs

- Process for RFPs has been established— to be implemented this year and utilized to evaluate Fund performance. To be modified as required to reflect streamlining of processes.

5.2.2 Proposal, project and envelope reviews

- Will continue to identify subject matter experts (SMEs) who are interested and willing to offer their time, expertise and advice to the Fund and the projects it supports.

5.2.3 Extension initiatives—study findings

Options for improving the ratio of research projects to implemented findings include the development of a *research extension clause*¹ within the text of SCEK Fund RFPs. Under the terms of the research extension clause, communication of findings to sponsoring agencies would be required. Expressions addressing how the proponent plans to carry out these responsibilities would constitute one component of the RFP evaluation criteria.

5.2.4 Extension initiatives—SCEK Fund

Promoting and increasing awareness of the SCEK Fund has been identified as a priority. Extension strategies similar to those suggested for research findings are also pertinent to

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“The proponent agrees to identify and fulfill a strategy to communicate research findings to an appropriate agency, or agencies, within two weeks of the completion of the project, and to further report the implementation of those research findings—as policy, management, or operational guidelines—to the SCEK Fund.”

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the overall promotion of the SCEK Fund. By highlighting the benefits of the studies funded through SCEK, opportunities to reach the target audience as well as potential current or future partners are increased.

Strategic partnerships and increased networking activities are further options that will be explored as methods for promoting the SCEK Fund and the research it supports.

6. HOW WE PLAN TO GET THERE

6.1 Action plan

Our action plan is already being implemented and will continue through the 2004/05 fiscal year as we work to refine and strengthen management processes to improve the performance of the SCEK Fund. We are currently developing a number of performance measurement and tracking methods appropriate to the Fund, and we envision this process providing a foundation for further development of our assessment tools. A brief overview of our approach to performance measurement and assessment is outlined in the following section.

7. TRACKING PROGRESS & ASSESSING RESULTS

7.1 Performance/outcome measures

Performance measures—sometimes referred to as performance metrics, or outcome measures—are statistical in nature, and facilitate the collection of meaningful data for trending and analysis of rate-of-change over time. Performance measures are useful in tracking and encouraging improvements in performance, effectiveness, efficiency, and in determining appropriate levels of managerial control. Ideally, performance measures incorporate a ‘best practices’ approach relative to the performance being measured.

The SCEK Fund will benefit from the development and incorporation of performance measures through enhancement and refinement in the following areas:

- Alignment with organizational objectives and mandates
- Recognition as a performance leader
- Quality of results
- Timeliness
- Cost reduction and/or avoidance
- Reductions in cycle times and turn-around times
- Stakeholder satisfaction

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- Fulfilling organizational commitments
- Implementation of research findings
- Innovation

The SCEK Fund is committed to developing appropriate performance measures during 2004/05. These measures will be utilized in assessing our success in meeting the needs of our stakeholders, as well as in providing important feedback for future refinements to our management practices.

8. CONCLUSION

Since the inception of the SCEK Fund in 1998, a number of management objectives have been identified. Some of these objectives—such as the development of a Fund Manager position—have been implemented. Performance and outcome measurement and tracking, formalized RFP processes, and strategies for the extension and implementation of research findings are key areas that are currently being developed and incorporated into the SCEK management structure. In recognition of the desire to identify and implement strategies to enhance the performance, structure, and accountability of the SCEK Fund, this report has presented a number of appropriate strategies to achieve these objectives.

Appendix 1: Stakeholder Feedback Matrix

Issue/Concern [*]	SCEK Fund study envelopes				
	1	2	3	4	5
	Cum. Impact Mngmnt	Health & safety	Engineering & tech.	Community envir. Know.	Education & exten.
A. Planning	X X X	X	X X X	X X	X
B. Extension	X	X	X	X	X
C. Communication	X	X	X	X	X
D. Monitoring	X	X	X	X	X
E. Best Practices	X	X	X	X	
F. Integration	X	X		X	
G. Baseline data	X	X	X	X	

Key: X = Key stakeholder concern

X — general development planning

X — road and access planning

X — reclamation planning

X — Traditional Ecological Knowledge (incorporated into planning models)

^{*} Compiled from the proceedings of the 2004 SCEK Forum, held on June 10th in Fort St. John, BC.

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Appendix 2: List of projects contracted by the SCEK Fund for the 2003/04 fiscal year

Health and Safety Envelope

Project Title	Proponent	Project Goals	Funding
Benzene Emissions from Glycol Dehydrators	Canadian Association of Petroleum Producers	To evaluate the health and environmental risks associated with benzene emissions, and to determine appropriate methods to regulate and reduce emissions.	\$6,000
Investigation of Tsinhia Lake Fish Kill	Diversified Environmental Services	To investigate an unusual looking fish kill in Tsinhia Lake. There was concern by a trapper that the quantities of dead fish surfacing in the area might be related to oil and gas activity in the area.	\$2,501
Regional Background Assessment of Groundwater Wells in the Greater Hudson Hope Area	Diversified Technical Services	To locate suitable monitoring wells; develop agreements with landowners; measure water levels and water quality of surface bodies; identify possible sources of contamination; and, describe the bedrock and surficial geology of the area.	\$13,700

Ecosystem and Cumulative Impact Management Envelope

Project Title	Proponent	Project Goals	Funding
Working Towards an Understanding of Cumulative Effects Associated with Oil and Gas Development in the Chinchaga Area of British Columbia and Alberta	Ernst Environmental Services & Pioneer Natural Resources Canada	To address knowledge gaps pertaining to cumulative effects on the environment as revealed by wildlife indicators with a focus on the forest carnivores and to a lesser extent, woodland caribou.	\$57,000
Water Use Plan and Low Flow Analysis – Phase II	Diversified Technical Services	To continue the regional hydrology assessment. Initiate a pilot water use plan on the Beaton headwaters. This area was identified as having water shortage problems through the Phase I Low Flow Analysis and will be used to develop a planning framework on water use to avoid impacts and conflicts.	\$24,000
Cumulative Impact Management Screener	Axys Environmental Consulting Ltd. and Salmo Consulting Inc.	To develop a screening tool for OGC staff to assess cumulative effects of individual project applications and applications for general development permits.	\$95,937

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Project Title	Proponent	Project Goals	Funding
Snake-Sahtaneh Boreal Caribou Habitat Use & Ecology Study	Slocan Forest Products Ltd.	To address critical knowledge gaps by establishing baseline ecological information on Boreal caribou which will support better assessment of the caribou population status and viability, and habitat value.	\$100,000
Boreal Caribou Cumulative Impact Analysis	Salmo Consulting Inc.	To develop practical and defensible Boreal caribou management guidelines for NE BC. To supplement work on disturbance features by fast-tracking analyses of caribou response to linear features for incorporation into management guidelines.	\$60,000
Boreal Caribou Interim Management Guidelines	Diversified Environmental Services	To develop interim management guidelines for Boreal caribou based on the data collected to date from the Snake-Sahtaneh Boreal Caribou Habitat Use & Ecology Study.	\$20,000
Low Flow Analysis	Diversified Technical Services	To conduct hydrology analyses and identify watersheds that meet the required in -stream flow standards and associated areas of concern. Stream flow measurements will confirm the actual low flow levels in priority watersheds. Maps and literature will be developed to show and explain the new approved sources of supply for oil and gas water withdrawals.	\$18,799
CBM baseline Water monitoring	Diversified Technical Services	To conduct groundwater monitoring in the Hudson's Hope area. The work involves office and field inspections to complete the quarterly monitoring of the sites sampled in the "Regional Background Assessment of Groundwater In the Greater Hudson Hope Area".	\$3,200
Development and Assessment of Biophysical Thresholds for the Blueberry Area	Axys Environmental Consulting Ltd.	To work with the Blueberry River First Nation to develop biophysical indicators and thresholds based on traditional ecological knowledge for use in cumulative impact management.	\$12,000
Data Review, Collection and Analysis for Planning in the Moberly Tract with OGC, MSRM, West Moberly First Nation and Saulneau First Nation	Firth Hollin Resource Science Corporation	To establish a GIS managed database for use in a spatially explicit planning of land use in the Moberly Tract area.	\$12,700

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Engineering and Technology Envelope

Project Title	Proponent	Project Goals	Funding
Well Test Flare Plume Monitoring Phase II: Measurement of SO ₂ in Flare Plumes using the DIAL Method	Air Issues Technical Canadian Association of Petroleum Producers (CAPP)	To filed test a DIAL system on a sour well flare to determine if it can accurately track the well flare plume and accurately measure the SO ₂ concentration within the plume cost effectively.	\$75,000
Sustainable and Eco-Efficient Technologies Economic Greenhouse Gas (GHG)Reducing Technologies	Petroleum Technology Alliance Canada (PTAC)	To facilitate the identification, development and transfer of new greenhouse gas (GHG) reducing technologies. In particular, to achieve a significant economical reduction in the GHG emissions of industry operations, by leveraging technology.	\$25,000
Interactive Development and Research Into Abandoned Well Site Reclamation; Cumulative Impact Study on the AAC; and, Development of Results and Performance Based Systems	Monashee Resources Limited & BC Ministry of Forests	To identify and aid in the minimization of potential environmental impacts of oil and gas activities; improve reclamation success and forest management results; and, aid in addressing some of the key Kyoto protocol issues relevant to the oil and gas industry.	\$119,000
Healing the Land, an Elder's Perspective	Monashee Resources Ltd.	To provide knowledge from an Elder's perspective on the oil and gas reclamation process. By providing first hand data collection and traditional knowledge information through elder site visits, this information can be used to design reclamation methods and techniques that reflect the traditional knowledge.	\$24,700

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Education and Extension Envelope

Project Title	Proponent	Project Goals	Funding
Holocene-Human History/Paleoenvironmental Reconstruction ~ 12,000/10,000 Years Ago to the Present	Heritage North Consulting Ltd.	To excavate a previously recorded archaeological site and carbon date significant finds. This will provide information on both human and ecological trends over the past 10,000 years.	\$150,000
2003 SCEK Fund Conference	SCEK Fund	To provide an opportunity for a variety of stakeholders to become familiar with projects supported by the SCEK Fund and to solicit input on subject areas of interest to the Fund.	\$35,811.00
Publication of Fund Overview	Tetrad Communications	To design and make ready for publishing, the SCEK Fund's 'Overview' document. This document provides general information on the Fund including its goals, objectives, management structure and priorities.	\$2,375
Funding Envelope Brochures	Tetrad Communications	To create brochures, by SCEK Fund envelope, which provide a description of all SCEK Fund projects to date.	\$6,500

Community Environmental Knowledge Envelope

Project Title	Proponent	Project Goals	Funding
West Moberly First Nations (WMFN) Traditional Knowledge Project	Dahke Community Projects Inc.	To collect information and design processes that can be used to integrate indigenous knowledge into oil and gas project planning and reclamation activities.	\$300,355

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Appendix 3: List of projects for which the SCEK Fund's obligations were completed during the 2003-04 fiscal year

Project Title	Proponent	Project Goals	Funding
Impacts of Sour Gas Production Flare Tests on Vegetation	Larkspur Biological Consultants Ltd.	To complete an inventory of vegetation response to well test flaring.	\$74,415
Overview Fish and Fish Habitat Inventory	Fisheries Branch, Ministry of Environment, Lands and Parks	To deliver a low intensity, systematic description of fish and fish habitat distribution in watersheds for which minimal, or no, field data currently exists.	\$106,875
Soil Productivity and Forest Regeneration Success on Reclaimed Oil and Gas Sites	Ministry of Forests Kalamalka Research Station	To evaluate the effectiveness of previous efforts to restore soil productivity on abandoned well sites, seismic lines, and access roads in Dawson Creek area of NEBC.	\$58,000
Foothills Model Forest Grizzly bear Research Project	AB Sustainable Resource Development – Fish and Wildlife Division	To provide resource managers with the necessary knowledge and planning tools to ensure the long-term conservation of grizzly bears.	\$50,000
Low Flow Analysis	Diversified Technical Services	To conduct hydrology analysis and identify areas of concern and watersheds that meet the required in stream flow standards. Stream flow measurements will confirm the actual low flow levels in priority watersheds. Maps and literature will be developed to show and explain the new approved sources of supply for oil and gas water withdrawals.	\$18,799
Sustainable and Eco-Efficient Technologies Economic Greenhouse Gas (GHG) Reducing Technologies	Petroleum Technology Alliance Canada (PTAC)	To facilitate the identification, development and transfer of new greenhouse gas (GHG) reducing technologies. In particular, to achieve a significant economical reduction in the GHG emissions of industry operations, by leveraging technology.	\$25,000
Interactive Development and Research Into Abandoned Well Site Reclamation; Cumulative Impact Study on the AAC; and, Development of Results and Performance Based Systems	Monashee Resources Limited & BC Ministry of Forests	To identify and minimize potential environmental impacts of oil and gas activities; improve reclamation success and forest management results; and, aid in addressing some of the key Kyoto protocol issues relevant to the oil and gas industry.	\$119,000
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Benzene Emissions from Glycol Dehydrators	Canadian Association of Petroleum Producers	To evaluate the health and environmental risks associated with benzene emissions, and to determine appropriate methods to regulate and reduce emissions.	\$3,000
Publication of Fund Overview	Tetrad Communications	To design and make ready for publishing, the SCEK Fund's 'Overview' document.	\$2,375
CBM baseline Water monitoring	Diversified Technical Services	Groundwater monitoring in the Hudson's Hope area	\$3,200