



Canadian Securities
Administrators

Autorités canadiennes
en valeurs mobilières

NOTICE AND REQUEST FOR COMMENT

**PROPOSED AMENDMENTS TO NATIONAL INSTRUMENT 51-101 *STANDARDS OF DISCLOSURE FOR OIL AND GAS ACTIVITIES*,
FORM 51-101F1 *STATEMENT OF RESERVES DATA AND OTHER OIL AND GAS INFORMATION*,
FORM 51-101F2 *REPORT ON RESERVES DATA BY INDEPENDENT QUALIFIED RESERVES EVALUATOR OR AUDITOR*,
FORM 51-101F3 *REPORT OF MANAGEMENT AND DIRECTORS ON OIL AND GAS DISCLOSURE* AND COMPANION POLICY 51-101CP *STANDARDS OF DISCLOSURE FOR OIL AND GAS ACTIVITIES***

December 18, 2009

Background

We, the Canadian Securities Administrators (CSA), are publishing for comment proposed amendments to National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities* (NI 51-101), its related forms (the Forms) and companion policy (51-101CP) (collectively, the Instrument).¹

NI 51-101 sets out the annual filing requirements for reporting issuers who are involved in oil and gas activities to report their estimates of reserves and resources. In addition, NI 51-101 sets out the general disclosure standards for reporting issuers who are reporting on their oil and gas activities. The disclosure standards apply to any disclosure made by a reporting issuer throughout the year.

Since the CSA implemented the Instrument in September 2003, we have monitored how it is working. As a result of CSA staff experience, we identified several areas in the Instrument which need to be amended.

We are publishing the proposed amendments to the Instrument with this Notice. You can find them on websites of CSA members, including the following:

- www.besc.bc.ca
- www.albertasecurities.com
- www.sfsc.gov.sk.ca
- www.msc.gov.mb.ca
- www.osc.gov.on.ca
- www.lautorite.qc.ca

¹ In Ontario, paragraphs 143(1) 22, 24, 39 and 39.1 of the Securities Act provide the Ontario Securities Commission with authority to make the proposed amendments to the Instrument.

We are publishing

- amending instruments for
 - NI 51-101
 - the Forms
- an amending document for 51-101CP
- an amending instrument for National Instrument 41-101 *General Prospectus Requirements*

We are also publishing a black-lined version of NI 51-101 and the Forms that integrate the proposed changes from the amending instrument.

Substance and purpose of the amendments

The proposed amendments to the Instrument fall into the following four broad categories:

1. Amendments to clarify some provisions of the Instrument.
2. Amendments to amend and add certain requirements to the annual filing requirements to provide for more comprehensive disclosure.
3. Amendments to certain provisions to provide new guidelines for disclosure of reserves and resources other than reserves.
4. Amendments to streamline requirements in the Instrument.

Summary of proposed amendments

We have summarized the significant proposed amendments in the Appendix. This is not a complete list of all the amendments.

We have clarified the signing requirements of Form 51-101F3. We have added a prohibition against adding across resource categories. This prohibition is intended to prevent misleading disclosure and to provide additional guidance to reporting issuers wishing to make meaningful and understandable disclosure of their oil and gas resources. We have added a requirement that the low estimate of reserves, contingent resources and prospective resources be included in the disclosure when the high estimate is disclosed.

We have amended the optional supplemental disclosure of reserves data in annual disclosure to allow for disclosure which is comparable to US disclosure. We have added a requirement in the annual disclosure to discuss the significant factors and uncertainties associated with properties for which no reserves have been developed.

We have removed the requirement to announce the annual filings with a press release and replaced it with the requirement to file a Form 51-101F4 notice on SEDAR.

We have removed definitions, requirements and guidance related to financial reporting to limit the scope of NI 51-101 to evaluation and disclosure practices related to reserves and resources other than reserves.

Alternatives considered

As discussed above, many of the amendments are intended to clarify the Instrument or to streamline requirements; however certain requirements are being introduced to assist reporting issuers in providing understandable oil and gas disclosure. One alternative to amending the Instrument was to issue a CSA Staff Notice to provide additional guidance on reserve and resource disclosure. However, CSA Staff Notice 51-327 already addresses several of the amendments noted above and CSA Staff continues to see misleading disclosure.

Anticipated costs and benefits

We believe that the proposed amendments to the Instrument will reduce issuers' costs, as the amendments will remove the requirement to disseminate a press release when filing annual disclosure. This requirement is replaced with a filing requirement on SEDAR, which would not have the dissemination costs associated with a press release. In addition, while the amendments do impose an additional mandatory requirement to discuss annually the significant uncertainties related to the reporting issuer's properties that have not been assigned reserves, we believe that given the growing importance of resources other than reserves to an oil and gas issuer's value, the value of this information to the public outweighs the costs of preparation. We also believe that the amendments will make reporting issuers' disclosure about oil and gas reserves and resources more meaningful and understandable to the public.

Consequential amendments

We propose to amend Item 5.5 of Form 41-101F1 *Information Required in a Prospectus* to remove the obligation to provide annual reports as at the year-end when an issuer is not engaged in oil and gas activities at its year-end. However, that issuer is required to provide an oil and gas report in accordance with the Form 51-101F1, Form 51-101F2 and Form 51-101F3 which is effective subsequent to the date on which the issuer engaged in oil and gas activities.

Related amendments

CSA Staff Notice 51-324 and CSA Staff Notice 51-327 will be amended to reflect changes to the Instrument.

Impact on investors

The proposed amendments will benefit investors in several important respects:

- By prohibiting the addition across resource categories, investors should receive more consistent, meaningful and understandable disclosure of oil and gas resources.
- By imposing a mandatory requirement to discuss annually the significant uncertainties related to the reporting issuer's properties that have not been assigned reserves, investors will receive additional disclosure about assets which have a growing importance to an oil and gas issuer's value.

Unpublished materials

In proposing amendments to the Instrument, we have not relied on any significant unpublished study, report, or other written materials.

Request for comments

We welcome your comments on the proposed amendments to the Instrument.

Please submit your comments on the proposed amendments to the Instrument in writing on or before **March 19, 2010**. If you are not sending your comments by email, you should also forward a diskette containing the submissions (in Windows format, Word).

Address your submission to all of the CSA member commissions, as follows:

British Columbia Securities Commission
Alberta Securities Commission
Saskatchewan Financial Services Commission – Securities Division
Manitoba Securities Commission
Ontario Securities Commission
Autorité des marchés financiers
New Brunswick Securities Commission
Registrar of Securities, Prince Edward Island
Nova Scotia Securities Commission
Newfoundland and Labrador Securities Commission
Registrar of Securities, Northwest Territories
Registrar of Securities, Yukon Territory
Registrar of Securities, Nunavut

Deliver your comments **only** to the addresses that follow. Your comments will be forwarded to the other CSA member jurisdictions.

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C.P. 246, 22 e étage
Montréal, Québec H4Z 1G3
Fax: (514) 864-6381
E-mail: consultation-en-cours@lautorite.qc.ca

We cannot keep submissions confidential because securities legislation in certain provinces requires publication of a summary of the written comments received during the comment period.

Questions

Please refer any questions you may have regarding this notice to the following people:

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The text of the proposed amendments follows or can be found elsewhere on a CSA member website.

Appendix

Summary of proposed amendments

A. IFRS CHANGES

Accounting Terms or Phrases

We replaced the following terms used in NI 51-101 with the IFRS terms.

Original Term or Phrase	IFRS Term or Phrase
minority interest	non-controlling interest

B. OIL AND GAS DISCLOSURE CHANGES

National Instrument 51-101 Standards of Disclosure for Oil and Gas Activities

We propose to amend NI 51-101 as follows:

Part 1 Application and Terminology

- by adding a definition of *executive officer*, which parallels the definition in National Instrument 51-102 *Continuous Disclosure Obligations*, in order to clarify the signing requirements outlined in paragraph 2.1(3)(e) of *NI 51-101*
- by adding a definition of Form 51-101F4 *Notice of Filing of 51-101F1 Information*
- by removing the word reservoirs from the definition of oil and gas activities and replacing it with the concept of subsurface, to allow for the broadest possible application
- by adding a definition of *US oil and gas disclosure requirements* that tracks changes to the US oil and gas securities regulatory regime to allow for supplemental reserves disclosure

Part 2 Annual Filing Requirements

- in paragraph 2.1(3)(e) by clarifying the *Form 51-101F3* signing requirements
- in section 2.2 by removing the news release requirement and replacing it with a notice requirement
- in section 2.5 by providing additional *Form 51-101F3* signing guidance, in particular for situations where the reporting issuer is not a corporation

Part 4 Measurement

- by deleting section 4.1

Part 5 Requirements Applicable to all Disclosure

- by clarifying that section 5.3 of *NI 51-101* and the *COGE Handbook* apply to resources other than reserves
- by adding section 5.16 which prohibits addition across resources categories
- by adding section 5.17 which requires the disclosure of the low estimate when the high estimate is disclosed

Part 8 Exemptions

- by clarifying the application of section 8.2

Part 9 Instrument in Force

- by deleting section 9.2, as it is no longer relevant.

Form 51-101F1 Statement of Reserves Data and Other Oil and Gas Information

We propose to amend the *Form 51-101F1* as follows:

- by clarifying General Instruction (1)
- by including General Instruction (7) and (8) to assist reporting issuers in providing clear disclosure
- by modifying guidance related to the optional supplemental disclosure to allow for disclosure in accordance with *US oil and gas disclosure requirements* (in particular see Item 2.2 and Item 3.1)
- by clarifying that the information in Item 5.2 only applies to *reserves data*
- by providing guidance for calculating area where there are split-rights
- by adding a requirement to describe the significant factors and uncertainties related to the development of and production from properties without any reserves
- by requiring the disclosure of stratigraphic test wells
- by clarifying that Item 6.9 relates to gross daily production volumes

Form 51-101F2 Report on Reserves Data by Independent Qualified Reserves Evaluator or Auditor

We propose to amend *Form 51-101F2* as follows:

- by clarifying the requirement that the evaluation must be done in accordance with the *COGE Handbook*, consistently applied.

Form 51-101F3 Report of Management and Directors on Oil and Gas Disclosure

We propose to amend *Form 51-101F3* as follows:

- by updating the form to mirror the changes to the signing requirements in NI 51-101 and the changes to the *Form 51-101F2*

51-101CP

The proposed amendments to 51-101CP reflect the changes to *NI 51-101* described above and provide further guidance on how to interpret and apply *NI 51-101*.

C. GENERAL CHANGES

Resources to Resources Other than Reserves

“Resources” as defined in the *COGE Handbook* includes production and reserves. In order to clarify that certain guidance in NI 51-101, its related forms and companion policy currently only relates to resources other than reserves, where applicable, NI 51-101, its related forms and companion policy have been amended to change the term “resources” to “resources other than reserves”.

Removal of Accounting References

We have removed definitions, requirements and guidance solely related to financial reporting by oil and gas issuers from NI 51-101 and related documents with the intention of focusing the regulatory scope of NI 51-101 and related forms on the technical evaluation and disclosure of reserves and resources other than reserves.

Term / Concept	Explanation of Change
CICA	We removed the definition and references to CICA since the CICA is no longer relevant to NI 51-101 and related forms.
CICA Accounting Guideline 16	We removed the definition and references to CICA Accounting Guideline 16 as it will no longer be relied on for the purposes of NI 51-101 and related forms.
CICA Handbook	We removed the definition and references to CICA Handbook since it is no longer relevant to NI 51-101 and related forms.
FAS 19	We removed the definition and references to FAS 19 since it is no longer relevant to the evaluation and disclosure prescribed by NI 51-101 and related forms.
Full cost method of accounting (section 4.1 of NI 51-101)	We removed section 4.1 of NI 51-101 on the basis that requirements as to the preparation of financial statements are no longer within the scope NI 51-101.
References to comparability of financial and reserves disclosure	We have removed these references to deemphasize the comparability of oil and gas accounting and oil and gas technical evaluation practice.
Section 3861 and Section 3280 of CICA Handbook	We have removed this specific guidance as it will no longer be relied on for the purpose of NI 51-101 and related forms.

Although this amending instrument amends section headers in National Instrument 51-101, section headers do not form part of the instrument and are inserted for ease of reference only.

**Amendments to
National Instrument 51-101 Standards of Disclosure for Oil and Gas Activities**

- 1. *National Instrument 51-101 Standards of Disclosure for Oil and Gas Activities is amended by this instrument.***
- 2. *Section 1.1 of National Instrument 51-101 is amended by***
 - (a) *repealing paragraph (c),***
 - (b) *repealing paragraph (d),***
 - (c) *repealing paragraph (e),***
 - (d) *adding the following after paragraph (h)***
 - (h.1) *“executive officer” means, for a reporting issuer, an individual who is***
 - (i) *a chair, vice-chair or president;***
 - (ii) *a vice-president in charge of a principal business unit, division or function including sales, finance or production; or***
 - (iii) *performing a policy-making function in respect of the issuer;,***
 - (e) *repealing paragraph (i),***
 - (f) *adding the following after paragraph (n)***
 - (n.1) *“Form 51-101F4” means Form 51-101F4 Notice of Filing of 51-101F1 Information;,***
 - (g) *in clause (s)(i)(B), replacing “reservoirs on” with “the subsurface of”,***
 - (h) *in clause (s)(i)(C), replacing “reservoirs” with “subsurface locations”,***
 - (i) *in paragraph (aa), deleting “and” at the end of the paragraph,***
 - (j) *in paragraph (bb), by adding “and” at the end of the paragraph, and***
 - (k) *adding the following after paragraph (bb)***

- (cc) "US oil and gas disclosure requirements" means the disclosure requirements relating to *reserves* and *oil and gas activities* under *US federal securities law* and include disclosure requirements or guidelines imposed or issued by the *SEC*, as amended from time to time..

3. ***Paragraph 3(e) of section 2.1 of National Instrument 51-101 is replaced with the following***

- (e) is signed
 - (i) by
 - (A) the chief *executive officer*; and
 - (B) a person other than the chief *executive officer* that is an *executive officer* of the *reporting issuer*; and
 - (ii) on behalf of the board of directors, by
 - (A) any two directors of the *reporting issuer*, other than the persons referred to in subparagraph (i) above, or
 - (B) if the issuer has only three directors, two of whom are the persons referred to in subparagraph (i), all of the directors of the *reporting issuer*..

4. ***Section 2.2 of National Instrument 51-101 is replaced with the following***

- 2.2 **Notice of Filing of 51-101F1 Information** – A *reporting issuer* must, concurrently with filing a statement and reports under section 2.1, file with the *securities regulatory authority* a notice of filing of 51-101F1 information in accordance with *Form 51-101F4*..

5. ***Section 2.5 of National Instrument 51-101 is added after section 2.4 as follows***

- 2.5 **Reporting Issuer Not a Corporation** – if the *reporting issuer* is not a corporation, a report in accordance with *Form 51-101F3* must be signed by the persons who, in relation to the *reporting issuer*, are in a similar position or perform similar functions to the persons required to sign under item 3 of section 2.1..

6. ***Section 4.1 of National Instrument 51-101 is repealed.***

7. ***Section 5.3 of National Instrument 51-101 is replaced with the following***

- 5.3 **Classification of Reserves and of Resources Other than Reserves** - Disclosure of *reserves* or of *resources* other than *reserves* must apply the terminology and categories set out in the *COGE Handbook* and must relate to the most specific

category of *reserves* or of *resources* other than *reserves* in which the *reserves* or *resources* other than *reserves* can be classified..

8. Section 5.9 of National Instrument 51-101 is amended by

(a) *in the title, adding “Other than Reserves” after “Resources”,*

(b) *in the preamble to subsection (2), adding “other than reserves” after “resources”,*

(c) *replacing paragraph (2)(b) with the following*

(b) relate to the most specific category of *resources* other than *reserves* as required by section 5.3;

(d) *adding the following after paragraph (2)(b)*

(b.1) have been prepared or audited in accordance with the *COGE Handbook*; and.

9. Section 5.10 of National Instrument 51-101 is amended by replacing “5.2, 5.3 and 5.9” wherever it occurs with “5.2, 5.3, 5.9 and 5.16”.

10. National Instrument 51-101 is amended by adding the following after section 5.15

5.16 Prohibition Against Addition Across Resource Categories

(1) A reporting issuer must not disclose a summation of any combination of an estimate of quantity or value of any two or more of the following:

(a) *reserves*;

(b) *contingent resources*;

(c) *prospective resources*;

(d) the unrecoverable portion of *discovered petroleum initially-in-place*;

(e) the unrecoverable portion of *undiscovered petroleum initially-in-place*;

(f) *discovered petroleum initially-in-place*; and

(g) *undiscovered petroleum initially-in-place*.

- (2) Notwithstanding subsection (1), a *reporting issuer* may disclose an estimate of *total petroleum initially-in-place*, *discovered petroleum initially-in-place* and *undiscovered petroleum initially-in-place* if:
- (a) the estimate of quantity or value of all subcategories are also disclosed, including the unrecoverable portion(s); and
 - (b) there is a cautionary statement that is proximate to the estimate, in bold font, to the effect that:

“ The [*total petroleum initially-in-place*, *discovered petroleum initially-in-place* or *undiscovered petroleum initially-in-place*,] includes unrecoverable volumes and is not an estimate of the [value or volume] of the substances that will ultimately be recovered.”.

5.17 Disclosure of High- and Low-Case Estimates of *Reserves* and *Resources* other than *Reserves*

- (1) If a *reporting issuer* discloses an estimate of *proved + probable + possible reserves*, the *reporting issuer* must also disclose the corresponding estimates of *proved* and *proved + probable reserves*.
- (2) If a *reporting issuer* discloses a high-case estimate, the *reporting issuer* must also disclose the corresponding low- and best-case estimates..

11. Subsection 8.2(2) of National Instrument 51-101 is amended by replacing “in accordance with” with “under”.

12. Section 9.2 of National Instrument 51-101 is repealed.

13. Form 51-101F1 Statement of Reserves Data and Other Oil and Gas Information is amended by this instrument.

14. The General Instructions of Form 51-101F1 are amended as follows

(a) Instruction (3) is replaced by

- (3) *The numbering, headings and ordering of items included in this Form 51-101F1 are guidelines only. Information may be provided in tables.,*

(b) Instruction (6) is followed by

- (7) *If a reporting issuer discloses financial information in a currency other than the Canadian dollar, clearly, and as frequently as is appropriate to avoid confusing or misleading readers, disclose the currency in which the financial information is disclosed.*

(8) *Reporting Issuers should refer to the **COGE Handbook** for the proper reporting of units of measurement. **Reporting issuers** should not, without compelling reason, switch between imperial units of measure (such as barrels) and *Système International (SI)* units of measurement (such as tonnes) within or between disclosure documents..*

15. *Instruction (1) of Item 1.1 of Form 51-101F1 is amended by deleting “It is the date of the balance sheet for the reporting issuer's most recent financial year (for example, "as at December 31, 20xx") and the ending date of the reporting issuer’s most recent annual statement of income (for example, "for the year ended December 31, 20xx”).”.*

16. *Item 2.2 of Form 51-101F1 is replaced with*

Item 2.2 Supplemental Disclosure of Reserves Data

The *reporting issuer* may supplement its disclosure of *reserves data* under Item 2.1 by also disclosing the components of Item 2.1, using prices and costs as determined in a manner consistent with the relevant *US oil and gas disclosure requirements*..

17. *Items 2.3 and 2.4 of Form 51-101F1 are amended by replacing “minority interest” wherever it occurs with “non-controlling interest”.*

18. *Instruction (3) of Item 2.4 of Form 51-101F1 is repealed.*

19. *Item 3.1 of Form 51-101F1 is amended by*

(a) *in the title, deleting “Constant Prices Used in”, and*

(b) *replacing “operates, as at the last day of the reporting issuer's most recent financial year” with “operates as determined in a manner consistent with the relevant US oil and gas disclosure requirements”.*

20. *Instruction (2) of Item 3.2 of Form 51-101F1 is amended by deleting “term “constant prices and costs” and the” and replacing “include” with “includes”.*

21. *Item 5.2 of Form 51-101F1 is amended by*

(a) *in the title, adding “Affecting Reserves Data” after “Uncertainties”,*

(b) *replacing “important” with “significant”, and*

(c) *in the Instruction, deleting “, the need to build a major pipeline or other major facility before production of reserves can begin,”.*

22. *Form 51-101F1 is amended by adding the following after Section 2 of Item 6.2*

INSTRUCTION

*If a **reporting issuer** holds interests in different formations under the same surface area pursuant to separate leases, disclose the method of calculating the **gross** and **net** area. For example, if the **reporting issuer** has included the area of each of its leases in its calculation of **net** area despite the fact that certain leases will pertain to the same surface area, disclose that fact. A general description of the method of calculating the area will suffice.*

Item 6.2.1 Significant Factors or Uncertainties Relevant to Properties With No Attributed Reserves

1. Identify and discuss significant economic factors or significant uncertainties that affect the anticipated development or production activities on *properties* with no attributed *reserves*.
2. Section 1 does not apply if the information is disclosed in the *reporting issuer's* financial statements for the financial year ended on the *effective date*.

INSTRUCTION

*Examples of information that could warrant disclosure under this Item 6.2.1 include unusually high expected **development costs** or **operating costs** or the need to build a major pipeline or other major facility before **production** can begin..*

23. Section 2 of Item 6.3 of Form 51-101F1 is replaced with

2. Section 1 does not apply to agreements specifically disclosed by the *reporting issuer* in its financial statements for the financial year ended on the *effective date*..

24. Paragraph 1(b) of Item 6.7 of Form 51-101F1 is amended by replacing “gas wells and service wells” with “gas wells, service wells and stratigraphic test wells”.

25. Paragraph 1(a) of Item 6.9 of Form 51-101F1 is amended by adding “gross” between “average” and “daily” and by deleting “, before deduction of royalties”.

26. Form 51-101F2 Report on Reserves Data by Independent Qualified Reserves Evaluator or Auditor is amended by this instrument.

27. Item 5 of Form 51-101F2 is amended by adding “, consistently applied” after “in accordance with the COGE Handbook”.

28. Item 7 of Form 51-101F2 is amended by deleting “However, any variations should be consistent with the fact that reserves are categorized according to the probability of their recovery.”.

29. ***Form 51-101F3 Report of Management and Directors on Oil and Gas Disclosure is amended by this instrument.***
30. ***Form 51-101F3 is amended by***
- (a) ***deleting*** “However, any variations should be consistent with the fact that reserves are categorized according to the probability of their recovery.”, ***and***
- (b) ***replacing*** “a senior officer” ***with*** “an executive officer”.
31. ***National Instrument 51-101 is amended by adding the following Form***

FORM 51-101F4
NOTICE OF
FILING OF 51-101F1 INFORMATION

This is the form referred to in section 2.2 of National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities* (“NI 51-101”).

On [date of SEDAR Filing], [name of reporting issuer] filed its reports under section 2.1 of NI 51-101, which can be found [describe where a copy of the filed information can be found for viewing by electronic means].

32. ***This instrument comes into force on January 1, 2011.***

**Amendments to
Companion Policy 51-101CP Standards of Disclosure for Oil and Gas Activities**

1. ***Companion Policy 51-101CP Standards of Disclosure for Oil and Gas Activities is amended.***
2. ***Section 1.2 is amended by replacing*** “including disclosure of reserves and resources” ***with*** “including disclosure of reserves and of resources other than reserves”.
3. ***Section 1.4 is amended by deleting*** “This concept of materiality is consistent with the concept of materiality applied in connection with financial reporting pursuant to the CICA Handbook.”.
4. ***Section 2.3 is amended by replacing*** “The report of management and directors in Form 51-101F3 may be combined with management's report on financial statements, if any, in respect of the same financial year.” ***with the following***

A reporting issuer may supplement the annual disclosure required under NI 51-101 with additional information corresponding to that prescribed in Form 51-101F1, Form 51-101F2 and Form 51-101F3, but as at dates, or for periods, subsequent to those for which annual disclosure is required. However, to avoid confusion, such supplementary disclosure should be clearly identified as being interim disclosure and distinguished from the annual disclosure (for example, if appropriate, by reference to a particular interim period). Supplementary interim disclosure does not satisfy the annual disclosure requirements of section 2.1 of NI 51-101..

5. ***Subsection 2.4(2) is amended by replacing*** “A reporting issuer that elects to follow this approach should file its annual information form in accordance with the usual requirements of securities legislation, and at the same time on SEDAR in the category for NI 51-101 oil and gas disclosure, a notification that the information required under section 2.1 of NI 51-101 is included in the reporting issuer’s filed annual information form. More specifically, the notification should be filed under SEDAR Filing Type: “Oil and Gas Annual Disclosure (NI 51-101)” and Filing Subtype/Document Type: “Oil and Gas Annual Disclosure Filing (Forms 51-101F1, F2 & F3)”. Alternatively, the notification could be a copy of the news release mandated by section 2.2 of NI 51-101. If this is the case, the news release should be filed under SEDAR Filing Type: “Oil and Gas Annual Disclosure (NI 51-101)” and Filing Subtype/Document Type: “News Release (section 2.2 of NI 51-101).” ***with*** “However, a reporting issuer that elects to follow this approach continues to be subject to the requirement to file, at the same time and on SEDAR, in the appropriate SEDAR category, the notice in accordance with Form 51-101F4 (see section 2.2 of NI 51-101).”.
6. ***Section 2.7 is amended by***
 - (a) ***replacing subsection (4), with the following***

(4) **Supplemental Disclosure of *Future Net Revenue***- In addition to requiring the disclosure of *future net revenue* using *forecast prices and costs*, *Form 51-101 F1* gives *reporting issuers* the option of disclosing *future net revenue* based on prices and costs determined in accordance with the relevant *US oil and gas disclosure requirements*. In general, these prices and costs are assumed not to change, but rather to remain constant, throughout the life of a *property*, except to the extent of certain fixed or presently determinable future prices or costs to which the *reporting issuer* is legally bound by a contractual or other obligation to supply a physical product (including those for an extension period of a contract that is likely to be extended),

(b) *repealing subsection (5), and*

(c) *in subsection (7), deleting “Like a “subsequent event” note in a financial statement, the issuer should discuss this type of information even if it pertains to a period subsequent to the effective date.”.*

7. ***Subsection 2.8(2) is amended by replacing*** “*Form 51-101F2* (and *Form 51-101F3*) contains a statement that variations between *reserves data* and actual results may be material but that any variations should be consistent with the fact that *reserves* are categorized according to the probability of their recovery.” ***with*** “The report prescribed by *Form 51-101F2* contains statements to the effect that variations between *reserves data* and actual results may be material but *reserves* have been determined in accordance with the *COGE Handbook*, consistently applied.” ***and replacing*** “Any variations arising due to technical factors should be consistent” ***with*** “Any variations arising due to technical factors must be consistent”.

8. ***Subsection 5.2(5) is replaced by the following***

(5) **Availability of Funding** - In assigning *reserves* to an undeveloped *property*, the *reporting issuer* is not required to have the funding available to develop the *reserves*, since they may be developed by means other than the expenditure of the *reporting issuer’s* funds (for example by a farm-out or sale). *Reserves* must be estimated assuming that development of the *properties* will occur without regard to the likely availability of funding required for that *property*. The *reporting issuer’s* evaluator is not required to consider whether the *reporting issuer* will have the capital necessary to develop the *reserves*. (See section 7 of *COGE Handbook* and subparagraph 5.2(a)(iv) of *NI 51-101*.)

However, item 5.3 of *Form 51-101F1* requires a *reporting issuer* to discuss its expectations as to the sources and costs of funding for estimated future *development costs* as a part of its annual disclosure. If the issuer expects that the costs of funding would make development of a *property* unlikely, then even if *reserves* were assigned, it must also discuss that expectation and its plans for the *property*.

Disclosure of an estimate of *reserves*, *contingent resources* or *prospective resources* in respect of which timely availability of funding for development is not assured may be misleading if that disclosure is not accompanied, proximate to it, by a discussion (or a cross-reference to such a discussion in other disclosure filed by the *reporting issuer* on *SEDAR*) of the funding uncertainties and their anticipated effect on the timing or completion of such development (or on any particular stage of multi-stage development such as often observed in oilsands developments)..

9. Section 5.3 is replaced with the following

5.3 Classification of Reserves and of Resources Other than Reserves

Section 5.3 of *NI 51-101* requires that any disclosure of *reserves* or of *resources* other than *reserves* must apply the categories and terminology set out in the *COGE Handbook*. The definitions of the various *resource* categories derived from the *COGE Handbook* are provided in the *NI 51-101* Glossary. In addition, section 5.3 of *NI 51-101* requires that disclosure of *reserves* and of *resources* other than *reserves* must relate to the most specific category of *reserves* or of *resources* other than *reserves* in which the *reserves* or *resources* other than *reserves* can be classified. For instance, there are several subcategories of *discovered resources* including *reserves*, *contingent resources* and *discovered unrecoverable resources*. *Reporting issuers* must classify *discovered resources* into one of the subcategories of *discovered resources*.

In addition, *reserves* can be estimated using three subcategories, namely proved, probable or *possible reserves*, according to the probability that such quantities will actually be produced. As described in the *COGE Handbook* proved, probable and *possible reserves* represent conservative, realistic and optimistic estimates of *reserves*, respectively. Therefore any disclosure of *reserves* must be broken down into one of the three subcategories of *reserves*, namely proved, *probable* or *possible reserves*. For further guidance on disclosure of *reserves* and of *resources* other than *reserves* please see sections 5.2 and 5.5 of this Companion Policy..

10. Section 5.5 is amended by, in the title, adding “Other than Reserves” after “Resources”.

11. Subsection 5.5(1) is replaced with the following

- (1) **Disclosure of Resources Generally** -The disclosure of *resources*, excluding proved and *probable reserves*, is not mandatory under *NI 51-101*, except that a *reporting issuer* must make disclosure concerning its unproved *properties* and *resource* activities in its annual filings as described in Part 6 of *Form 51-101F1*. Additional disclosure beyond this is voluntary and must comply with section 5.9 of *NI 51-101* if *anticipated results* from the *resources* other than *reserves* are voluntarily disclosed.

For prospectuses, the general securities disclosure obligation of “full, true and plain” disclosure of all *material* facts would require the disclosure of *reserves* or of *resources* other than *reserves* that are *material* to the issuer, even if the disclosure is not mandated by *NI 51-101*. Any such disclosure should be based on supportable analysis.

Disclosure of *resources* other than *reserves* may involve the use of statistical measures that may be unfamiliar to a user. It is the responsibility of the evaluator and the *reporting issuer* to be familiar with these measures and for the *reporting issuer* to be able to explain them to investors. Information on statistical measures may be found in the *COGE Handbook* (section 9 of volume 1 and section 4 of volume 2) and in the extensive technical literature⁴ on the subject.

12. ***Subsection 5.5(2) is amended by replacing “A reporting issuer cannot aggregate properties across different categories of resources if a resource estimate referenced in subsection 5.9(2) is disclosed.” with “A reporting issuer must not disclose an estimate reflecting a summation of different categories of resources (see section 5.16 of NI 51-101).”.***

13. ***Paragraph 5.5(3)(b) is replaced by the following***

(b) Definitions of Resource Categories

For the purpose of complying with the requirement of defining the *resource* category, the *reporting issuer* must ensure that disclosure of the definition is consistent with the *resource* categories and terminology set out in the *COGE Handbook*, pursuant to section 5.3 of *NI 51-101*. Section 5 of volume 1 of the *COGE Handbook* and the *NI 51-101* Glossary identify and define the various *resource* categories.

A reporting issuer may wish to report *reserves* or *resources* other than *reserves of oil or gas* as “in-place volumes”. By definition, *reserves* of any type, *contingent resources* and *prospective resources* are estimates of volumes that are recoverable or potentially recoverable and, as such, cannot be described as being “in-place”. Terms such as “potential *reserves*”, “undiscovered *reserves*”, “*reserves* in place”, “in-place *reserves*” or similar terms must not be used because they are incorrect and misleading. The disclosure of *reserves* or of *resources* other than *reserves* must be consistent with the terminology and categories set out in the *COGE Handbook*, pursuant to section 5.3 of *NI 51-101*.

The *reporting issuer* can report other categories of *resources*, such as *discovered petroleum initially-in-place*, *undiscovered petroleum initially-in-place* and *total petroleum initially-in-place*. However, the additional disclosure required by section 5.16 of *NI 51-101* must also be included.

14. ***These amendments become effective on January 1, 2011.***

**Proposed Amending Instrument to
National Instrument 41-101 *General Prospectus Requirements***

1. *National Instrument 41-101 General Prospectus Requirements is amended by this instrument.*
2. *Item 5.5 of Form 41-101F1 Information Required in a Prospectus is replaced with the following*
 - 5.5(1) If the issuer is engaged in oil and gas activities as defined in NI 51-101 and any of the oil and gas information is material as contemplated under NI 51-101 in respect of the issuer, disclose that information in accordance with Form 51-101F1
 - (a) as at the end of, and for, the most recent financial year for which the prospectus includes an audited balance sheet of the issuer,
 - (b) in the absence of a completed financial year referred to in paragraph (a), as at the most recent date for which the prospectus includes an audited balance sheet of the issuer, and for the most recent financial period for which the prospectus includes an audited income statement of the issuer, or
 - (c) if the issuer was not engaged in oil and gas activities at the date set out in paragraphs (a) or (b), as of a date subsequent to the date the issuer first engaged in oil and gas activities as defined in NI 51-101 and prior to the date of the preliminary prospectus.
 - (2) Include with the disclosure under subsection (1) a report in the form of Form 51-101F2, on the reserves data included in the disclosure required under subsection (1).
 - (3) Include with the disclosure under subsection (1) a report in the form of Form 51-101F3 that refers to the information disclosed under subsection (1).
 - (4) To the extent not reflected in the information disclosed in response to subsection (1), disclose the information contemplated by Part 6 of NI 51-101 in respect of material changes that occurred after the applicable balance sheet referred to in subsection (1)..
3. *This instrument comes into force on January 1, 2011.*

NATIONAL INSTRUMENT 51-101
STANDARDS OF DISCLOSURE
FOR OIL AND GAS ACTIVITIES

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NATIONAL INSTRUMENT 51-101
STANDARDS OF DISCLOSURE
FOR OIL AND GAS ACTIVITIES

PART 1 APPLICATION AND TERMINOLOGY¹

1.1 Definitions² - In this *Instrument*:

- (a) "*annual information form*" has the same meaning as "AIF" in *NI 51-102*;
- (a.1) "*analogous information*" means information about an area outside the area in which the *reporting issuer* has an interest or intends to acquire an interest, which is referenced by the *reporting issuer* for the purpose of drawing a comparison or conclusion to an area in which the *reporting issuer* has an interest or intends to acquire an interest, which comparison or conclusion is reasonable, and includes:
 - (i) historical information concerning *reserves*;
 - (ii) estimates of the volume or value of *reserves*;
 - (iii) historical information concerning *resources*;
 - (iv) estimates of the volume or value of *resources*;
 - (v) historical *production* amounts;
 - (vi) *production* estimates; or
 - (vii) information concerning a *field*, well, basin or *reservoir*;
- (a.2) "*anticipated results*" means information that may, in the opinion of a reasonable person, indicate the potential value or quantities of *resources* in respect of the *reporting issuer's resources* or a portion of its *resources* and includes:
 - (i) estimates of volume;
 - (ii) estimates of value;

¹ For the convenience of readers, CSA Staff Notice 51-324 *Glossary to NI 51-101 Standards of Disclosure for Oil and Gas Activities* sets out the meanings of terms, including those defined in this Part, that are printed in italics in this *Instrument*, *Form 51-101F1*, *Form 51-101F2*, *Form 51-101F3* or Companion Policy 51-101CP.

² A national definition instrument has been adopted as *NI 14-101*. It contains definitions of certain terms used in more than one national or multilateral instrument. *NI 14-101* provides that a term used in a national or multilateral instrument and defined in the statute relating to securities of the applicable *jurisdiction*, the definition of which is not restricted to a specific portion of the statute, will have the meaning given to it in that statute unless the context otherwise requires. *NI 14-101* also provides that a provision or a reference within a provision of a national or multilateral instrument that specifically refers by name to a jurisdiction other than the local jurisdiction shall not have any effect in the local jurisdiction, unless otherwise stated in that national or multilateral instrument.

- (iii) areal extent;
 - (iv) pay thickness;
 - (v) flow rates; or
 - (vi) hydrocarbon content;
- (b) "BOEs" means barrels of *oil* equivalent;
- (c) "~~CICA~~" means ~~The Canadian Institute of Chartered Accountants~~; **repealed**;
- (d) "~~CICA Accounting Guideline 16~~" means ~~Accounting Guideline AcG-16 "Oil and gas accounting – full cost"~~ included in the ~~CICA Handbook~~, as amended from time to time; **repealed**;
- (e) "~~CICA Handbook~~" means the ~~Handbook of the CICA~~, as amended from time to time; **repealed**;
- (f) "*COGE Handbook*" means the "Canadian Oil and Gas Evaluation Handbook" prepared jointly by The Society of Petroleum Evaluation Engineers (Calgary Chapter) and the Canadian Institute of Mining, Metallurgy & Petroleum (Petroleum Society), as amended from time to time;
- (g) **repealed**;
- (h) "*effective date*", in respect of information, means the date as at which, or for the period ended on which, the information is provided;

(h.1) "executive officer" means, for a reporting issuer, an individual who is

- (i) a chair, vice-chair or president;**
 - (ii) a vice-president in charge of a principal business unit, division or function including sales, finance or production; or**
 - (iii) performing a policy-making function in respect of the issuer;**
- (i) "~~FAS 19~~" means ~~United States Financial Accounting Standards Board Statement of Financial Accounting Standards No. 19 "Financial Accounting and Reporting by Oil and Gas Producing Companies"~~, as amended from time to time; **repealed**;
- (j) "*forecast prices and costs*" means future prices and costs that are:
- (i) generally accepted as being a reasonable outlook of the future;
 - (ii) if, and only to the extent that, there are fixed or presently determinable future prices or costs to which the *reporting issuer* is legally bound by a contractual or other obligation to supply a physical product, including

those for an extension period of a contract that is likely to be extended, those prices or costs rather than the prices and costs referred to in subparagraph (i);

- (k) "*foreign geographic area*" means a geographic area outside North America within one country or including all or portions of a number of countries;
- (l) "*Form 51-101F1*" means Form 51-101F1 *Statement of Reserves Data and Other Oil and Gas Information*;
- (m) "*Form 51-101F2*" means Form 51-101F2 *Report on Reserves Data by Independent Qualified Reserves Evaluator or Auditor*;
- (n) "*Form 51-101F3*" means Form 51-101F3 *Report of Management and Directors on Oil and Gas Disclosure*;

(n.1) "Form 51-101F4" means Form 51-101F4 Notice of Filing of 51-101F1 Information;

- (o) "*independent*", in respect of the relationship between a *reporting issuer* and a person or company, means a relationship between the *reporting issuer* and that person or company in which there is no circumstance that could, in the opinion of a reasonable person aware of all relevant facts, interfere with that person's or company's exercise of judgment regarding the preparation of information which is used by the *reporting issuer*;
- (p) "*McfGEs*" means thousand cubic feet of *gas* equivalent;
- (q) "*NI 14-101*" means National Instrument 14-101 *Definitions*;
- (r) **repealed;**
- (r.1) "*NI 51-102*" means National Instrument 51-102 *Continuous Disclosure Obligations*;
- (s) "*oil and gas activities*"
 - (i) include:
 - (A) the search for *crude oil* or *natural gas* in their natural states and original locations;
 - (B) the acquisition of property rights or *properties* for the purpose of further exploring for or removing *oil* or *gas* from ~~*reservoirs on*~~ **the subsurface of** those *properties*;
 - (C) the construction, drilling and *production* activities necessary to retrieve *oil* and *gas* from their natural ~~*reservoirs*~~ **subsurface**

locations, and the acquisition, construction, installation and maintenance of *field* gathering and storage systems including lifting the *oil* and *gas* to the surface and gathering, treating, *field* processing and *field* storage; and

- (D) the extraction of hydrocarbons from oil sands, shale, coal or other non-conventional sources and activities similar to those referred to in clauses (A), (B) and (C) undertaken with a view to such extraction; but
- (ii) do not include:
- (A) transporting, refining or marketing *oil* or *gas*;
 - (B) activities relating to the extraction of natural resources other than *oil* and *gas* and their by-products; or
 - (C) the extraction of geothermal steam or of hydrocarbons as a by-product of the extraction of geothermal steam or associated geothermal resources;
- (t) "*preparation date*", in respect of written disclosure, means the most recent date to which information relating to the period ending on the *effective date* was considered in the preparation of the disclosure;
- (u) "*production group*" means one of the following together, in each case, with associated by-products:
- (i) light and medium *crude oil* (combined);
 - (ii) *heavy oil*;
 - (iii) *associated gas* and *non-associated gas* (combined); and
 - (iv) *bitumen*, *synthetic oil* or other products from non-conventional *oil and gas activities*.
- (v) "*product type*" means one of the following:
- (i) in respect of conventional *oil and gas activities*:
 - (A) light and medium *crude oil* (combined);
 - (B) *heavy oil*;
 - (C) *natural gas* excluding *natural gas liquids*; or
 - (D) *natural gas liquids*; and

- (ii) in respect of non-conventional *oil and gas activities*:
 - (A) *synthetic oil*;
 - (B) *bitumen*;
 - (C) coal bed methane;
 - (D) hydrates;
 - (E) shale oil; or
 - (F) shale gas;

- (w) "*professional organization*" means a self-regulatory organization of engineers, geologists, other geoscientists or other professionals whose professional practice includes *reserves evaluations* or *reserves audits*, that:
 - (i) admits members primarily on the basis of their educational qualifications;
 - (ii) requires its members to comply with the professional standards of competence and ethics prescribed by the organization that are relevant to the estimation, *evaluation*, *review* or *audit* of *reserves data*;
 - (iii) has disciplinary powers, including the power to suspend or expel a member; and
 - (iv) is either:
 - (A) given authority or recognition by statute in a Canadian jurisdiction; or
 - (B) accepted for this purpose by the *securities regulatory authority* or the *regulator*;

- (x) "*qualified reserves auditor*" means an individual who:
 - (i) in respect of particular *reserves data*, *resources* or related information, possesses professional qualifications and experience appropriate for the estimation, *evaluation*, *review* and *audit* of the *reserves data*, *resources* and related information; and
 - (ii) is a member in good standing of a *professional organization*;

- (y) "*qualified reserves evaluator*" means an individual who:
 - (i) in respect of particular *reserves data*, *resources* or related information, possesses professional qualifications and experience appropriate for the

estimation, *evaluation* and *review* of the *reserves data, resources* and related information; and

- (ii) is a member in good standing of a *professional organization*;
- (z) "*qualified reserves evaluator or auditor*" means a *qualified reserves auditor* or a *qualified reserves evaluator*;
- (z.1) "*reserves*" means *proved, probable* or *possible reserves*;
- (aa) "*reserves data*" means an estimate of *proved reserves* and *probable reserves* and related *future net revenue*, estimated using *forecast prices and costs*; ~~and~~
- (bb) "*supporting filing*" means a document filed by a *reporting issuer* with a *securities regulatory authority*; and
- (cc) "*US oil and gas disclosure requirements*" means the disclosure requirements relating to reserves and oil and gas activities under US federal securities law and include disclosure requirements or guidelines imposed or issued by the SEC, as amended from time to time.

1.2 *COGE Handbook Definitions*

- (1) Terms used in this *Instrument* but not defined in this *Instrument, NI 14-101* or the securities statute in the *jurisdiction*, and defined or interpreted in the *COGE Handbook*, have the meaning or interpretation ascribed to those terms in the *COGE Handbook*.
- (2) In the event of a conflict or inconsistency between the definition of a term in this *Instrument, NI 14-101* or the securities statute in the *jurisdiction* and the meaning ascribed to the term in the *COGE Handbook*, the definition in this *Instrument, NI 14-101* or the securities statute in the *jurisdiction*, as the case may be, applies.

1.3 *Applies to Reporting Issuers Only* - This *Instrument* applies only to *reporting issuers* engaged, directly or indirectly, in *oil and gas activities*.

1.4 *Materiality Standard*

- (1) This *Instrument* applies only in respect of information that is *material* in respect of a *reporting issuer*.
- (2) For the purpose of subsection (1), information is *material* in respect of a *reporting issuer* if it would be likely to influence a decision by a reasonable investor to buy, hold or sell a security of the *reporting issuer*.

PART 2 ANNUAL FILING REQUIREMENTS

2.1 Reserves Data and Other Oil and Gas Information - A reporting issuer must, not later than the date on which it is required by *securities legislation* to file audited financial statements for its most recent financial year, file with the *securities regulatory authority* the following:

1. **Statement of Reserves Data and Other Information** - a statement of the *reserves data* and other information specified in *Form 51-101F1*, as at the last day of the *reporting issuer's* most recent financial year and for the financial year then ended;
2. **Report of Independent Qualified Reserves Evaluator or Auditor** - a report in accordance with *Form 51-101F2* that is:
 - (a) included in, or filed concurrently with, the document filed under item 1; and
 - (b) executed by one or more *qualified reserves evaluators or auditors* each of whom is *independent* of the *reporting issuer*, who must in the aggregate have:
 - (i) *evaluated* or audited at least 75 percent of the *future net revenue* (calculated using a discount rate of 10 percent) attributable to *proved plus probable reserves*, as reported in the statement filed or to be filed under item 1; and
 - (ii) *reviewed* the balance of such *future net revenue*; and
3. **Report of Management and Directors** – a report in accordance with *Form 51-101F3* that
 - (a) refers to the information filed or to be filed under items 1 and 2;
 - (b) confirms the responsibility of management of the *reporting issuer* for the content and filing of the statement referred to in item 1 and for the filing of the report referred to in item 2;
 - (c) confirms the role of the board of directors in connection with the information referred to in paragraph (b);
 - (d) is contained in, or filed concurrently with, the statement filed under item 1; and
 - (e) is ~~executed by two senior officers and two~~ **signed**
 - (i) **by**

(A) the chief *executive officer*; and

(B) a person other than the chief *executive officer* that is an *executive officer of the reporting issuer*; and

(ii) on behalf of the board of directors, by

(A) any two directors of the *reporting issuer*, other than the persons referred to in subparagraph (i) above, or

(B) if the issuer has only three directors, two of whom are the persons referred to in subparagraph (i), all of the directors of the *reporting issuer*.

2.2 ~~News Release to Announce~~Notice of Filing -of 51-101F1 Information – A *reporting issuer* must, concurrently with filing a statement and reports under section 2.1, disseminate a news release announcing that filing and indicating where a copy of the filed information can be found for viewing by electronic means. **file with the securities regulatory authority a notice of filing of 51-101F1 information in accordance with Form 51-101F4.**

2.3 Inclusion in Annual Information Form - The requirements of section 2.1 may be satisfied by including the information specified in section 2.1 in an *annual information form* filed within the time specified in section 2.1.

2.4 Reservation in Report of Qualified Reserves Evaluator or Auditor

- (1) If a *qualified reserves evaluator or auditor* cannot report on *reserves data* without *reservation*, the *reporting issuer* must ensure that the report of the *qualified reserves evaluator or auditor* prepared for the purpose of item 2 of section 2.1 sets out the cause of the *reservation* and the effect, if known to the *qualified reserves evaluator or auditor*, on the *reserves data*.
- (2) A report containing a *reservation*, the cause of which can be removed by the *reporting issuer*, does not satisfy the requirements of item 2 of section 2.1.

2.5 Reporting Issuer Not a Corporation – if the reporting issuer is not a corporation, a report in accordance with Form 51-101F3 must be signed by the persons who, in relation to the reporting issuer, are in a similar position or perform similar functions to the persons required to sign under item 3 of section 2.1.

PART 3 RESPONSIBILITIES OF REPORTING ISSUERS AND DIRECTORS

3.1 Interpretation - A reference to a board of directors in this Part means, for a *reporting issuer* that does not have a board of directors, those individuals whose authority and duties in respect of that *reporting issuer* are similar to those of a board of directors.

- 3.2 Reporting Issuer to Appoint Independent Qualified Reserves Evaluator or Auditor** - A *reporting issuer* must appoint one or more *qualified reserves evaluators or auditors*, each of whom is *independent* of the *reporting issuer*, to report to the board of directors of the *reporting issuer* on its *reserves data*.
- 3.3 Reporting Issuer to Make Information Available to Qualified Reserves Evaluator or Auditor** - A *reporting issuer* must make available to the *qualified reserves evaluators or auditors* that it appoints under section 3.2 all information reasonably necessary to enable the *qualified reserves evaluators or auditors* to provide a report that will satisfy the applicable requirements of this *Instrument*.
- 3.4 Certain Responsibilities of Board of Directors** - The board of directors of a *reporting issuer* must
- (a) review, with reasonable frequency, the *reporting issuer's* procedures relating to the disclosure of information with respect to *oil and gas activities*, including its procedures for complying with the disclosure requirements and restrictions of this *Instrument*;
 - (b) review each appointment under section 3.2 and, in the case of any proposed change in such appointment, determine the reasons for the proposal and whether there have been disputes between the appointed *qualified reserves evaluator or auditor* and management of the *reporting issuer*;
 - (c) review, with reasonable frequency, the *reporting issuer's* procedures for providing information to the *qualified reserves evaluators or auditors* who report on *reserves data* for the purposes of this *Instrument*;
 - (d) before approving the filing of *reserves data* and the report of the *qualified reserves evaluators or auditors* thereon referred to in section 2.1, meet with management and each *qualified reserves evaluator or auditor* appointed under section 3.2, to
 - (i) determine whether any restrictions affect the ability of the *qualified reserves evaluator or auditor* to report on *reserves data* without reservation; and
 - (ii) review the *reserves data* and the report of the *qualified reserves evaluator or auditor* thereon; and
 - (e) review and approve
 - (i) the content and filing, under section 2.1, of the statement referred to in item 1 of section 2.1;
 - (ii) the filing, under section 2.1, of the report referred to in item 2 of section 2.1; and

- (iii) the content and filing, under section 2.1, of the report referred to in item 3 of section 2.1.

3.5 *Reserves Committee*

- (1) The board of directors of a *reporting issuer* may, subject to subsection (2), delegate the responsibilities set out in section 3.4 to a committee of the board of directors, provided that a majority of the members of the committee
 - (a) are individuals who are not and have not been, during the preceding 12 months:
 - (i) an officer or employee of the *reporting issuer* or of an affiliate of the *reporting issuer*;
 - (ii) a person who beneficially owns 10 percent or more of the outstanding voting securities of the *reporting issuer*; or
 - (iii) a relative of a person referred to in subparagraph (a)(i) or (ii), residing in the same home as that person; and
 - (b) are free from any business or other relationship which could reasonably be seen to interfere with the exercise of their independent judgement.
- (2) Despite subsection (1), a board of directors of a *reporting issuer* must not delegate its responsibility under paragraph 3.4(e) to approve the content or the filing of information.
- (3) A board of directors that has delegated responsibility to a committee pursuant to subsection (1) must solicit the recommendation of that committee as to whether to approve the content and filing of information for the purpose of paragraph 3.4(e).

3.6 **repealed**

PART 4 MEASUREMENT

4.1 **Accounting Methods** — ~~A *reporting issuer* engaged in oil and gas activities that discloses financial statements prepared in accordance with Canadian GAAP must~~ **repealed**

- ~~(a) — the full cost method of accounting, applying CICA Accounting Guideline 16; or~~
- ~~(b) — the successful efforts method of accounting, applying FAS 19.~~

4.2 **Consistency in Dates** - The date or period with respect to which the effects of an event or transaction are recorded in a *reporting issuer's* annual financial statements must be the

same as the date or period with respect to which they are first reflected in the *reporting issuer's annual reserves data* disclosure under Part 2.

PART 5 REQUIREMENTS APPLICABLE TO ALL DISCLOSURE

5.1 Application of Part 5 - This Part applies to disclosure made by or on behalf of a *reporting issuer*

- (a) to the public;
- (b) in any document filed with a *securities regulatory authority*; or
- (c) in other circumstances in which, at the time of making the disclosure, the *reporting issuer* knows, or ought reasonably to know, that the disclosure is or will become available to the public.

5.2 Disclosure of Reserves and Other Information - If a *reporting issuer* makes disclosure of *reserves* or other information of a type that is specified in *Form 51-101F1*, the *reporting issuer* must ensure that the disclosure satisfies the following requirements:

- (a) estimates of *reserves* or *future net revenue* must
 - (i) disclose the *effective date* of the estimate;
 - (ii) have been prepared or audited by a *qualified reserves evaluator or auditor*;
 - (iii) have been prepared or audited in accordance with the *COGE Handbook*;
 - (iv) have been made assuming that development of each *property* in respect of which the estimate is made will occur, without regard to the likely availability to the *reporting issuer* of funding required for that development; and
 - (v) in the case of estimates of *possible reserves* or related *future net revenue* disclosed in writing, also include a cautionary statement that is proximate to the estimate to the following effect:

“Possible reserves are those additional reserves that are less certain to be recovered than probable reserves. There is a 10% probability that the quantities actually recovered will equal or exceed the sum of proved plus probable plus possible reserves.”;

- (b) for the purpose of determining whether *reserves* should be attributed to a particular undrilled *property*, reasonably estimated future abandonment and reclamation costs related to the *property* must have been taken into account;
- (c) in disclosing aggregate *future net revenue* the disclosure must comply with the requirements for the determination of *future net revenue* specified in *Form 51-101F1*; and
- (d) the disclosure must be consistent with the corresponding information, if any, contained in the statement most recently filed by the *reporting issuer* with the *securities regulatory authority* under item 1 of section 2.1, except to the extent that the statement has been supplemented or superseded by a report of a material change³ filed by the *reporting issuer* with the *securities regulatory authority*.

5.3 Classification of Reserves and of Resources Classification Other than Reserves - Disclosure of *reserves* or of resources other than reserves must apply the ~~*reserves and resources*~~ terminology **for** and categories of reserves and of resources other than reserves set out in the *COGE Handbook* and must relate to the most specific category of *reserves* or of resources other than reserves in which the *reserves* or *resources* **other than reserves** can be classified.

5.4 *Oil and Gas Reserves and Sales* - Disclosure of *reserves* or of sales of *oil*, *gas* or associated by-products must be made only in respect of *marketable* quantities, reflecting the quantities and prices for the product in the condition (upgraded or not upgraded, processed or unprocessed) in which it is to be, or was, sold.

5.5 *Natural Gas By-Products* - Disclosure concerning *natural gas* by-products (including *natural gas liquids* and sulphur) must be made in respect only of volumes that have been or are to be recovered prior to the point at which *marketable gas* is measured.

5.6 *Future Net Revenue Not Fair Market Value* — Disclosure of an estimate of *future net revenue*, whether calculated without discount or using a discount rate, must include a statement to the effect that the estimated values disclosed do not represent fair market value.

5.7 *Consent of Qualified Reserves Evaluator or Auditor*

- (1) A *reporting issuer* must not disclose a report referred to in item 2 of section 2.1 that has been delivered to the board of directors of the *reporting issuer* by a *qualified reserves evaluator or auditor* pursuant to an appointment under section 3.2, or disclose information derived from the report or the identity of the *qualified*

³

"Material change" has the meaning ascribed to the term under *securities legislation* of the applicable *jurisdiction*.

reserves evaluator or auditor, without the written consent of that *qualified reserves evaluator or auditor*.

- (2) Subsection (1) does not apply to
- (a) the filing of that report by a *reporting issuer* under section 2.1;
 - (b) the use of or reference to that report in another document filed by the *reporting issuer* under section 2.1; or
 - (c) the identification of the report or of the *qualified reserves evaluator or auditor* in a news release referred to in section 2.2.

5.8 Disclosure of Less Than All Reserves - If a *reporting issuer* that has more than one *property* makes written disclosure of any *reserves* attributable to a particular *property*

- (a) the disclosure must include a cautionary statement to the effect that

"The estimates of reserves and future net revenue for individual properties may not reflect the same confidence level as estimates of reserves and future net revenue for all properties, due to the effects of aggregation"; and

- (b) the document containing the disclosure of any *reserves* attributable to one *property* must also disclose total *reserves* of the same classification for all *properties* of the *reporting issuer* in the same country (or, if appropriate and not misleading, in the same *foreign geographic area*).

5.9 Disclosure of Resources Other than Reserves

- (1) If a *reporting issuer* discloses *anticipated results* from *resources* which are not currently classified as *reserves*, the *reporting issuer* must also disclose in writing, in the same document or in a *supporting filing*:
- (a) the *reporting issuer's* interest in the *resources*;
 - (b) the location of the *resources*;
 - (c) the *product types* reasonably expected;
 - (d) the risks and the level of uncertainty associated with recovery of the *resources*; and
 - (e) in the case of *unproved property*, if its value is disclosed,

- (i) the basis of the calculation of its value; and
 - (ii) whether the value was prepared by an *independent* party.
- (2) If disclosure referred to in subsection (1) includes an estimate of a quantity of *resources* **other than reserves** in which the *reporting issuer* has an interest or intends to acquire an interest, or an estimated value attributable to an estimated quantity, the estimate must
- (a) have been prepared or audited by a *qualified reserves evaluator or auditor*;
 - (b) relate to the most specific category of *resources* ~~in which the *resources* can be classified, as set out in the *COGE Handbook*, and must identify what portion of the estimate is attributable to each category; and~~ **other than reserves as required by section 5.3;**

(b.1) have been prepared or audited in accordance with the *COGE Handbook*; and

- (c) be accompanied by the following information:
 - (i) a definition of the *resources* category used for the estimate;
 - (ii) the *effective date* of the estimate;
 - (iii) the significant positive and negative factors relevant to the estimate;
 - (iv) in respect of *contingent resources*, the specific contingencies which prevent the classification of the *resources* as *reserves*; and
 - (v) a cautionary statement that is proximate to the estimate to the effect that:
 - (A) in the case of *discovered resources* or a subcategory of *discovered resources* other than *reserves*:

“There is no certainty that it will be commercially viable to produce any portion of the resources.”; or
 - (B) in the case of *undiscovered resources* or a subcategory of *undiscovered resources*:

“There is no certainty that any portion of the resources will be discovered. If discovered, there is no certainty that it will be commercially viable to produce any portion of the resources.”

- (3) Paragraphs 5.9(1)(d) and (e) and subparagraphs 5.9(2)(c)(iii) and (iv) do not apply if:
- (a) the *reporting issuer* includes in the written disclosure a reference to the title and date of a previously filed document that complies with those requirements; and
 - (b) the *resources* in the written disclosure, taking into account the specific *properties* and interests reflected in the *resources* estimate or other *anticipated result*, are *materially* the same *resources* addressed in the previously filed document.

5.10 Analogous Information

- (1) Sections 5.2, ~~5.3~~**5.3, 5.9** and ~~5.9~~**5.16** do not apply to the disclosure of *analogous information* provided that the *reporting issuer* discloses the following:
- (a) the source and date of the *analogous information*;
 - (b) whether the source of the *analogous information* was *independent*;
 - (c) if the *reporting issuer* is unable to confirm that the *analogous information* was prepared by a *qualified reserves evaluator or auditor* or in accordance with the *COGE Handbook*, a cautionary statement to that effect proximate to the disclosure of the *analogous information*; and
 - (d) the relevance of the *analogous information* to the *reporting issuer's oil and gas activities*.
- (2) For greater certainty, if a *reporting issuer* discloses information that is an *anticipated result*, an estimate of a quantity of *reserves* or *resources*, or an estimate of value attributable to an estimated quantity of *reserves* or *resources* for an area in which it has an interest or intends to acquire an interest, that is based on an extrapolation from *analogous information*, sections 5.2, ~~5.3~~**5.3, 5.9** and ~~5.9~~**5.16** apply to the disclosure of the information.

5.11 Net Asset Value and Net Asset Value per Share — Written disclosure of net asset value or net asset value per share must include a description of the methods used to value assets and liabilities and the number of shares used in the calculation.

5.12 Reserve Replacement - Written disclosure concerning *reserve* replacement must include an explanation of the method of calculation applied.

5.13 Netbacks - Written disclosure of a netback must

- (a) **repealed**
- (b) reflect netbacks calculated by subtracting royalties and *operating costs* from revenues; and
- (c) state the method of calculation.

5.14 BOEs and McfGEs - If written disclosure includes information expressed in *BOEs*, *McfGEs* or other units of equivalency between *oil* and *gas*

- (a) the information must be presented
 - (i) in the case of *BOEs*, using *BOEs* derived by converting *gas* to *oil* in the ratio of six thousand cubic feet of *gas* to one barrel of *oil* (6 *Mcf*:1 *bbl*);
 - (ii) in the case of *McfGEs*, using *McfGEs* derived by converting *oil* to *gas* in the ratio of one barrel of *oil* to six thousand cubic feet of *gas* (1 *bbl*:6 *Mcf*); and
 - (iii) with the conversion ratio stated;
- (b) if the information is also presented using *BOEs* or *McfGEs* derived using a conversion ratio other than a ratio specified in paragraph (a), the disclosure must state that other conversion ratio and explain why it has been chosen;
- (c) if the information is presented using a unit of equivalency other than *BOEs* or *McfGEs*, the disclosure must identify the unit, state the conversion ratio used and explain why it has been chosen; and
- (d) the disclosure must include a cautionary statement to the effect that:

““BOEs [or “*McfGEs*”] or other applicable units of equivalency] may be misleading, particularly if used in isolation. A BOE conversion ratio of 6 *Mcf*: 1 *bbl* [or “An *McfGE* conversion ratio of 1 *bbl*: 6 *Mcf*”] is based on an energy equivalency conversion method primarily applicable at the burner tip and does not represent a value equivalency at the wellhead””.

5.15 Finding and Development Costs - If written disclosure is made of finding and *development costs*:

- (a) those costs must be calculated using the following two methods, in each case after eliminating the effects of acquisitions and dispositions:

$$\text{Method 1:} \quad \frac{a+b+c}{x}$$

$$\text{Method 2:} \quad \frac{a+b+d}{y}$$

where a = *exploration costs* incurred in the most recent financial year
b = *development costs* incurred in the most recent financial year
c = the change during the most recent financial year in estimated future *development costs* relating to *proved reserves*
d = the change during the most recent financial year in estimated future *development costs* relating to *proved reserves* and *probable reserves*
x = additions to *proved reserves* during the most recent financial year, expressed in *BOEs* or other unit of equivalency
y = additions to *proved reserves* and *probable reserves* during the most recent financial year, expressed in *BOEs* or other unit of equivalency

- (b) the disclosure must include
- (i) the results of both methods of calculation under paragraph (a) and a description of those methods;
 - (ii) if the disclosure also includes a result derived using any other method of calculation, a description of that method and the reason for its use;
 - (iii) for each result, comparative information for the most recent financial year, the second most recent financial year and the averages for the three most recent financial years;
 - (iv) a cautionary statement to the effect that:

"“The aggregate of the exploration and development costs incurred in the most recent financial year and the change during that year in estimated future development costs generally will not reflect total finding and development costs related to reserves additions for that year””; and
 - (v) the cautionary statement required under paragraph 5.14(d).

5.16 Prohibition Against Addition Across Resource Categories

- (1) A reporting issuer must not disclose a summation of any combination of an estimate of quantity or value of any two or more of the following:
- (a) reserves;
 - (b) contingent resources;
 - (c) prospective resources;
 - (d) the unrecoverable portion of discovered petroleum initially-in-place;
 - (e) the unrecoverable portion of undiscovered petroleum initially-in-place;
 - (f) discovered petroleum initially-in-place; and
 - (g) undiscovered petroleum initially-in-place.
- (2) Notwithstanding subsection (1), a reporting issuer may disclose an estimate of total petroleum initially-in-place, discovered petroleum initially-in-place and undiscovered petroleum initially-in-place if:
- (a) the estimate of quantity or value of all subcategories are also disclosed, including the unrecoverable portion(s); and
 - (b) there is a cautionary statement that is proximate to the estimate, in bold font, to the effect that:

“ The [total petroleum initially-in-place, discovered petroleum initially-in-place or undiscovered petroleum initially-in-place,] includes unrecoverable volumes and is not an estimate of the [value or volume] of the substances that will ultimately be recovered.”

5.17 Disclosure of High- and Low-Case Estimates of Reserves and of Resources other than Reserves

- (1) If a reporting issuer discloses an estimate of proved + probable + possible reserves, the reporting issuer must also disclose the corresponding estimates of proved and proved + probable reserves.
- (2) If a reporting issuer discloses a high-case estimate, the reporting issuer must also disclose the corresponding low- and best-case estimates.

PART 6 MATERIAL CHANGE DISCLOSURE

6.1 Material Change⁴ from Information Filed under Part 2

- (1) This Part applies in respect of a material change that, had it occurred on or before the *effective date* of information included in the statement most recently filed by a *reporting issuer* under item 1 of section 2.1, would have resulted in a significant change in the information contained in the statement.
- (2) In addition to any other requirement of *securities legislation* governing disclosure of a material change, disclosure of a material change referred to in subsection (1) must discuss the *reporting issuer's* reasonable expectation of how the material change has affected its *reserves* data or other information.

PART 7 OTHER INFORMATION

- 7.1 Information to be Furnished on Request** - A *reporting issuer* must, on the request of the *regulator*, deliver additional information with respect to the content of a document filed under this *Instrument*.

PART 8 EXEMPTIONS

8.1 Authority to Grant Exemption

- (1) The *regulator* or the *securities regulatory authority* may grant an exemption from this *Instrument*, in whole or in part, subject to such conditions or restrictions as may be imposed in the exemption.
- (2) Despite subsection (1), in Ontario only the *regulator* may grant an exemption.

8.2 Exemption for Certain Exchangeable Security Issuers

- (1) An exchangeable security issuer, as defined in subsection 13.3(1) of *NI 51-102*, is exempt from this *Instrument* if all of the requirements of subsection 13.3(2) of *NI 51-102* are satisfied;
- (2) For the purposes of subsection (1), the reference to “continuous disclosure documents” in clause 13.3(2)(d)(ii)(A) of *NI 51-102* includes documents filed ~~in accordance with~~under this *Instrument*.

⁴ In this Part, "material change" has the meaning ascribed to the term under *securities legislation* of the applicable *jurisdiction*.

PART 9 INSTRUMENT IN FORCE

9.1 Coming Into Force - This *Instrument* comes into force on September 30, 2003.

9.2 Transition—Despite section 9.1, this *Instrument* does not apply to a *reporting issuer* until the earlier of: repealed

(a) —the date by which the *reporting issuer* is required under *securities legislation* to file audited annual financial statements for its financial year that includes or ends on December 31, 2003; and

(b) —the first date on which the *reporting issuer* files with the *securities regulatory authority* the statement referred to in item 1 of section 2.1.

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Document comparison by Workshare Professional on Friday, September 11, 2009 13:32:18

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Document 2 ID	PowerDocs://ASC_LIB1/3282674/5
Description	ASC_LIB1-#3282674-v5-NI_51-101_AMENDMENT_2009-2010
Rendering set	ASC Standard

Legend:	
<u>Insertion</u>	
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Inserted cell	
Deleted cell	
Moved cell	
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Padding cell	

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Moved from	0
Moved to	0
Style change	0
Format changed	0
Total changes	157

FORM 51-101F1
STATEMENT OF RESERVES DATA
AND OTHER OIL AND GAS INFORMATION

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FORM 51-101F1
STATEMENT OF RESERVES DATA
AND OTHER OIL AND GAS INFORMATION

This is the form referred to in item 1 of section 2.1 of National Instrument 51-101 Standards of Disclosure for Oil and Gas Activities ("NI 51-101").

GENERAL INSTRUCTIONS

- (1) *Terms for which a meaning is given in NI 51-101 have the same meaning in this Form 51-101F1¹.*
- (2) *Unless otherwise specified in this Form 51-101F1, information under item 1 of section 2.1 of NI 51-101 must be provided as at the last day of the reporting issuer's most recent financial year or for its financial year then ended.*
- (3) *~~It is not necessary to include the headings or~~ **The** numbering, ~~or to follow the headings and~~ ordering of ~~Items,~~ **items included** in this Form 51-101F1 **are guidelines only.** Information may be provided in tables.*
- (4) *To the extent that any Item or any component of an Item specified in this Form 51-101F1 does not apply to a reporting issuer and its activities and operations, or is not material, no reference need be made to that Item or component. It is not necessary to state that such an Item or component is "not applicable" or "not material". Materiality is discussed in NI 51-101 and Companion Policy 51-101CP.*
- (5) *This Form 51-101F1 sets out minimum requirements. A reporting issuer may provide additional information not required in this Form 51-101F1 provided that it is not misleading and not inconsistent with the requirements of NI 51-101, and provided that material information required to be disclosed is not omitted.*
- (6) *A reporting issuer may satisfy the requirement of this Form 51-101F1 for disclosure of information "by country" by instead providing information by **foreign geographic area** in respect of countries outside North America as may be appropriate for meaningful disclosure in the circumstances.*
- (7) ***If a reporting issuer discloses financial information in a currency other than the Canadian dollar, clearly, and as frequently as is appropriate to avoid confusing or misleading readers, disclose the currency in which the financial information is disclosed.***

¹ For the convenience of readers, CSA Staff Notice 51-324 Glossary to NI 51-101 Standards of Disclosure for Oil and Gas Activities sets out the meanings of terms that are printed in italics (or, in the Instructions, in bold type) in this Form 51-101F1 or in NI 51-101, Form 51-101F2, Form 51-101F3 or Companion Policy 51-101CP.

(8) Reporting Issuers should refer to the COGE Handbook for the proper reporting of units of measurement. Reporting issuers should not, without compelling reason, switch between imperial units of measure (such as barrels) and Système International (SI) units of measurement (such as tonnes) within or between disclosure documents.

PART 1 DATE OF STATEMENT

Item 1.1 Relevant Dates

1. Date the statement.
2. Disclose the *effective date* of the information being provided.
3. Disclose the *preparation date* of the information being provided.

INSTRUCTIONS

- (1) For the purpose of Part 2 of **NI 51-101**, and consistent with the definition of **reserves data** and General Instruction (2) of this **Form 51-101F1**, the **effective date** to be disclosed under section 2 of Item 1.1 is the last day of the **reporting issuer's** most recent financial year. ~~It is the date of the balance sheet for the reporting issuer's most recent financial year (for example, "as at December 31, 20xx") and the ending date of the reporting issuer's most recent annual statement of income (for example, "for the year ended December 31, 20xx").~~
- (2) The same **effective date** applies to **reserves** of each category reported and to related **future net revenue**. References to a change in an item of information, such as changes in **production** or a change in **reserves**, mean changes in respect of that item during the year ended on the **effective date**.
- (3) The **preparation date**, in respect of written disclosure, means the most recent date to which information relating to the period ending on the **effective date** was considered in the preparation of the disclosure. The **preparation date** is a date subsequent to the **effective date** because it takes time after the end of the financial year to assemble the information for that completed year that is needed to prepare the required disclosure as at the end of the financial year.
- (4) Because of the interrelationship between certain of the **reporting issuer's** **reserves data** and other information referred to in this **Form 51-101F1** and certain of the information included in its financial statements, the **reporting issuer** should ensure that its financial auditor and its **qualified reserves evaluators or auditors** are kept apprised of relevant events and transactions, and should facilitate communication between them.
- (5) If the **reporting issuer** provides information as at a date more recent than the **effective date**, in addition to the information required as at the **effective date**, also

disclose the date as at which that additional information is provided. The provision of such additional information does not relieve the reporting issuer of the obligation to provide information as at the effective date.

PART 2 DISCLOSURE OF RESERVES DATA

Item 2.1 Reserves Data (Forecast Prices and Costs)

1. Breakdown of Reserves (Forecast Case) – Disclose, by country and in the aggregate, reserves, gross and net, estimated using *forecast prices and costs*, for each *product type*, in the following categories:
 - (a) *proved developed producing reserves*;
 - (b) *proved developed non-producing reserves*;
 - (c) *proved undeveloped reserves*;
 - (d) *proved reserves (in total)*;
 - (e) *probable reserves (in total)*;
 - (f) *proved plus probable reserves (in total)*; and
 - (g) if the *reporting issuer* discloses an estimate of *possible reserves* in the statement:
 - (i) *possible reserves (in total)*; and
 - (ii) *proved plus probable plus possible reserves (in total)*.
2. Net Present Value of Future Net Revenue (Forecast Case) – Disclose, by country and in the aggregate, the net present value of *future net revenue* attributable to the *reserves* categories referred to in section 1 of this Item, estimated using *forecast prices and costs*, before and after deducting *future income tax expenses*, calculated without discount and using discount rates of 5 percent, 10 percent, 15 percent and 20 percent. Also disclose the same information on a unit value basis (e.g., \$/Mcf or \$/bbl using *net reserves*) using a discount rate of 10 percent and calculated before deducting *future income tax expenses*. This unit value disclosure requirement may be satisfied by including the unit value disclosure for each category of *proved reserves* and for *probable reserves* in the disclosure referred to in paragraph 3(c) of Item 2.1.
3. Additional Information Concerning Future Net Revenue (Forecast Case)
 - (a) This section 3 applies to *future net revenue* attributable to each of the following *reserves* categories estimated using *forecast prices and costs*:
 - (i) *proved reserves (in total)*;

- (ii) *proved plus probable reserves* (in total); and
 - (iii) if paragraph 1(g) of this Item applies, *proved plus probable plus possible reserves* (in total).
- (b) Disclose, by country and in the aggregate, the following elements of *future net revenue* estimated using *forecast prices and costs* and calculated without discount:
- (i) revenue;
 - (ii) royalties;
 - (iii) *operating costs*;
 - (iv) *development costs*;
 - (v) abandonment and reclamation costs;
 - (vi) *future net revenue* before deducting *future income tax expenses*;
 - (vii) *future income tax expenses*; and
 - (viii) *future net revenue* after deducting *future income tax expenses*.
- (c) Disclose, by *production group* and on a unit value basis for each *production group* (e.g., \$/Mcf or \$/bbl using *net reserves*), the net present value of *future net revenue* (before deducting *future income tax expenses*) estimated using *forecast prices and costs* and calculated using a discount rate of 10 percent.

Item 2.2 Supplemental Disclosure of Reserves Data (~~Constant Prices and Costs~~)

The *reporting issuer* may supplement its disclosure of *reserves data* under Item 2.1 by also disclosing the components of Item 2.1 in respect of its ~~*proved reserves* or its *proved and probable reserves*~~, using ~~*constant prices and costs*~~ as at the last day of the *reporting issuer's* most recent financial year **2.1, using prices and costs determined in a manner consistent with the relevant US oil and gas disclosure requirements.**

Item 2.3 Reserves Disclosure Varies with Accounting

In determining *reserves* to be disclosed:

- (a) Consolidated Financial Disclosure – if the *reporting issuer* files consolidated financial statements:
 - (i) include 100 percent of *reserves* attributable to the parent company and 100 percent of the *reserves* attributable to its consolidated subsidiaries (whether or not wholly-owned); and

- (ii) if a significant portion of *reserves* referred to in clause (i) is attributable to a consolidated subsidiary in which there is a significant ~~minority~~**non-controlling** interest, disclose that fact and the approximate portion of such *reserves* attributable to the ~~minority~~**non-controlling** interest;
- (b) Proportionate Consolidation – if the *reporting issuer* files financial statements in which investments are proportionately consolidated, the *reporting issuer's* disclosed *reserves* must include the *reporting issuer's* proportionate share of investees' *oil* and *gas reserves*; and
- (c) Equity Accounting – if the *reporting issuer* files financial statements in which investments are accounted for by the equity method, do not include investees' *oil* and *gas reserves* in disclosed *reserves* of the *reporting issuer*, but disclose the *reporting issuer's* share of investees' *oil* and *gas reserves* separately.

Item 2.4 Future Net Revenue Disclosure Varies with Accounting

- 1. Consolidated Financial Disclosure – If the *reporting issuer* files consolidated financial statements, and if a significant portion of the *reporting issuer's* economic interest in *future net revenue* is attributable to a consolidated subsidiary in which there is a significant ~~minority~~**non-controlling** interest, disclose that fact and the approximate portion of the economic interest in *future net revenue* attributable to the ~~minority~~**non-controlling** interest.
- 2. Equity Accounting – If the *reporting issuer* files financial statements in which investments are accounted for by the equity method, do not include investees' *future net revenue* in disclosed *future net revenue* of the *reporting issuer*, but disclose the *reporting issuer's* share of investees' *future net revenue* separately, by country and in the aggregate.

INSTRUCTIONS

- (1) Do not include, in ***reserves, oil*** or ***gas*** that is subject to purchase under a long-term supply, purchase or similar agreement. However, if the ***reporting issuer*** is a party to such an agreement with a government or governmental authority, and participates in the operation of the ***properties*** in which the ***oil*** or ***gas*** is situated or otherwise serves as "producer" of the ***reserves*** (in contrast to being an independent purchaser, broker, dealer or importer), disclose separately the ***reporting issuer's*** interest in the ***reserves*** that are subject to such agreements at the ***effective date*** and the ***net quantity of oil*** or ***gas*** received by the ***reporting issuer*** under the agreement during the year ended on the ***effective date***.
- (2) ***Future net revenue*** includes the portion attributable to the ***reporting issuer's*** interest under an agreement referred to in Instruction (1).
- (3) ~~***Constant prices and costs***~~ are prices and costs used in an estimate that ~~are~~**repealed**.

~~(a) — the **reporting issuer's** prices and costs as at the **effective date** of the estimation, held constant throughout the estimated lives of the **properties** to which the estimate applies;~~

~~(a) — if, and only to the extent that, there are fixed or presently determinable future prices or costs to which the **reporting issuer** is legally bound by a contractual or other obligation to supply a physical product, including those for an extension period of a contract that is likely to be extended, those prices or costs rather than the prices and costs referred to in paragraph (a).~~

~~For the purpose of paragraph (a), the **reporting issuer's** prices will be the posted price for oil and the spot price for gas, after historical adjustments for transportation, gravity and other factors.~~

PART 3 PRICING ASSUMPTIONS

Item 3.1 Constant Prices Used in Supplemental Estimates

If supplemental disclosure under Item 2.2 is made, then disclose, for each *product type*, the benchmark reference prices for the countries or regions in which the *reporting issuer* operates, ~~as at the last day of the *reporting issuer's* most recent financial year, reflected in the *reserves data* disclosed in response to Item 2.2.~~ as determined in a manner consistent with the relevant US oil and gas disclosure requirements.

Item 3.2 Forecast Prices Used in Estimates

1. For each *product type*, disclose:
 - (a) the pricing assumptions used in estimating *reserves data* disclosed in response to Item 2.1:
 - (i) for each of at least the following five financial years; and
 - (ii) generally, for subsequent periods; and
 - (b) the *reporting issuer's* weighted average historical prices for the most recent financial year.
2. The disclosure in response to section 1 must include the benchmark reference pricing schedules for the countries or regions in which the *reporting issuer* operates, and inflation and other forecast factors used.
3. If the pricing assumptions specified in response to section 1 were provided by a *qualified reserves evaluator or auditor* who is *independent* of the *reporting issuer*, disclose that fact and identify the *qualified reserves evaluator or auditor*.

INSTRUCTIONS

- (1) *Benchmark reference prices may be obtained from sources such as public product trading exchanges or prices posted by purchasers.*
- (2) *The term "~~constant prices and costs~~" and the defined term "**forecast prices and costs**" ~~include~~includes any fixed or presently determinable future prices or costs to which the **reporting issuer** is legally bound by a contractual or other obligation to supply a physical product, including those for an extension period of a contract that is likely to be extended. In effect, such contractually committed prices override benchmark reference prices for the purpose of estimating **reserves data**. To ensure that disclosure under this Part is not misleading, the disclosure should reflect such contractually committed prices.*
- (3) *Under subsection 5.7(1) of NI 51-101, the **reporting issuer** must obtain the written consent of the **qualified reserves evaluator or auditor** to disclose his or her identity in response to section 3 of this Item.*

PART 4 RECONCILIATION OF CHANGES IN RESERVES

Item 4.1 Reserves Reconciliation

1. Provide the information specified in section 2 of this Item in respect of the following reserves categories:
 - (a) *gross proved reserves* (in total);
 - (b) *gross probable reserves* (in total); and
 - (c) *gross proved plus probable reserves* (in total).
2. Disclose changes between the reserves estimates made as at the *effective date* and the corresponding estimates ("prior-year estimates") made as at the last day of the preceding financial year of the *reporting issuer*:
 - (a) by country;
 - (b) for each of the following:
 - (i) *light and medium crude oil* (combined);
 - (ii) *heavy oil*;
 - (iii) *associated gas* and *non-associated gas* (combined);
 - (iv) *synthetic oil*;
 - (v) *bitumen*;

- (vi) coal bed methane;
 - (vii) hydrates;
 - (viii) shale oil; and
 - (ix) shale gas;
- (c) separately identifying and explaining:
- (i) extensions and improved recovery;
 - (ii) technical revisions;
 - (iii) discoveries;
 - (iv) acquisitions;
 - (v) dispositions;
 - (vi) economic factors; and
 - (vii) *production*.

INSTRUCTIONS

- (1) *The reconciliation required under this Item 4.1 must be provided in respect of **reserves** estimated using **forecast prices and costs**, with the price and cost case indicated in the disclosure.*
- (2) *For the purpose of this Item 4.1, it is sufficient to provide the information in respect of the products specified in paragraph 2(b), excluding **solution gas**, **natural gas liquids** and other associated by-products.*
- (3) *The **COGE Handbook** provides guidance on the preparation of the reconciliation required under this Item 4.1.*
- (4) ***Reporting issuers** must not include infill drilling **reserves** in the category of technical revisions specified in clause 2(c)(ii). **Reserves** additions from infill drilling must be included in the category of extensions and improved recovery in clause 2(c)(i) (or, alternatively, in an additional separate category under paragraph 2(c) labelled “infill drilling”).*

PART 5 ADDITIONAL INFORMATION RELATING TO RESERVES DATA

Item 5.1 *Undeveloped Reserves*

1. For *proved undeveloped reserves*:
 - (a) disclose for each *product type* the volumes of *proved undeveloped reserves* that were first attributed in each of the most recent three financial years and, in the aggregate, before that time; and
 - (b) discuss generally the basis on which the *reporting issuer* attributes *proved undeveloped reserves*, its plans (including timing) for developing the *proved undeveloped reserves* and, if applicable, its reasons for not planning to develop particular *proved undeveloped reserves* during the following two years.
2. For *probable undeveloped reserves*:
 - (a) disclose for each *product type* the volumes of *probable undeveloped reserves* that were first attributed in each of the most recent three financial years and, in the aggregate, before that time; and
 - (b) discuss generally the basis on which the *reporting issuer* attributes *probable undeveloped reserves*, its plans (including timing) for developing the *probable undeveloped reserves* and, if applicable, its reasons for not planning to develop particular *probable undeveloped reserves* during the following two years.

Item 5.2 Significant Factors or Uncertainties Affecting Reserves Data

1. Identify and discuss ~~important~~**significant** economic factors or significant uncertainties that affect particular components of the *reserves data*.
2. Section 1 does not apply if the information is disclosed in the *reporting issuer's* financial statements for the financial year ended on the *effective date*.

INSTRUCTION

*Examples of information that could warrant disclosure under this Item 5.2 include unusually high expected **development costs** or **operating costs**, ~~the need to build a major pipeline or other major facility before **production** of reserves can begin~~, or contractual obligations to **produce** and sell a significant portion of **production** at prices substantially below those which could be realized but for those contractual obligations.*

Item 5.3 Future Development Costs

1. (a) Provide the information specified in paragraph 1(b) in respect of *development costs* deducted in the estimation of *future net revenue* attributable to each of the following *reserves* categories:

- (i) *proved reserves* (in total) estimated using *forecast prices and costs*; and
 - (ii) *proved plus probable reserves* (in total) estimated using *forecast prices and costs*.
 - (b) Disclose, by country, the amount of *development costs* estimated:
 - (i) in total, calculated using no discount; and
 - (ii) by year for each of the first five years estimated.
2. Discuss the *reporting issuer's* expectations as to:
- (a) the sources (including internally-generated cash flow, debt or equity financing, farm-outs or similar arrangements) and costs of funding for estimated future *development costs*; and
 - (b) the effect of those costs of funding on disclosed *reserves* or *future net revenue*.
3. If the *reporting issuer* expects that the costs of funding referred to in section 2, could make development of a *property* uneconomic for that *reporting issuer*, disclose that expectation and its plans for the *property*.

PART 6 OTHER OIL AND GAS INFORMATION

Item 6.1 Oil and Gas Properties and Wells

1. Identify and describe generally the *reporting issuer's* important *properties*, plants, facilities and installations:
- (a) identifying their location (province, territory or state if in Canada or the United States, and country otherwise);
 - (b) indicating whether they are located onshore or offshore;
 - (c) in respect of *properties* to which *reserves* have been attributed and which are capable of *producing* but which are not *producing*, disclosing how long they have been in that condition and discussing the general proximity of pipelines or other means of transportation; and
 - (d) describing any statutory or other mandatory relinquishments, surrenders, back-ins or changes in ownership.
1. ~~2.~~ State, separately for *oil* wells and *gas* wells, the number of the *reporting issuer's* producing wells and non-producing wells, expressed in terms of both *gross* wells and *net* wells, by location (province, territory or state if in Canada or the United States, and country otherwise).

Item 6.2 Properties With No Attributed Reserves

1. For *unproved properties* disclose:
 - (a) the *gross* area (acres or hectares) in which the *reporting issuer* has an interest;
 - (b) the interest of the *reporting issuer* therein expressed in terms of net area (acres or hectares);
 - (c) the location, by country; and
 - (d) the existence, nature (including any bonding requirements), timing and cost (specified or estimated) of any work commitments.
2. Disclose, by country, the *net* area (acres or hectares) of *unproved property* for which the *reporting issuer* expects its rights to explore, develop and exploit to expire within one year.

INSTRUCTION

If a reporting issuer holds interests in different formations under the same surface area pursuant to separate leases, disclose the method of calculating the gross and net area. For example, if the reporting issuer has included the area of each of its leases in its calculation of net area despite the fact that certain leases will pertain to the same surface area, disclose that fact. A general description of the method of calculating the area will suffice.

Item 6.2.1 Significant Factors or Uncertainties Relevant to Properties With No Attributed Reserves

- 1. Identify and discuss significant economic factors or significant uncertainties that affect the anticipated development or production activities on properties with no attributed reserves.**
- 2. Section 1 does not apply if the information is disclosed in the reporting issuer's financial statements for the financial year ended on the effective date.**

INSTRUCTION

Examples of information that could warrant disclosure under this Item 6.2.1 include unusually high expected development costs or operating costs or the need to build a major pipeline or other major facility before production can begin.

Item 6.3 Forward Contracts

1. If the *reporting issuer* is bound by an agreement (including a transportation agreement), directly or through an aggregator, under which it may be precluded from fully realizing, or may be protected from the full effect of, future market prices for *oil* or *gas*, describe

generally the agreement, discussing dates or time periods and summaries or ranges of volumes and contracted or reasonably estimated values.

2. Section 1 does not apply to agreements **specifically** disclosed by the *reporting issuer*
 - (a) ~~as financial instruments, in accordance with Section 3861 of the *CICA Handbook*;~~
or
 - (b) ~~as contractual obligations or commitments, in accordance with Section 3280 of the *CICA Handbook*.~~ **in its financial statements for the financial year ended on the effective date.**
- 1.** ~~3.~~ If the *reporting issuer's* transportation obligations or commitments for future physical deliveries of *oil* or *gas* exceed the *reporting issuer's* expected related future *production* from its *proved reserves*, estimated using *forecast prices and costs* and disclosed under Part 2, discuss such excess, giving information about the amount of the excess, dates or time periods, volumes and reasonably estimated value.

Item 6.4 Additional Information Concerning Abandonment and Reclamation Costs

In respect of abandonment and reclamation costs for surface *leases*, wells, facilities and pipelines, disclose:

- (a) how the *reporting issuer* estimates such costs;
- (b) the number of *net* wells for which the *reporting issuer* expects to incur such costs;
- (c) the total amount of such costs, net of estimated salvage value, expected to be incurred, calculated without discount and using a discount rate of 10 percent;
- (d) the portion, if any, of the amounts disclosed under paragraph (c) of this Item 6.4 that was not deducted as abandonment and reclamation costs in estimating the *future net revenue* disclosed under Part 2; and
- (e) the portion, if any, of the amounts disclosed under paragraph (c) of this Item 6.4 that the *reporting issuer* expects to pay in the next three financial years, in total.

INSTRUCTION

*Item 6.4 supplements the information disclosed in response to clause 3(b)(v) of Item 2.1. The response to paragraph (d) of Item 6.4 should enable a reader of this statement and of the **reporting issuer's** financial statements for the financial year ending on the **effective date** to understand both the **reporting issuer's** estimated total abandonment and reclamation costs, and what portions of that total are, and are not, reflected in the disclosed **reserves data**.*

Item 6.5 Tax Horizon

If the *reporting issuer* is not required to pay income taxes for its most recently completed financial year, discuss its estimate of when income taxes may become payable.

Item 6.6 Costs Incurred

1. Disclose each of the following, by country, for the most recent financial year (irrespective of whether such costs were capitalized or charged to expense when incurred):
 - (a) *property acquisition costs*, separately for *proved properties* and *unproved properties*;
 - (b) *exploration costs*; and
 - (c) *development costs*.
2. For the purpose of this Item 6.6, if the *reporting issuer* files financial statements in which investments are accounted for by the equity method, disclose by country the *reporting issuer's* share of investees' (i) *property acquisition costs*, (ii) *exploration costs* and (iii) *development costs* incurred in the most recent financial year.

Item 6.7 Exploration and Development Activities

1. Disclose, by country and separately for *exploratory wells* and *development wells*:
 - (a) the number of *gross wells* and *net wells* completed in the *reporting issuer's* most recent financial year; and
 - (b) for each category of wells for which information is disclosed under paragraph (a), the number completed as *oil wells*, *gas wells* and *service wells* **and stratigraphic test wells** and the number that were dry holes.
2. Describe generally the *reporting issuer's* most important current and likely exploration and development activities, by country.

Item 6.8 Production Estimates

1. Disclose, by country, for each *product type*, the volume of *production* estimated for the first year reflected in the estimates of *gross proved reserves* and *gross probable reserves* disclosed under Item 2.1.
2. If one *field* accounts for 20 percent or more of the estimated *production* disclosed under section 1, identify that *field* and disclose the volume of *production* estimated for the *field* for that year.

Item 6.9 *Production History*

1. To the extent not previously disclosed in financial statements filed by the *reporting issuer*, disclose, for each quarter of its most recent financial year, by country for each *product type*:
 - (a) the *reporting issuer's* share of average gross daily *production* volume, ~~before deduction of royalties~~; and
 - (b) as an average per unit of volume (for example, \$/bbl or \$/Mcf):
 - (i) the prices received;
 - (ii) royalties paid;
 - (iii) *production costs*; and
 - (iv) the resulting netback.
2. For each important *field*, and in total, disclose the *reporting issuer's* *production* volumes for the most recent financial year, for each *product type*.

INSTRUCTION

*In providing information for each **product type** for the purpose of Item 6.9, it is not necessary to allocate among multiple **product types** attributable to a single well, **reservoir** or other **reserves** entity. It is sufficient to provide the information in respect of the principal **product type** attributable to the well, **reservoir** or other **reserves** entity. Resulting netbacks may be disclosed on the basis of units of equivalency between **oil** and **gas** (e.g. **BOE**) but if so that must be made clear and disclosure must comply with section 5.14 of **NI 51-101**.*

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FORM 51-101F2
REPORT ON RESERVES DATA
BY
INDEPENDENT QUALIFIED RESERVES
EVALUATOR OR AUDITOR

This is the form referred to in item 2 of section 2.1 of National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities* ("NI 51-101").

1. Terms to which a meaning is ascribed in *NI 51-101* have the same meaning in this form.¹
2. The report on *reserves data* referred to in item 2 of section 2.1 of *NI 51-101*, to be executed by one or more *qualified reserves evaluators or auditors independent* of the *reporting issuer*, must in all material respects be as follows:

Report on Reserves Data

To the board of directors of [name of reporting issuer] (the "Company"):

1. We have [audited] [evaluated] [and reviewed] the Company's reserves data as at [last day of the reporting issuer's most recently completed financial year]. The reserves data are estimates of proved reserves and probable reserves and related future net revenue as at [last day of the reporting issuer's most recently completed financial year], estimated using forecast prices and costs.
2. The reserves data are the responsibility of the Company's management. Our responsibility is to express an opinion on the reserves data based on our [audit] [evaluation] [and review].

We carried out our [audit] [evaluation] [and review] in accordance with standards set out in the Canadian Oil and Gas Evaluation Handbook (the "COGE Handbook") prepared jointly by the Society of Petroleum Evaluation Engineers (Calgary Chapter) and the Canadian Institute of Mining, Metallurgy & Petroleum (Petroleum Society).

3. Those standards require that we plan and perform an [audit] [evaluation] [and review] to obtain reasonable assurance as to whether the reserves data are free of material misstatement. An [audit] [evaluation] [and review] also includes assessing whether the reserves data are in accordance with principles and definitions presented in the COGE Handbook.
4. The following table sets forth the estimated future net revenue (before deduction of income taxes) attributed to proved plus probable reserves, estimated using forecast prices and costs and calculated using a discount rate of 10 percent, included in the reserves data of the Company [audited] [evaluated] [and reviewed] by us for the year ended xxx xx,

¹ For the convenience of readers, CSA Staff Notice 51-324 *Glossary to NI 51-101 Standards of Disclosure for Oil and Gas Activities* sets out the meanings of terms that are printed in italics in sections 1 and 2 of this Form or in *NI 51-101, Form 51-101F1, Form 51-101F3* or Companion Policy 51-101CP.

20xx, and identifies the respective portions thereof that we have [audited] [evaluated] [and reviewed] and reported on to the Company's [management/board of directors]:

Independent Qualified Reserves Evaluator or Auditor	Description and Preparation Date of [Audit/ Evaluation/ Review] Report	Location of Reserves (Country or Foreign Geographic Area)	Net Present Value of Future Net Revenue (before income taxes, 10% discount rate)			
			Audited	Evaluated	Reviewed	Total
Evaluator A	xxx xx, 20xx	xxxx	\$xxx	\$xxx	\$xxx	\$xxx
Evaluator B	xxx xx, 20xx	xxxx	xxx	xxx	xxx	xxx
Totals			<u>\$xxx</u>	<u>\$xxx</u>	<u>\$xxx</u>	<u>\$xxx²</u>

5. In our opinion, the reserves data respectively [audited] [evaluated] by us have, in all material respects, been determined and are in accordance with the COGE Handbook, **consistently applied**. We express no opinion on the reserves data that we reviewed but did not audit or evaluate.
6. We have no responsibility to update our reports referred to in paragraph 4 for events and circumstances occurring after their respective preparation dates.
7. Because the reserves data are based on judgements regarding future events, actual results will vary and the variations may be material. ~~However, any variations should be consistent with the fact that reserves are categorized according to the probability of their recovery.~~

Executed as to our report referred to above:

Evaluator A, City, Province or State / Country, Execution Date

[signed]

Evaluator B, City, Province or State / Country, Execution Date

[signed]

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² This amount should be the amount disclosed by the reporting issuer in its statement of reserves data filed under item 1 of section 2.1 of NI 51-101, as its future net revenue (before deducting future income tax expenses) attributable to proved plus probable reserves, estimated using forecast prices and costs and calculated using a discount rate of 10 percent (required by section 2 of Item 2.1 of Form 51-101F1).

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**FORM 51-101F3 REPORT OF MANAGEMENT AND DIRECTORS
ON OIL AND GAS DISCLOSURE**

This is the form referred to in item 3 of section 2.1 of National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities* ("NI 51-101").

1. Terms to which a meaning is ascribed in *NI 51-101* have the same meaning in this form.¹
2. The report referred to in item 3 of section 2.1 of *NI 51-101* must in all material respects be as follows:

**Report of Management and Directors
on Reserves Data and Other Information**

Management of [name of reporting issuer] (the "Company") are responsible for the preparation and disclosure of information with respect to the Company's oil and gas activities in accordance with securities regulatory requirements. This information includes reserves data which are estimates of proved reserves and probable reserves and related future net revenue as at [last day of the reporting issuer's most recently completed financial year], estimated using forecast prices and costs.

[An] independent [qualified reserves evaluator[s] or qualified reserves auditor[s]] [has / have] [audited] [evaluated] [and reviewed] the Company's reserves data. The report of the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]] [is presented below / will be filed with securities regulatory authorities concurrently with this report].

The [Reserves Committee of the] board of directors of the Company has

- (a) reviewed the Company's procedures for providing information to the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]];
- (b) met with the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]] to determine whether any restrictions affected the ability of the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]] to report without reservation [and, in the event of a proposal to change the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]], to inquire whether there had been disputes between the previous independent [qualified reserves evaluator[s] or qualified reserves auditor[s] and management]; and
- (c) reviewed the reserves data with management and the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]].

¹

For the convenience of readers, CSA Staff Notice 51-324 *Glossary to NI 51-101 Standards of Disclosure for Oil and Gas Activities* sets out the meanings of terms that are printed in italics in sections 1 and 2 of this Form or in *NI 51-101, Form 51-101F1, Form 51-101F2* or Companion Policy 51-101CP.

The [Reserves Committee of the] board of directors has reviewed the Company's procedures for assembling and reporting other information associated with oil and gas activities and has reviewed that information with management. The board of directors has [, on the recommendation of the Reserves Committee,] approved

- (a) the content and filing with securities regulatory authorities of Form 51-101F1 containing reserves data and other oil and gas information;
- (b) the filing of Form 51-101F2 which is the report of the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]] on the reserves data; and
- (c) the content and filing of this report.

Because the reserves data are based on judgements regarding future events, actual results will vary and the variations may be material. ~~However, any variations should be consistent with the fact that reserves are categorized according to the probability of their recovery.~~

[signature, name and title of chief executive officer]

[signature, name and title of a ~~senior~~ an executive officer other than the chief executive officer]

[signature, name of a director]

[signature, name of a director]

[Date]

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COMPANION POLICY 51-101CP
STANDARDS OF DISCLOSURE FOR OIL AND GAS ACTIVITIES

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COMPANION POLICY 51-101CP
STANDARDS OF DISCLOSURE FOR OIL AND GAS ACTIVITIES

This Companion Policy sets out the views of the Canadian Securities Administrators (CSA) as to the interpretation and application of National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities* (NI 51-101) and related forms.

NI 51-101¹ supplements other continuous disclosure requirements of *securities legislation* that apply to *reporting issuers* in all business sectors.

The requirements under NI 51-101 for the filing with *securities regulatory authorities* of information relating to *oil and gas activities* are designed in part to assist the public and analysts in making investment decisions and recommendations.

The CSA encourage registrants² and other persons and companies that wish to make use of information concerning *oil and gas activities* of a *reporting issuer*, including *reserves data*, to review the information filed on SEDAR under NI 51-101 by the *reporting issuer* and, if they are summarizing or referring to this information, to use the applicable terminology consistent with NI 51-101 and the *COGE Handbook*.

PART 1 APPLICATION AND TERMINOLOGY

1.1 Definitions

- (1) **General** - Several terms relating to *oil and gas activities* are defined in section 1.1 of NI 51-101. If a term is not defined in NI 51-101, NI 14-101 or the securities statute in the *jurisdiction*, it will have the meaning or interpretation given to it in the *COGE Handbook* if it is defined or interpreted there, pursuant to section 1.2 of NI 51-101.

For the convenience of readers, CSA Staff Notice 51-324 *Glossary to NI 51-101 Standards of Disclosure for Oil and Gas Activities* (the NI 51-101 Glossary) sets out the meaning of terms, including those defined in NI 51-101 and several terms which are derived from the *COGE Handbook*.

- (2) **Forecast Prices and Costs** - The term *forecast prices and costs* is defined in paragraph 1.1(j) of NI 51-101 and discussed in the *COGE Handbook*. Except to the extent that the *reporting issuer* is legally bound by fixed or presently

¹ For the convenience of readers, CSA Staff Notice 51-324 *Glossary to NI 51-101 Standards of Disclosure for Oil and Gas Activities* sets out the meanings of terms that are printed in italics in NI 51-101, Form 51-101F1, Form 51-101F2 or Form 51-101F3, or in this Companion Policy (other than terms italicized in titles of documents that are printed entirely in italics).

² "Registrant" has the meaning ascribed to the term under *securities legislation* in the *jurisdiction*.

determinable future prices or costs³, *forecast prices and costs* are future prices and costs "generally accepted as being a reasonable outlook of the future".

The CSA do not consider that future prices or costs would satisfy this requirement if they fall outside the range of forecasts of comparable prices or costs used, as at the same date, for the same future period, by major *independent qualified reserves evaluators or auditors* or by other reputable sources appropriate to the evaluation.

- (3) ***Independent*** - The term *independent* is defined in paragraph 1.1(o) of NI 51-101. Applying this definition, the following are examples of circumstances in which the CSA would consider that a *qualified reserves evaluator or auditor* (or other expert) is not *independent*. We consider a *qualified reserves evaluator or auditor* is not *independent* when the *qualified reserves evaluator or auditor*:
- (a) is an employee, insider, or director of the *reporting issuer*;
 - (b) is an employee, insider, or director of a related party of the *reporting issuer*;
 - (c) is a partner of any person or company in paragraph (a) or (b);
 - (d) holds or expects to hold securities, either directly or indirectly, of the *reporting issuer* or a related party of the *reporting issuer*;
 - (e) holds or expects to hold securities, either directly or indirectly, in another *reporting issuer* that has a direct or indirect interest in the property that is the subject of the technical report or an adjacent property;
 - (f) has or expects to have, directly or indirectly, an ownership, royalty, or other interest in the property that is the subject of the technical report or an adjacent property; or
 - (g) has received the majority of their income, either directly or indirectly, in the three years preceding the date of the technical report from the *reporting issuer* or a related party of the *reporting issuer*.

For the purpose of paragraph (d) above, "related party of the *reporting issuer*" means an affiliate, associate, subsidiary, or control person of the *reporting issuer* as those terms are defined under securities legislation.

There may be instances in which it would be reasonable to consider that the independence of a *qualified reserves evaluator or auditor* would not be compromised even though the *qualified reserves evaluator or auditor* holds an interest in the *reporting issuer's* securities. The *reporting issuer* needs to determine whether a reasonable person would consider such interest would

³ Refer to the discussion of financial instruments in subsection 2.7(5) below.

interfere with the *qualified reserves evaluator's or auditor's* judgement regarding the preparation of the technical report.

There may be circumstances in which the *securities regulatory authorities* question the objectivity of the *qualified reserves evaluator or auditor*. In order to ensure the requirement for independence of the *qualified reserves evaluator or auditor* has been preserved, the *reporting issuer* may be asked to provide further information, additional disclosure or the opinion of another *qualified reserves evaluator or auditor* to address concerns about possible bias or partiality on the part of the *qualified reserves evaluator or auditor*.

- (4) ***Product Types Arising From Oil Sands and Other Non-Conventional Activities*** - The definition of *product type* in paragraph 1.1(v) includes products arising from non-conventional *oil and gas activities*. *NI 51-101* therefore applies not only to conventional *oil and gas activities*, but also to non-conventional activities such as the extraction of *bitumen* from *oil sands* with a view to the *production of synthetic oil*, the *in situ production of bitumen*, the extraction of methane from coal beds and the extraction of shale gas, shale oil and hydrates.

Although *NI 51-101* and *Form 51-101F1* make few specific references to non-conventional *oil and gas activities*, the requirements of *NI 51-101* for the preparation and disclosure of *reserves data* and for the disclosure of *resources* apply to *oil and gas reserves and resources* relating to *oil sands, shale, coal or other non-conventional sources of hydrocarbons*. The CSA encourage *reporting issuers* that are engaged in non-conventional *oil and gas activities* to supplement the disclosure prescribed in *NI 51-101* and *Form 51-101F1* with information specific to those activities that can assist investors and others in understanding the business and results of the *reporting issuer*.

- (5) ***Professional Organization***

(a) ***Recognized Professional Organizations***

For the purposes of the *Instrument*, a *qualified reserves evaluator or auditor* must also be a member in good standing with a self-regulatory *professional organization* of engineers, geologists, geoscientists or other professionals.

The definition of "*professional organization*" (in paragraph 1.1(w) of *NI 51-101* and in the *NI 51-101 Glossary*) has four elements, three of which deal with the basis on which the organization accepts members and its powers and requirements for continuing membership. The fourth element requires either authority or recognition given to the organization by a statute in Canada, or acceptance of the organization by the *securities regulatory authority or regulator*.

As at August 1, 2007, each of the following organizations in Canada is a *professional organization*:

- Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA)
- Association of Professional Engineers and Geoscientists of the Province of British Columbia (APEGBC)
- Association of Professional Engineers and Geoscientists of Saskatchewan (APEGGS)
- Association of Professional Engineers and Geoscientists of Manitoba (APEGM)
- Association of Professional Geoscientists of Ontario (APGO)
- Professional Engineers of Ontario (PEO)
- Ordre des ingénieurs du Québec (OIQ)
- Ordre des Géologues du Québec (OGQ)
- Association of Professional Engineers of Prince Edward Island (APEPEI)
- Association of Professional Engineers and Geoscientists of New Brunswick (APEGNB)
- Association of Professional Engineers of Nova Scotia (APENS)
- Association of Professional Engineers and Geoscientists of Newfoundland (APEGN)
- Association of Professional Engineers of Yukon (APEY)
- Association of Professional Engineers, Geologists & Geophysicists of the Northwest Territories (NAPEGG) (representing the Northwest Territories and Nunavut Territory)

(b) **Other *Professional Organizations***

The CSA are willing to consider whether particular foreign professional bodies should be accepted as "*professional organizations*" for the purposes of NI 51-101. A *reporting issuer*, foreign professional body or other interested person can apply to have a self-regulatory organization that satisfies the first three elements of the definition of "*professional organization*" accepted for the purposes of NI 51-101.

In considering any such application for acceptance, the *securities regulatory authority* or *regulator* is likely to take into account the degree to which a foreign professional body's authority or recognition, admission criteria, standards and disciplinary powers and practices are similar to, or differ from, those of organizations listed above.

The list of foreign *professional organizations* is updated periodically in CSA Staff Notice 51-309 *Acceptance of Certain Foreign Professional Boards as a "Professional Organization"*. As at August 1, 2007, each of the following foreign organizations has been recognized as a *professional organization* for the purposes of NI 51-101:

- California Board for Professional Engineers and Land Surveyors,

- State of Colorado Board of Registration for Professional Engineers and Professional Land Surveyors
- Louisiana State Board of Registration for Professional Engineers and Land Surveyors,
- Oklahoma State Board of Registration for Professional Engineers and Land Surveyors
- Texas Board of Professional Engineers
- American Association of Petroleum Geologists (AAPG) but only in respect of Certified Petroleum Geologists who are members of the AAPG's Division of Professional Affairs
- American Institute of Professional Geologists (AIPG), in respect of the AIPG's Certified Professional Geologists
- Energy Institute but only for those members of the Energy Institute who are Members and Fellows

(c) ***No Professional Organization***

A *reporting issuer* or other person may apply for an exemption under Part 8 of *NI 51-101* to enable a *reporting issuer* to appoint, in satisfaction of its obligation under section 3.2 of *NI 51-101*, an individual who is not a member of a *professional organization*, but who has other satisfactory qualifications and experience. Such an application might refer to a particular individual or generally to members and employees of a particular foreign *reserves evaluation* firm. In considering any such application, the *securities regulatory authority* or *regulator* is likely to take into account the individual's professional education and experience or, in the case of an application relating to a firm, to the education and experience of the firm's members and employees, evidence concerning the opinion of a *qualified reserves evaluator or auditor* as to the quality of past work of the individual or firm, and any prior relief granted or denied in respect of the same individual or firm.

(d) **Renewal Applications Unnecessary**

A successful applicant would likely have to make an application contemplated in this subsection 1.1(5) only once, and not renew it annually.

- (6) ***Qualified Reserves Evaluator or Auditor*** - The definitions of *qualified reserves evaluator* and *qualified reserves auditor* are set out in paragraphs 1.1(y) and 1.1(x) of *NI 51-101*, respectively, and again in the *NI 51-101* Glossary.

The defined terms "*qualified reserves evaluator*" and "*qualified reserves auditor*" have a number of elements. A *qualified reserves evaluator* or *qualified reserves auditor* must

- possess professional qualifications and experience appropriate for the tasks contemplated in the *Instrument*, and
- be a member in good standing of a *professional organization*.

Reporting issuers should satisfy themselves that any person they appoint to perform the tasks of a *qualified reserves evaluator or auditor* for the purpose of the *Instrument* satisfies each of the elements of the appropriate definition.

In addition to having the relevant professional qualifications, a *qualified reserves evaluator or auditor* must also have sufficient practical experience relevant to the *reserves data* to be reported on. In assessing the adequacy of practical experience, reference should be made to section 3 of volume 1 of the *COGE Handbook* - "Qualifications of Evaluators and Auditors, Enforcement and Discipline".

1.2 *COGE Handbook*

Pursuant to section 1.2 of *NI 51-101*, definitions and interpretations in the *COGE Handbook* apply for the purposes of *NI 51-101* if they are not defined in *NI 51-101*, *NI 14-101* or the securities statute in the *jurisdiction* (except to the extent of any conflict or inconsistency with *NI 51-101*, *NI 14-101* or the securities statute).

Section 1.1 of *NI 51-101* and the *NI 51-101 Glossary* set out definitions and interpretations, many of which are derived from the *COGE Handbook*. *Reserves* and *resources* definitions and categories developed by the Petroleum Society of the Canadian Institute of Mining, Metallurgy & Petroleum (CIM) are incorporated in the *COGE Handbook* and also set out, in part, in the *NI 51-101 Glossary*.

Subparagraph 5.2(a)(iii) of *NI 51-101* requires that all estimates of *reserves* or *future net revenue* have been prepared or audited in accordance with the *COGE Handbook*. Under sections 5.2, 5.3 and 5.9 of *NI 51-101*, all types of public *oil* and *gas* disclosure, including disclosure of *reserves* and of resources other than reserves must be consistent with the *COGE Handbook*.

1.3 *Applies to Reporting Issuers Only*

NI 51-101 applies to *reporting issuers* engaged in *oil and gas activities*. The definition of *oil and gas activities* is broad. For example, a *reporting issuer* with no *reserves*, but a few *prospects*, unproved *properties* or *resources*, could still be engaged in *oil and gas activities* because such activities include exploration and development of unproved *properties*.

NI 51-101 will also apply to an issuer that is not yet a *reporting issuer* if it files a prospectus or other disclosure document that incorporates prospectus requirements. Pursuant to the long-form prospectus requirements, the issuer must disclose the information contained in *Form 51-101F1*, as well as the reports set out in *Form 51-101F2* and *Form 51-101F3*.

1.4 Materiality Standard

Section 1.4 of *NI 51-101* states that *NI 51-101* applies only in respect of information that is material. *NI 51-101* does not require disclosure or filing of information that is not material. If information is not required to be disclosed because it is not material, it is unnecessary to disclose that fact.

Materiality for the purposes of *NI 51-101* is a matter of judgement to be made in light of the circumstances, taking into account both qualitative and quantitative factors, assessed in respect of the *reporting issuer* as a whole.

~~This concept of *materiality* is consistent with the concept of *materiality* applied in connection with financial reporting pursuant to the *CICA Handbook*.~~

The reference in subsection 1.4(2) of *NI 51-101* to a "reasonable investor" denotes an objective test: would a notional investor, broadly representative of investors generally and guided by reason, be likely to be influenced, in making an investment decision to buy, sell or hold a security of a *reporting issuer*, by an item of information or an aggregate of items of information? If so, then that item of information, or aggregate of items, is "material" in respect of that *reporting issuer*. An item that is immaterial alone may be material in the context of other information, or may be necessary to give context to other information. For example, a large number of small interests in *oil* and *gas properties* may be material in aggregate to a *reporting issuer*. Alternatively, a small interest in an *oil* and *gas property* may be material to a *reporting issuer*, depending on the size of the *reporting issuer* and its particular circumstances.

PART 2 ANNUAL FILING REQUIREMENTS

2.1 Annual Filings on SEDAR

The information required under section 2.1 of *NI 51-101* must be filed electronically on *SEDAR*. Consult National Instrument 13-101 System for Electronic Document Analysis and Retrieval (*SEDAR*) and the current *CSA "SEDAR Filer Manual"* for information about filing documents electronically. The information required to be filed under item 1 of section 2.1 of *NI 51-101* is usually derived from a much longer and more detailed *oil* and *gas* report prepared by a *qualified reserves evaluator*. These long and detailed reports cannot be filed electronically on *SEDAR*. The filing of an oil and gas report, or a summary of an oil and gas report, does not satisfy the requirements of the annual filing under *NI 51-101*.

2.2 Inapplicable or Immaterial Information

Section 2.1 of *NI 51-101* does not require the filing of any information, even if specified in *NI 51-101* or in a form referred to in *NI 51-101*, if that information is inapplicable or not material in respect of the *reporting issuer*. See section 1.4 of this Companion Policy for a discussion of *materiality*.

If an item of prescribed information is not disclosed because it is inapplicable or immaterial, it is unnecessary to state that fact or to make reference to the disclosure requirement.

2.3 Use of Forms

Section 2.1 of *NI 51-101* requires the annual filing of information set out in *Form 51-101F1* and reports in accordance with *Form 51-101F2* and *Form 51-101F3*. Appendix 1 to this Companion Policy provides an example of how certain of the *reserves data* might be presented. While the format presented in Appendix 1 in respect of *reserves data* is not mandatory, we encourage issuers to use this format.

The information specified in all three forms, or any two of the forms, can be combined in a single document. A *reporting issuer* may wish to include statements indicating the relationship between documents or parts of one document. For example, the *reporting issuer* may wish to accompany the report of the *independent qualified reserves evaluator or auditor (Form 51-101F2)* with a reference to the *reporting issuer's* disclosure of the *reserves data (Form 51-101F1)*, and vice versa.

~~The report of management and directors in *Form 51-101F3* may be combined with management's report on financial statements, if any, in respect of the same financial year.~~
A reporting issuer may supplement the annual disclosure required under NI 51-101 with additional information corresponding to that prescribed in Form 51-101F1, Form 51-101F2 and Form 51-101F3, but as at dates, or for periods, subsequent to those for which annual disclosure is required. However, to avoid confusion, such supplementary disclosure should be clearly identified as being interim disclosure and distinguished from the annual disclosure (for example, if appropriate, by reference to a particular interim period). Supplementary interim disclosure does not satisfy the annual disclosure requirements of section 2.1 of NI 51-101.

2.4 Annual Information Form

Section 2.3 of *NI 51-101* permits *reporting issuers* to satisfy the requirements of section 2.1 of *NI 51-101* by presenting the information required under section 2.1 in an *annual information form*.

- (1) **Meaning of "Annual Information Form"** - *Annual information form* has the same meaning as "AIF" in National Instrument 51-102 Continuous Disclosure Obligations. Therefore, as set out in that definition, an *annual information form* can be a completed *Form 51-102F2 Annual Information Form* or, in the case of an *SEC* issuer (as defined in *NI 51-102*), a completed *Form 51-102F2* or an annual report or transition report under the *1934 Act* on *Form 10-K*, *Form 10-KSB* or *Form 20-F*.
- (2) **Option to Set Out Information in Annual Information Form** - *Form 51-102F2 Annual Information Form* requires the information required by section 2.1 of *NI 51-101* to be included in the *annual information form*. That information may be

included either by setting out the text of the information in the *annual information form* or by incorporating it, by reference from separately filed documents. The option offered by section 2.3 of *NI 51-101* enables a *reporting issuer* to satisfy its obligations under section 2.1 of *NI 51-101*, as well as its obligations in respect of *annual information form* disclosure, by setting out the information required under section 2.1 only once, in the *annual information form*. If the *annual information form* is on Form 10-K, this can be accomplished by including the information in a supplement (often referred to as a "wrapper") to the Form 10-K.

A *reporting issuer* that elects to set out in full in its *annual information form* the information required by section 2.1 of *NI 51-101* need not also file that information again for the purpose of section 2.1 in one or more separate documents. ~~A **However, a** *reporting issuer* that elects to follow this approach should file its *annual information form* in accordance with usual requirements of securities legislation, and~~ **continues to be subject to the requirement to file,** at the same time ~~file~~ **and** on *SEDAR*, in the **appropriate SEDAR** category ~~for *NI 51-101* oil and gas disclosure, a notification that the information required under section 2.1 of *NI 51-101* is included in the *reporting issuer's* filed *annual information form*. More specifically, the notification should be filed under *SEDAR* Filing Type: "Oil and Gas Annual Disclosure (NI 51-101)" and Filing Subtype/Document Type: "Oil and Gas Annual Disclosure Filing (Forms 51-101F1, F2 & F3)". Alternatively, the notification could be a copy of the news release mandated by section 2.2 of *NI 51-101*. If this is the case, the news release should be filed under *SEDAR* Filing Type: "Oil and Gas Annual Disclosure (NI 51-101)" and Filing Subtype/Document Type: "News Release (section 2.2 of *NI 51-101*)".~~ **the notice in accordance with Form 51-101F4 (see section 2.2 of NI 51-101).**

This notification will assist other *SEDAR* users in finding that information. It is not necessary to make a duplicate filing of the *annual information form* itself under the *SEDAR NI 51-101 oil and gas* disclosure category.

2.5 **Reporting Issuer That Has No Reserves**

The requirement to make annual *NI 51-101* filings is not limited to only those issuers that have *reserves* and related *future net revenue*. A *reporting issuer* with no *reserves* but with *prospects*, unproved *properties* or *resources* may be engaged in *oil and gas activities* (see section 1.3 above) and therefore subject to *NI 51-101*. That means the issuer must still make annual *NI 51-101* filings and ensure that it complies with other *NI 51-101* requirements. The following is guidance on the preparation of *Form 51-101F1*, *Form 51-101F2*, *Form 51-101F3* and other *oil and gas* disclosure if the *reporting issuer* has no *reserves*.

- (1) **Form 51-101F1** - Section 1.4 of *NI 51-101* states that the *Instrument* applies only in respect of information that is material in respect of a *reporting issuer*. If indeed

the *reporting issuer* has no *reserves*, we would consider that fact alone material. The *reporting issuer's* disclosure, under Part 2 of *Form 51-101F1*, should make clear that it has no *reserves* and hence no related *future net revenue*.

Supporting information regarding *reserves data* required under Part 2 (e.g., price estimates) that are not material to the issuer may be omitted. However, if the issuer had disclosed *reserves* and related *future net revenue* in the previous year, and has no *reserves* as at the end of its current financial year, the *reporting issuer* is still required to present a reconciliation to the prior-year's estimates of *reserves*, as required by Part 4 of *Form 51-101F1*.

The *reporting issuer* is also required to disclose information required under Part 6 of *Form 51-101F1*. Those requirements apply irrespective of the quantum of *reserves*, if any. This would include information about *properties* (items 6.1 and 6.2), costs (item 6.6), and exploration and development activities (item 6.7). The disclosure should make clear that the issuer had no *production*, as that fact would be material.

- (2) **Form 51-101F2 - NI 51-101** requires *reporting issuers* to retain an *independent qualified reserves evaluator or auditor* to evaluate or audit the company's *reserves data* and report to the board of directors. If the *reporting issuer* had no *reserves* during the year and hence did not retain an evaluator or auditor, then it would not need to retain one just to file a (nil) report of the *independent evaluators* on the *reserves data* in the form of *Form 51-101F2* and the *reporting issuer* would therefore not be required to file a *Form 51-101F2*. If, however, the issuer did retain an evaluator or auditor to evaluate *reserves*, and the evaluator or auditor concluded that they could not be so categorized, or reclassified those *reserves* to *resources*, the issuer would have to file a report of the *qualified reserves evaluator* because the evaluator has, in fact, evaluated the *reserves* and expressed an opinion.
- (3) **Form 51-101F3** - Irrespective of whether the *reporting issuer* has *reserves*, the requirement to file a report of management and directors in the form of *Form 51-101F3* applies.
- (4) **Other NI 51-101 Requirements** - *NI 51-101* does not require *reporting issuers* to disclose *anticipated results* from their *resources*. However, if a *reporting issuer* chooses to disclose that type of information, section 5.9 of *NI 51-101* applies to that disclosure.

2.6 **Reservation in Report of Independent Qualified Reserves Evaluator or Auditor**

A report of an *independent qualified reserves evaluator or auditor* on *reserves data* will not satisfy the requirements of item 2 of section 2.1 of *NI 51-101* if the report contains a *reservation*, the cause of which can be removed by the *reporting issuer* (subsection 2.4(2) of *NI 51-101*).

The CSA do not generally consider time and cost considerations to be causes of a *reservation* that cannot be removed by the *reporting issuer*.

A report containing a *reservation* may be acceptable if the *reservation* is caused by a limitation in the scope of the *evaluation* or audit resulting from an event that clearly limits the availability of necessary records and which is beyond the control of the *reporting issuer*. This could be the case if, for example, necessary records have been inadvertently destroyed and cannot be recreated or if necessary records are in a country at war and access is not practicable.

One potential source of *reservations*, which the CSA consider can and should be addressed in a different way, could be reliance by a *qualified reserves evaluator or auditor* on information derived or obtained from a *reporting issuer's independent financial auditors* or reflecting their report. The CSA recommend that *qualified reserves evaluators or auditors* follow the procedures and guidance set out in both sections 4 and 12 of volume 1 of the *COGE Handbook* in respect of dealings with *independent financial auditors*. In so doing, the CSA expect that the quality of *reserves data* can be enhanced and a potential source of *reservations* can be eliminated.

2.7 Disclosure in Form 51-101F1

- (1) **Royalty Interest in Reserves** - *Net reserves* (or "company *net reserves*") of a *reporting issuer* include its royalty interest in *reserves*.

If a *reporting issuer* cannot obtain the information it requires to enable it to include a royalty interest in *reserves* in its disclosure of *net reserves*, it should, proximate to its disclosure of *net reserves*, disclose that fact and its corresponding royalty interest share of *oil and gas production* for the year ended on the *effective date*.

Form 51-101F1 requires that certain *reserves data* be provided on both a "gross" and "net" basis, the latter being adjusted for both royalty entitlements and royalty obligations. However, if a royalty is granted by a trust's subsidiary to the trust, this would not affect the computation of "*net reserves*". The typical *oil and gas* income trust structure involves the grant of a royalty by an operating subsidiary of the trust to the trust itself, the royalty being the source of the distributions to trust investors. In this case, the royalty is wholly within the combined or consolidated trust entity (the trust and its operating subsidiary). This is not the type of external entitlement or obligation for which adjustment is made in determining, for example, "*net reserves*". Viewing the trust and its consolidated entities together, the relevant *reserves* and other *oil and gas* information is that of the operating subsidiary without deduction of the internal royalty to the trust.

- (2) **Government Restriction on Disclosure** - If, because of a restriction imposed by a government or governmental authority having jurisdiction over a *property*, a *reporting issuer* excludes *reserves* information from its *reserves data* disclosed under *NI 51-101*, the disclosure should include a statement that identifies the

property or country for which the information is excluded and explains the exclusion.

(3) **Computation of *Future Net Revenue***

(a) **Tax**

Form 51-101F1 requires *future net revenue* to be estimated and disclosed both before and after deduction of income taxes. However, a *reporting issuer* may not be subject to income taxes because of its royalty or income trust structure. In this instance, the issuer should use the tax rate that most appropriately reflects the income tax it reasonably expects to pay on the *future net revenue*. If the issuer is not subject to income tax because of its royalty trust structure, then the most appropriate income tax rate would be zero. In this case, the issuer could present the estimates of *future net revenue* in only one column and explain, in a note to the table, why the estimates of before-tax and after-tax *future net revenue* are the same.

Also, tax pools should be taken into account when computing *future net revenue* after income taxes. The definition of “future income tax expense” is set out in the NI 51-101 Glossary. Essentially, *future income tax expenses* represent estimated cash income taxes payable on the *reporting issuer’s* future pre-tax cash flows. These cash income taxes payable should be computed by applying the appropriate year-end statutory tax rates, taking into account future tax rates already legislated, to future pre-tax *net* cash flows reduced by appropriate deductions of estimated unclaimed costs and losses carried forward for tax purposes and relating to *oil and gas activities* (i.e., tax pools). Such tax pools may include Canadian *oil and gas property* expense (COGPE), Canadian development expense (CDE), Canadian exploration expense (CEE), undepreciated capital cost (UCC) and unused prior year’s tax losses. (Issuers should be aware of limitations on the use of certain tax pools resulting from acquisitions of *properties* in situations where provisions of the Income Tax Act concerning successor corporations apply.)

(b) **Other Fiscal Regimes**

Other fiscal regimes, such as those involving *production* sharing contracts, should be adequately explained with appropriate allocations made to various classes of proved *reserves* and to *probable reserves*.

(4) **Supplemental Disclosure of *Future Net Revenue* ~~Using Constant prices and costs~~ In addition to requiring the disclosure of future net revenue using forecast prices and costs, *Form 51-101 F1* gives *reporting issuers* the option of disclosing *future net revenue* ~~using constant prices and costs~~ in addition to disclosing future net revenue using forecast prices and costs. ~~Constant prices and costs are based on the reporting issuer’s~~ based on prices and costs as at the ~~reporting issuer’s~~ financial year end. determined in accordance with the relevant US oil and gas disclosure requirements. In general, these prices and**

costs are assumed not to change, but rather to remain constant, throughout the life of a *property*, except to the extent of certain fixed or presently determinable future prices or costs to which the *reporting issuer* is legally bound by a contractual or other obligation to supply a physical product (including those for an extension period of a contract that is likely to be extended).

- (5) **Financial Instruments** ~~The definition of "*forecast prices and costs*" in paragraph 1.1(j) of NI 51-101 and the term "*constant prices and costs*" as defined in the NI 51-101 Glossary refer to fixed or presently determinable future prices to which a *reporting issuer* is legally bound by a contractual or other obligation to supply a physical product. The phrase "contractual or other obligation to supply a physical product" excludes arrangements under which the *reporting issuer* can satisfy its obligations in cash and would therefore exclude an arrangement that would be a "financial instrument" as defined in Section 3855 of the *CICA Handbook*. The *CICA Handbook* discusses when a *reporting issuer's* obligation would be considered a financial instrument and sets out the requirements for presentation and disclosure of these financial instruments (including so-called financial hedges) in the *reporting issuer's* financial statements. repealed.~~

(6) **Reserves Reconciliation**

- (a) If the *reporting issuer* reports *reserves*, but had no *reserves* at the start of the reconciliation period, a reconciliation of *reserves* must be carried out if any *reserves* added during the previous year are material. Such a reconciliation will have an opening balance of zero.
- (b) The reserves reconciliation is prepared on a *gross reserves*, not *net reserves*, basis. For some *reporting issuers* with significant royalty interests, such as royalty trusts, the *net reserves* may exceed the *gross reserves*. In order to provide adequate disclosure given the distinctive nature of its business, the *reporting issuer* may also disclose its *reserves* reconciliation on a *net reserves* basis. The issuer is not precluded from providing this additional information with its disclosure prescribed in *Form 51-101F1* provided that the *net reserves* basis for the reconciliation is clearly identified in the additional disclosure to avoid confusion.
- (c) Clause 2(c)(ii) of item 4.1 of *Form 51-101F1* requires reconciliations of *reserves* to separately identify and explain technical revisions. Technical revisions show changes in existing *reserves* estimates, in respect of carried-forward *properties*, over the period of the reconciliation (i.e., between estimates as at the *effective date* and the prior year²'s estimate) and are the result of new technical information, not the result of capital expenditure. With respect to making technical revisions, the following should be noted:
- Infill Drilling: It would not be acceptable to include infill drilling results as a technical revision. *Reserves* additions derived from

infill drilling during the year are not attributable to revisions to the previous year's reserves estimates. Infill drilling reserves must either be included in the "extensions and improved recovery" category or in an additional stand-alone category in the reserves reconciliation labelled "infill drilling".

- **Acquisitions:** If an acquisition is made during the year, (i.e., in the period between the *effective date* and the prior year's estimate), the reserves estimate to be used in the reconciliation is the estimate of reserves at the *effective date*, not at the acquisition date, plus any production since the acquisition date. This production must be included as production in the reconciliation. If there has been a change in the reserves estimate between the acquisition date and the *effective date* other than that due to production, the issuer may wish to explain this as part of the reconciliation in a footnote to the reconciliation table.

- (7) **Significant Factors or Uncertainties** - Item 5.2 of *Form 51-101F1* requires an issuer to identify and discuss important economic factors or significant uncertainties that affect particular components of the reserves data. ~~Like a "subsequent event" note in a financial statement, the issuer should discuss this type of information even if it pertains to a period subsequent to the effective date.~~

For example, if events subsequent to the *effective date* have resulted in significant changes in expected future prices, such that the forecast prices reflected in the reserves data differ materially from those that would be considered to be a reasonable outlook on the future around the date of the company's "statement of reserves data and other information", then the issuer's statement might include, pursuant to item 5.2, a discussion of that change and its effect on the disclosed future net revenue estimates. It may be misleading to omit this information.

- (8) **Additional Information** - As discussed in section 2.3 above and in the instructions to *Form 51-101F1*, *NI 51-101* offers flexibility in the use of the prescribed forms and the presentation of required information.

The disclosure specified in *Form 51-101F1* is the minimum disclosure required, subject to the *materiality* standard. Reporting issuers are free to provide additional disclosure that is not inconsistent with *NI 51-101*.

To the extent that additional, or more detailed, disclosure can be expected to assist readers in understanding and assessing the mandatory disclosure, it is encouraged. Indeed, to the extent that additional disclosure of *material* facts is necessary in order to make mandated disclosure not misleading, a failure to provide that additional disclosure would amount to a misrepresentation.

- (9) **Sample Reserves Data Disclosure** - Appendix 1 to this Companion Policy sets out an example of how certain of the *reserves data* might be presented in a manner which the CSA consider to be consistent with *NI 51-101* and *Form 51-101F1*. The CSA encourages *reporting issuers* to use the format presented in Appendix 1.

The sample presentation in Appendix 1 also illustrates how certain additional information not mandated under *Form 51-101F1* might be incorporated in an annual filing.

2.8 *Form 51-101F2*

- (1) **Negative Assurance by Qualified Reserves Evaluator or Auditor** - A *qualified reserves evaluator or auditor* conducting a review may wish to express only negative assurance -- for example, in a statement such as "Nothing has come to my attention which would indicate that the *reserves data* have not been prepared in accordance with principles and definitions presented in the Canadian Oil and Gas Evaluation Handbook". This can be contrasted with a positive statement such as an opinion that "The *reserves data* have, in all material respects, been determined and presented in accordance with the Canadian Oil and Gas Evaluation Handbook and are, therefore, free of material misstatement".

The CSA are of the view that statements of negative assurance can be misinterpreted as providing a higher degree of assurance than is intended or warranted.

The CSA believe that a statement of negative assurance would constitute so *material* a departure from the report prescribed in *Form 51-101F2* as to fail to satisfy the requirements of item 2 of section 2.1 of *NI 51-101*.

In the rare case, if any, in which there are compelling reasons for making such disclosure (e.g., a prohibition on disclosure to external parties), the CSA believe that, to avoid providing information that could be misleading, the *reporting issuer* should include in such disclosure useful explanatory and cautionary statements. Such statements should explain the limited nature of the work undertaken by the *qualified reserves evaluator or auditor* and the limited scope of the assurance expressed, noting that it does not amount to a positive opinion.

- (2) **Variations in Estimates — The report prescribed by Form 51-101F2 (and Form 51-101F3) contains a statement statements to the effect** that variations between *reserves data* and actual results may be material but ~~that any variations should be consistent with the fact that reserves are categorized according to the probability of their recovery~~ **reserves have been determined in accordance with the COGE Handbook, consistently applied.**

Reserves estimates are made at a point in time, being the *effective date*. A reconciliation of a *reserves* estimate to actual results is likely to show variations and the variations may be material. This variation may arise from factors such as

exploration discoveries, acquisitions, divestments and economic factors that were not considered in the initial *reserves* estimate. Variations that occur with respect to *properties* that were included in both the *reserves* estimate and the actual results may be due to technical or economic factors. Any variations arising due to technical factors ~~should~~must be consistent with the fact that *reserves* are categorized according to the probability of their recovery. For example, the requirement that reported *proved reserves* “must have at least a 90 percent probability that the quantities actually recovered will equal or exceed the estimated *proved reserves*” (section 5 of volume 1 of the *COGE Handbook*) implies that as more technical data becomes available, a positive, or upward, revision is significantly more likely than a negative, or downward, revision. Similarly, it should be equally likely that revisions to an estimate of *proved plus probable reserves* will be positive or negative.

Reporting issuers must assess the magnitude of such variation according to their own circumstances. A *reporting issuer* with a limited number of *properties* is more likely to be affected by a change in one of these *properties* than a *reporting issuer* with a greater number of *properties*. Consequently, *reporting issuers* with few *properties* are more likely to show larger variations, both positive and negative, than those with many *properties*.

Variations may result from factors that cannot be reasonably anticipated, such as the fall in the price of *bitumen* at the end of 2004 that resulted in significant negative revisions in *proved reserves*, or the unanticipated activities of a foreign government. If such variations occur, the reasons will usually be obvious. However, the assignment of a *proved reserve*, for instance, should reflect a degree of confidence in all of the relevant factors, at the *effective date*, such that the likelihood of a negative revision is low, especially for a *reporting issuer* with many *properties*. Examples of some of the factors that could have been reasonably anticipated, that have led to negative revisions of *proved* or of *proved plus probable reserves* are:

- Over-optimistic activity plans, for instance, booking reserves for *proved* or *probable undeveloped reserves* that have no reasonable likelihood of being drilled.
- *Reserves* estimates that are based on a forecast of *production* that is inconsistent with historic performance, without solid technical justification.
- Assignment of drainage areas that are larger than can be reasonably expected.
- The use of inappropriate analogs.

- (3) ***Effective date of Evaluation*** - A qualified reserves evaluator or auditor cannot prepare an *evaluation* using information that relates to events that occurred after the *effective date*, being the financial year-end. Information that relates to events that occurred after the year-end should not be incorporated into the forecasts. For example, information about drilling results from wells drilled in January or February, or changes in *production* that occurred after year-end date of December 31, should not be used. Even though this more recent information is available, the evaluator or auditor should not go back and change the forecast information. The forecast is to be based on the evaluator's or auditor's perception of the future as of December 31, the *effective date* of the report.

Similarly, the evaluator or auditor should not use price forecasts for a date subsequent to the year-end date of, in this example, December 31. The evaluator or auditor should use the prices that he or she forecasted on or around December 31. The evaluator or auditor should also use the December forecasts for exchange rates and inflation. Revisions to price, exchange rate or inflation rate forecasts after December 31 would have resulted from events that occurred after December 31.

PART 3 RESPONSIBILITIES OF *REPORTING ISSUERS* AND DIRECTORS

3.1 *Reserves Committee*

Section 3.4 of *NI 51-101* enumerates certain responsibilities of the board of directors of a *reporting issuer* in connection with the preparation of *oil* and *gas* disclosure.

The CSA believe that certain of these responsibilities can in many cases more appropriately be fulfilled by a smaller group of directors who bring particular experience or abilities and an *independent* perspective to the task.

Subsection 3.5(1) of *NI 51-101* permits a board of directors to delegate responsibilities (other than the responsibility to approve the content or filing of certain documents) to a committee of directors, a majority of whose members are *independent* of management. Although subsection 3.5(1) is not mandatory, the CSA encourage *reporting issuers* and their directors to adopt this approach.

3.2 *Responsibility for Disclosure*

NI 51-101 requires the involvement of an *independent qualified reserves evaluator or auditor* in preparing or reporting on certain *oil* and *gas* information disclosed by a *reporting issuer*, and in section 3.2 mandates the appointment of an *independent qualified reserves evaluator or auditor* to report on *reserves data*.

The CSA do not intend or believe that the involvement of an *independent qualified reserves evaluator or auditor* relieves the *reporting issuer* of responsibility for information disclosed by it for the purposes of *NI 51-101*.

PART 4 MEASUREMENT

4.1 Consistency in Dates

Section 4.2 of *NI 51-101* requires consistency in the timing of recording the effects of events or transactions for the purposes of both annual financial statements and annual *reserves data* disclosure.

To ensure that the effects of events or transactions are recorded, disclosed or otherwise reflected consistently (in respect of timing) in all public disclosure, a *reporting issuer* will wish to ensure that both its financial auditors and its *qualified reserves evaluators or auditors*, as well as its directors, are kept apprised of relevant events and transactions, and to facilitate communication between its financial auditors and its *qualified reserves evaluators or auditors*.

Sections 4 and 12 of volume 1 of the *COGE Handbook* set out procedures and guidance for the conduct of *reserves evaluations* and *reserves audits*, respectively. Section 12 deals with the relationship between a *reserves auditor* and the client's financial auditor. Section 4, in connection with *reserves evaluations*, deals somewhat differently with the relationship between the *qualified reserves evaluator or auditor* and the client's financial auditor. The *CSA* recommend that *qualified reserves evaluators or auditors* carry out the procedures discussed in both sections 4 and 12 of volume 1 of the *COGE Handbook*, whether conducting a *reserves evaluation* or a *reserves audit*.

PART 5 REQUIREMENTS APPLICABLE TO ALL DISCLOSURE

5.1 Application of Part 5

Part 5 of *NI 51-101* imposes requirements and restrictions that apply to all "disclosure" (or, in some cases, all written disclosure) of a type described in section 5.1 of *NI 51-101*. Section 5.1 refers to disclosure that is either

- filed by a *reporting issuer* with the *securities regulatory authority*, or
- if not filed, otherwise made to the public or made in circumstances in which, at the time of making the disclosure, the *reporting issuer* expects, or ought reasonably to expect, the disclosure to become available to the public.

As such, Part 5 applies to a broad range of disclosure including

- the annual filings required under Part 2 of *NI 51-101*,
- other continuous disclosure filings, including material change reports (which themselves may also be subject to Part 6 of *NI 51-101*),
- public disclosure documents, whether or not filed, including news releases,

- public disclosure made in connection with a distribution of securities, including a prospectus, and
- except in respect of provisions of Part 5 that apply only to written disclosure, public speeches and presentations made by representatives of the *reporting issuer* on behalf of the *reporting issuer*.

For these purposes, the *CSA* consider written disclosure to include any writing, map, plot or other printed representation whether produced, stored or disseminated on paper or electronically. For example, if material distributed at a company presentation refers to *BOEs*, the material should include, near the reference to *BOEs*, the cautionary statement required by paragraph 5.14(d) of *NI 51-101*.

To ensure compliance with the requirements of Part 5, the *CSA* encourage *reporting issuers* to involve a *qualified reserves evaluator or auditor*, or other person who is familiar with *NI 51-101* and the *COGE Handbook*, in the preparation, review or approval of all such *oil* and *gas* disclosure.

5.2 Disclosure of Reserves and Other Information

- (1) **General** - A *reporting issuer* must comply with the requirements of section 5.2 in its disclosure, to the public, of *reserves* estimates and other information of a type specified in *Form 51-101F1*. This would include, for example, disclosure of such information in a news release.
- (2) **Reserves** - *NI 51-101* does not prescribe any particular methods of estimation but it does require that a *reserve* estimate be prepared in accordance with the *COGE Handbook*. For example, section 5 of volume 1 of the *COGE Handbook* specifies that, in respect of an issuer's reported proved *reserves*, there is to be at least a 90 percent probability that the total remaining quantities of *oil* and *gas* to be recovered will equal or exceed the estimated total proved *reserves*.

Additional guidance on particular topics is provided below.

- (3) **Possible Reserves** - A *possible reserves* estimate - either alone or as part of a sum - is often a relatively large number that, by definition, has a low probability of actually being produced. For this reason, the cautionary language prescribed in subparagraph 5.2(a)(v) of *NI 51-101* must accompany the written disclosure of a *possible reserves* estimate.
- (4) **Probabilistic and Deterministic Evaluation Methods** - Section 5 of volume 1 of the *COGE Handbook* states that "In principle, there should be no difference between estimates prepared using probabilistic or deterministic methods".

When deterministic methods are used, in the absence of a "mathematically derived quantitative measure of probability", the classification of *reserves* is

based on professional judgment as to the quantitative measure of certainty attained.

When probabilistic methods are used in conjunction with good engineering and geological practice, they will provide more statistical information than the conventional deterministic method. The following are a few critical criteria that an evaluator must satisfy when applying probabilistic methods:

- The evaluator must still estimate the *reserves* applying the definitions and using the guidelines set out in the *COGE Handbook*.
- Entity level probabilistic *reserves* estimates should be aggregated arithmetically to provide reported level *reserves*.
- If the evaluator also prepares aggregate *reserves* estimates using probabilistic methods, the evaluator should explain in the *evaluation* report the method used. In particular, the evaluator should specify what confidence levels were used at the entity, *property*, and reported (i.e., total) levels for each of proved, proved + *probable* and proved + *probable* + *possible* (if reported) *reserves*.
- If the *reporting issuer* discloses the aggregate *reserves* that the evaluator prepared using probabilistic methods, the issuer should provide a brief explanation, near its disclosure, about the *reserves* definitions used for estimating the *reserves*, about the method that the evaluator used, and the underlying confidence levels that the evaluator applied.

- (5) **Availability of Funding** - In assigning *reserves* to an undeveloped *property*, the *reporting issuer* is not required to have the funding available to develop the *reserves*, since they may be developed by means other than the expenditure of the *reporting issuer's* funds (for example by a farm-out or sale). *Reserves* must be estimated assuming that development of the *properties* will occur without regard to the likely availability of funding required for that *property*. The *reporting issuer's* evaluator is not required to consider whether the *reporting issuer* will have the capital necessary to develop the *reserves*. (See section 7 of *COGE Handbook* and subparagraph 5.2(a)(iv) of *NI 51-101*.)

However, item 5.3 of *Form 51-101F1* requires a *reporting issuer* to discuss its expectations as to the sources and costs of funding for estimated future *development costs* **as a part of its annual disclosure**. If the issuer expects that the costs of funding would make development of a *property* unlikely, then even if *reserves* were assigned, it must also discuss that expectation and its plans for the *property*.

Disclosure of an estimate of reserves, contingent resources or prospective resources in respect of which timely availability of funding for development is not assured may be misleading if that disclosure is not accompanied, proximate to it, by a discussion (or a cross-reference to such a discussion in

other disclosure filed by the reporting issuer on SEDAR) of the funding uncertainties and their anticipated effect on the timing or completion of such development (or on any particular stage of multi-stage development such as often observed in oilsands developments).

- (6) **Proved or Probable Undeveloped Reserves** - Proved or probable *undeveloped reserves* must be reported in the year in which they are recognized. If the *reporting issuer* does not disclose the proved or probable *undeveloped reserves* just because it has not yet spent the capital to develop these *reserves*, it may be omitting *material* information, thereby causing the *reserves* disclosure to be misleading. If the proved or probable *undeveloped reserves* are not disclosed to the public, then those who have a special relationship with the issuer and know about the existence of these *reserves* would not be permitted to purchase or sell the securities of the issuer until that information has been disclosed. If the issuer has a prospectus, the prospectus might not contain full true and plain disclosure of all *material* facts if it does not contain information about these proved or probable *undeveloped reserves*.
- (7) **Mechanical Updates** - So-called “mechanical updates” of *reserves* reports are sometimes created, often by rerunning previous *evaluations* with a new price deck. This is problematic since there may have been material changes other than price that may lead to the report being misleading. If a *reporting issuer* discloses the results of the mechanical update it should ensure that all relevant material changes are also disclosed to ensure that the information is not misleading.

5.3 Classification of Reserves and of Resources ~~Classification~~ Other than Reserves

Section 5.3 of NI 51-101 requires that any disclosure of *reserves* or of resources other than reserves must be made using apply the categories and terminology as set out in the *COGE Handbook*. The definitions of the various ~~reserves and resources~~ resource categories, derived from the *COGE Handbook*, are provided in the NI 51-101 Glossary. In addition, section 5.3 of NI 51-101 requires that disclosure of *reserves* ~~or~~ and of resources other than reserves must relate to the most specific category of *reserves* or of resources other than reserves in which the *reserves* or *resources other than reserves* can be classified. For instance, there are several subcategories of *discovered resources* including *reserves*, *contingent resources* and *discovered unrecoverable resources*. *Reporting issuers* must classify *discovered resources* into one of the subcategories of *discovered resources*. ~~In exceptional circumstances, a reporting issuer may be unable to classify the resources in a subcategory of discovered resources, in which case it must provide a comprehensive explanation as to why the resources cannot be classified in a subcategory.~~

In addition, *reserves* can be estimated using three subcategories, namely proved, probable or *possible reserves*, according to the probability that such quantities ~~of reserves~~ will actually be produced. As described in the *COGE Handbook* proved, probable and *possible reserves* represent conservative, realistic and optimistic estimates of *reserves*, respectively. Therefore any disclosure of *reserves* must be broken down into one of the

three subcategories of *reserves*, namely proved, *probable* or *possible reserves*. For further guidance on disclosure of reserves and of resources other than reserves please see sections 5.2 and 5.5 of this Companion Policy.

5.4 Written Consents

Section 5.7 of *NI 51-101* restricts a *reporting issuer's* use of a report of a *qualified reserves evaluator or auditor* without written consent. The consent requirement does not apply to the direct use of the report for the purposes of *NI 51-101* (filing *Form 51-101F1*; making direct or indirect reference to the conclusions of that report in the filed *Form 51-101F1* and *Form 51-101F3*; and identifying the report in the news release referred to in section 2.2). The *qualified reserves evaluator or auditor* retained to report to a *reporting issuer* for the purposes of *NI 51-101* is expected to anticipate these uses of the report. However, further use of the report (for example, in a securities offering document or in other news releases) would require written consent.

5.5 Disclosure of Resources Other than Reserves

- (1) **Disclosure of Resources Generally** -The disclosure of *resources*, excluding proved and *probable reserves*, is not mandatory under *NI 51-101*, except that a *reporting issuer* must make disclosure concerning its unproved *properties* and *resource* activities in its annual filings as described in Part 6 of *Form 51-101F1*. Additional disclosure beyond this is voluntary and must comply with section 5.9 of *NI 51-101* if *anticipated results* from the *resources other than reserves* are voluntarily disclosed.

For prospectuses, the general securities disclosure obligation of “full, true and plain” disclosure of all *material* facts would require the disclosure of *reserves* or of resources other than reserves that are *material* to the issuer, even if the disclosure is not mandated by *NI 51-101*. Any such disclosure should be based on supportable analysis.

Disclosure of *resources other than reserves* may involve the use of statistical measures that may be unfamiliar to a user. It is the responsibility of the evaluator and the *reporting issuer* to be familiar with these measures and for the *reporting issuer* to be able to explain them to investors. Information on statistical measures may be found in the *COGE Handbook* (section 9 of volume 1 and section 4 of volume 2) and in the extensive technical literature⁴ on the subject.

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For example, Determination of Oil and Gas Reserves, Monograph No. 1, Chapter 22, Petroleum Society of CIM, Second Edition 2004. (ISBN 0-9697990-2-0)) Newendorp, P., & Schuyler, J., 2000, Decision Analysis for Petroleum Exploration, Planning Press, Aurora, Colorado (ISBN 0-9664401-1-0). Rose, P. R., Risk Analysis and Management of Petroleum Exploration Ventures, AAPG Methods in Exploration Series No. 12, AAPG (ISBN 0-89181-062-1)

- (2) **Disclosure of Anticipated Results under Subsection 5.9(1) of NI 51-101** - If a *reporting issuer* voluntarily discloses *anticipated results* from *resources* that are not classified as *reserves*, it must disclose certain basic information concerning the *resources*, which is set out in subsection 5.9(1) of *NI 51-101*. Additional disclosure requirements arise if the *anticipated results* disclosed by the issuer include an estimate of a *resource* quantity or associated value, as set out below in subsection 5.5(3).

If a *reporting issuer* discloses *anticipated results* relating to numerous aggregated *properties*, *prospects* or *resources*, the issuer may, depending on the circumstances, satisfy the requirements of subsection 5.9(1) by providing summarized information in respect of each prescribed requirement. The *reporting issuer* must ensure that its disclosure is reasonable, meaningful and at a level appropriate to its size. For a *reporting issuer* with only few *properties*, it may be appropriate to make the disclosure for each *property*. Such disclosure may be unreasonably onerous for a *reporting issuer* with many *properties*, and it may be more appropriate to summarize the information by major areas or for major projects. However, if a *reporting issuer* discloses an aggregate *resource* estimate (or associated value) referred to in subsection 5.9(2) of *NI 51-101*, the issuer must ensure that any aggregation of *properties* occurs within the most specific category of *resource* classification as required by paragraph 5.9(2)(b). A *reporting issuer* ~~cannot aggregate properties across~~ **must not disclose an estimate reflecting a summation of** different categories of *resources* ~~if a resource estimate referenced in subsection 5.9(2) is disclosed~~ **(see section 5.16 of NI 51-101)**.

In respect of the requirement to disclose the risk and level of uncertainty associated with the *anticipated result* under paragraph 5.9(1)(d) of *NI 51-101*, risk and uncertainty are related concepts. Section 9 of volume 1 of the *COGE Handbook* provides the following definition of risk:

“Risk refers to a likelihood of loss and ... It is less appropriate to *reserves* evaluation because economic viability is a prerequisite for defining *reserves*.”

The concept of risk may have some limited relevance in disclosure related to *reserves*, for instance, for incremental *reserves* that depend on the installation of a compressor, the likelihood that the compressor will be installed. Risk is often relevant to the disclosure of *resource* categories other than *reserves*, in particular the likelihood that an exploration well will, or will not, be successful.

Section 9 of volume 1 of the *COGE Handbook* provides the following definition of uncertainty:

“Uncertainty is used to describe the range of possible outcomes of a *reserves* estimate.”

However, the concept of uncertainty is generally applicable to any estimate, including not only *reserves*, but also to all other categories of *resource*.

In satisfying the requirement of paragraph 5.9(1)(d) of *NI 51-101*, a *reporting issuer* should ensure that their disclosure includes the risks and uncertainties that are appropriate and meaningful for their activities. This may be expressed quantitatively as probabilities or qualitatively by appropriate description. If the *reporting issuer* chooses to express the risks and level of uncertainty qualitatively, the disclosure must be meaningful and not in the nature of a general disclaimer.

If the *reporting issuer* discloses the estimated value of an *unproved property* other than a value attributable to an estimated *resource* quantity, then the issuer must disclose the basis of the calculation of the value, in accordance with paragraph 5.9(1)(e). This type of value is typically based on petroleum land management practices that consider activities and land prices in nearby areas. If done *independently*, it would be done by a valuator with petroleum land management expertise who would generally be a member of a *professional organization* such as the Canadian Association of Petroleum Landmen. This is distinguishable from the determination of a value attributable to an estimated *resource* quantity, as contemplated in subsection 5.9(2). This latter type of value estimate must be prepared by a *qualified reserves evaluator or auditor*.

The calculation of an estimated value described in paragraph 5.9(1)(e) may be based on one or more of the following factors:

- the acquisition cost of the *unproved property* to the *reporting issuer*, provided there have been no material changes in the *unproved property*, the surrounding *properties*, or the general *oil* and *gas* economic climate since acquisition;
- recent sales by others of interests in the same *unproved property*;
- terms and conditions, expressed in monetary terms, of recent farm-in agreements related to the *unproved property*;
- terms and conditions, expressed in monetary terms, of recent work commitments related to the *unproved property*;
- recent sales of similar *properties* in the same general area;
- recent exploration and discovery activity in the general area;
- the remaining term of the *unproved property*; or
- burdens (such as overriding royalties) that impact on the value of the *property*.

The *reporting issuer* must disclose the basis of the calculation of the value of the *unproved property*, which may include one or more of the above-noted factors.

The *reporting issuer* must also disclose whether the value was prepared by an *independent* party. In circumstances in which paragraph 5.9(1)(e) applies and where the value is prepared by an *independent* party, in order to ensure that the *reporting issuer* is not making public disclosure of misleading information, the *CSA* expect the *reporting issuer* to provide all relevant information to the valuator to enable the valuator to prepare the estimate.

(3) **Disclosure of an Estimate of Quantity or Associated Value of a *Resource* under Subsection 5.9(2) of NI 51-101**

(a) **Overview of Subsection 5.9(2) of NI 51-101**

Pursuant to subsection 5.9(2) of NI 51-101, if a *reporting issuer* discloses an estimate of a *resource* quantity or an associated value, the estimate must have been prepared by a *qualified reserves evaluator or auditor*. If a *reporting issuer* obtains or carries out an evaluation of *resources* and wishes to file or disseminate a report in a format comparable to that prescribed in *Form 51-101F2*, it may do so. However, the title of such a form must not contain the term “*Form 51-101 F2*” as this form is specific to the evaluation of *reserves data*. *Reporting issuers* must modify the report on *resources* to reflect that *reserves data* is not being reported. A heading such as “Report on *Resource* Estimate by *Independent Qualified Reserves Evaluator or Auditor*” may be appropriate. Although such an evaluation is required to be carried out by a *qualified reserves evaluator or auditor*, there is no requirement that it be *independent*. If an *independent* party does not prepare the report, *reporting issuers* should consider amending the title or content of the report to make it clear that the report has not been prepared by an *independent* party and the *resource* estimate is not an independent *resource* estimate.

The *COGE Handbook* recommends the use of probabilistic *evaluation* methods for making *resource* estimates, and although it does not provide detailed guidance there is a considerable amount of technical literature on the subject.

In addition, pursuant to section 5.3 and paragraph 5.9(2)(b) of NI 51-101, the *reporting issuer* must ensure that the estimated *resource* relates to the most specific category of *resources* in which the *resource* can be classified. As discussed above in subsection 5.5(2) of this Companion Policy, if a *reporting issuer* wishes to disclose an aggregate *resource* estimate which involves the aggregation of numerous *properties, prospects* or *resources*, it must ensure that the disclosure does not result in a contravention of the requirement in paragraph 5.9(2)(b) of NI 51-101.

Subsection 5.9(2) requires the *reporting issuer* to disclose certain information in addition to that prescribed in subsection 5.9(1) of NI 51-101 to assist recipients of

the disclosure in understanding the nature of risks associated with the estimate. This information includes a definition of the *resource* category used for the estimate, disclosure of factors relevant to the estimate and cautionary language.

(b) Definitions of *Resource* Categories

For the purpose of complying with the requirement of defining the *resource* category, the *reporting issuer* must ensure that disclosure of the definition is consistent with the *resource* categories and terminology set out in the *COGE Handbook*, pursuant to section 5.3 of *NI 51-101*. Section 5 of volume 1 of the *COGE Handbook* and the *NI 51-101* Glossary identify and define the various *resource* categories.

A *reporting issuer* may wish to report *reserves* or *resources* **other than reserves** of *oil* or *gas* as “in-place volumes”. By definition, *reserves* of any type, *contingent resources* and *prospective resources* are estimates of volumes that are recoverable or potentially recoverable and, as such, cannot be described as being “in-place”. Terms such as “potential *reserves*”, “undiscovered *reserves*”, “*reserves* in place”, “in-place *reserves*” or similar terms must not be used because they are incorrect and misleading. The disclosure of *reserves* or **of resources other than reserves** must be consistent with the ~~*reserves and resources*~~ terminology and categories set out in the *COGE Handbook*, pursuant to section 5.3 of *NI 51-101*.

The *reporting issuer* can report other categories of *resources*, such as *discovered and undiscovered resources*, as in-place volumes. However, the issuer should caution the reader that this does not represent recoverable volumes **petroleum initially-in-place, undiscovered petroleum initially-in-place and total petroleum initially-in-place. However, the additional disclosure required by section 5.16 of NI 51-101 must also be included.**

(c) Application of Subsection 5.9(2) of *NI 51-101*

If the *reporting issuer* discloses an estimate of a *resource* quantity or associated value, the *reporting issuer* must additionally disclose the following:

- (i) a definition of the *resource* category used for the estimate;
- (ii) the *effective date* of the estimate;
- (iii) significant positive and negative factors relevant to the estimate;
- (iv) the contingencies which prevent the classification of a contingent *resource* as a *reserve*; and
- (v) cautionary language as prescribed by subparagraph 5.9(2)(c)(v) of *NI 51-101*.

The *resource* estimate may be disclosed as a single quantity such as a median or mean, representing the best estimate. Frequently, however, the estimate consists

of three values that reflect a range of reasonable likelihoods (the low value reflecting a conservative estimate, the middle value being the best estimate, and the high value being an optimistic estimate).

Guidance concerning defining the *resource* category is provided above in section 5.3 and paragraph 5.5(3)(b) of this Companion Policy.

Reporting issuers are required to disclose significant positive and negative factors relevant to the estimate pursuant to subparagraph 5.9(2)(c)(iii). For example, if there is no infrastructure in the region to transport the resource, this may constitute a significant negative factor relevant to the estimate. Other examples would include a significant lease expiry or any legal, capital, political, technological, business or other factor that is highly relevant to the estimate. To the extent that the *reporting issuer* discloses an estimate for numerous properties that are aggregated, it may disclose significant positive and negative factors relevant to the aggregate estimate, unless discussion of a particular material *resource* or *property* is warranted in order to provide adequate disclosure to investors.

The cautionary language in subparagraph 5.9(2)(c)(v) includes a prescribed disclosure that there is no certainty that it will be commercially viable to produce any portion of the resources. The concept of commercial viability would incorporate the meaning of the word “commercial” provided in the NI 51-101 Glossary.

The general disclosure requirements of paragraph 5.9(2)(c) of *NI 51-101* may be illustrated by an example. If a *reporting issuer* discloses, for example, an estimate of a volume of its *bitumen* which is a *contingent resource* to the issuer, the disclosure would include information of the following nature:

The *reporting issuer* holds a [●] interest in [provide description and location of interest]. As of [●] date, it estimates that, in respect of this interest, it has [●] bbls of *bitumen*, which would be classified as a *contingent resource*. A *contingent resource* is defined as [cite current definition in the *COGE Handbook*]. There is no certainty that it will be commercially viable to produce any portion of the *resource*. The contingencies which currently prevent the classification of the *resource* as a *reserve* are [state specific capital costs required to render *production* economic, applicable regulatory considerations, pricing, specific supply costs, technological considerations, and/or other relevant factors]. A significant factor relevant to the estimate is [e.g.] an existing legal dispute concerning title to the interest.

To the extent that this information is provided in a previously filed document, and it relates to the same interest in *resources*, the issuer can omit disclosure of significant positive and negative factors relevant to the estimate and the contingencies which prevent the classification of the *resource* as a *reserve*.

However, the issuer must make reference in the current disclosure to the title and date of the previously filed document.

5.6 Analogous Information

A *reporting issuer* may wish to base an estimate on, or include comparative *analogous information* for their area of interest, such as *reserves*, *resources*, and *production*, from *fields* or wells, in nearby or geologically similar areas. Particular care must be taken in using and presenting this type of information. Using only the best wells or *fields* in an area, or ignoring dry holes, for instance, may be particularly misleading. It is important to present a factual and balanced view of the information being provided.

The *reporting issuer* must comply with the disclosure requirements of section 5.10 of *NI 51-101*, when it discloses *analogous information*, as that term is broadly defined in *NI 51-101*, for an area which includes an area of the *reporting issuer's* area of interest. Pursuant to subsection 5.10(2) of *NI 51-101*, if the issuer discloses an estimate of its own *reserves* or *resources* based on an extrapolation from the *analogous information*, or if the *analogous information* itself is an estimate of its own *reserves* or *resources*, the issuer must ensure the estimate is prepared in accordance with the *COGE Handbook* and disclosed in accordance with *NI 51-101* generally. For example, in respect of a *reserves* estimate, the estimate must be classified and prepared in accordance with the *COGE Handbook* by a *qualified reserves evaluator or auditor* and must otherwise comply with the requirements of section 5.2 of *NI 51-101*.

5.7 Consistent Use of Units of Measurement

Reporting issuers should be consistent in their use of units of measurement within and between disclosure documents, to facilitate understanding and comparison of the disclosure. For example, *reporting issuers* should not, without compelling reason, switch between imperial units of measure (such as barrels) and Système International (SI) units of measurement (such as tonnes) within or between disclosure documents. Issuers should refer to Appendices B and C of volume 1 of the *COGE Handbook* for the proper reporting of units of measurement.

In all cases, in accordance with subparagraph 5.2(a)(iii) and section 5.3 of *NI 51-101*, *reporting issuers* should apply the relevant terminology and unit prefixes set out in the *COGE Handbook*.

5.8 BOEs and McfGEs

Section 5.14 of *NI 51-101* sets out requirements that apply if a *reporting issuer* chooses to make disclosure using units of equivalency such as *BOEs* or *McfGEs*. The requirements include prescribed methods of calculation and cautionary disclosure as to the possible limitations of those calculations. Section 13 of the *COGE Handbook*, under the heading "Barrels of Oil Equivalent", provides additional guidance.

5.9 Finding and Development costs

Section 5.15 of *NI 51-101* sets out requirements that apply if a *reporting issuer* chooses to make disclosure of finding and *development costs*.

Because the prescribed methods of calculation under section 5.15 involve the use of *BOEs*, section 5.14 of *NI 51-101* necessarily applies to disclosure of finding and *development costs* under section 5.15. As such, the finding and development cost calculations must apply a conversion ratio as specified in section 5.14 and the cautionary disclosure prescribed in section 5.14 will also be required.

BOEs are based on imperial units of measurement. If the *reporting issuer* uses other units of measurements (such as SI or "metric" measures), any corresponding departure from the requirements of section 5.15 should reflect the use of units other than *BOEs*.

5.10 Prospectus Disclosure

In addition to the general disclosure requirements in *NI 51-101* which apply to prospectuses, the following commentary provides additional guidance on topics of frequent enquiry.

- (1) **Significant Acquisitions** - To the extent that an issuer engaged in *oil and gas activities* discloses a significant acquisition in its prospectus, it must disclose sufficient information for a reader to determine how the acquisition affected the *reserves data* and other information previously disclosed in the issuer's *Form 51-101F1*. This requirement stems from Part 6 of *NI 51-101* with respect to material changes. This is in addition to specific prospectus requirements for financial information satisfying significant acquisitions.
- (2) **Disclosure of Resources** - The disclosure of *resources*, excluding proved and *probable reserves*, is generally not mandatory under *NI 51-101*, except for certain disclosure concerning the issuer's unproved *properties* and *resource* activities as described in Part 6 of *Form 51-101F1*, which information would be incorporated into the prospectus. Additional disclosure beyond this is voluntary and must comply with sections 5.9 and 5.10 of *NI 51-101*, as applicable. However, the general securities disclosure obligation of "full, true, and plain" disclosure of all *material* facts in a prospectus would require the disclosure of *resources* that are *material* to the issuer, even if the disclosure is not mandated by *NI 51-101*. Any such disclosure should be based on supportable analysis.
- (3) **Proved or Probable Undeveloped reserves** - Further to the guidance provided in subsection 5.2(4) of this Companion Policy, proved or probable *undeveloped reserves* must be reported in the year in which they are recognized. If the *reporting issuer* does not disclose the proved or probable *undeveloped reserves* just because it has not yet spent the capital to develop these *reserves*, it may be omitting *material* information, thereby causing the *reserves* disclosure to be misleading. If the issuer has a prospectus, the prospectus might not contain full,

true and plain disclosure of all *material* facts if it does not contain information about these proved *undeveloped reserves*.

- (4) **Reserves Reconciliation in an Initial Public Offering** - In an initial public offering, if the issuer does not have a *reserves* report as at its prior year-end, or if this report does not provide the information required to carry out a *reserves* reconciliation pursuant to item 4.1 of *Form 51-101F1*, the *CSA* may consider granting relief from the requirement to provide the *reserves* reconciliation. A condition of the relief may include a description in the prospectus of relevant changes in any of the categories of the *reserves* reconciliation.
- (5) **Relief to Provide More Recent *Form 51-101F1* Information in a Prospectus** - If an issuer is filing a preliminary prospectus and wishes to disclose *reserves data* and other *oil* and *gas* information as at a more recent date than its applicable year-end date, the *CSA* may consider relieving the issuer of the requirement to disclose the *reserves data* and other information as at year-end.

An issuer may determine that its obligation to provide full, true and plain disclosure obliges it to include in its prospectus *reserves data* and other *oil* and *gas* information as at a date more recent than specified in the prospectus requirements. The prospectus requirements state that the information must be as at the issuer's most recent financial year-end in respect of which the prospectus includes financial statements. The prospectus requirements, while certainly not presenting an obstacle to such more current disclosure, would nonetheless require that the corresponding information also be provided as at that financial year-end.

We would consider granting relief on a case-by-case basis to permit an issuer in these circumstances to include in its prospectus the *oil* and *gas* information prepared with an *effective date* more recent than the financial year-end date, without also including the corresponding information effective as at the year-end date. A consideration for granting this relief may include disclosure of *Form 51-101F1* information with an *effective date* that coincides with the date of interim financial statements. The issuer should request such relief in the covering letter accompanying its preliminary prospectus. The grant of the relief would be evidenced by the prospectus receipt.

PART 6 MATERIAL CHANGE DISCLOSURE

6.1 Changes from Filed Information

Part 6 of *NI 51-101* requires the inclusion of specified information in disclosure of certain material changes.

The information to be filed each year under Part 2 of *NI 51-101* is prepared as at, or for a period ended on, the *reporting issuer's* most recent financial year-end. That date is the *effective date* referred to in subsection 6.1(1) of *NI 51-101*. When a material change occurs after that date, the filed information may no longer, as a result of the material

change, convey meaningful information, or the original information may have become misleading in the absence of updated information.

Part 6 of *NI 51-101* requires that the disclosure of the material change include a discussion of the *reporting issuer's* reasonable expectation of how the material change has affected the issuer's *reserves data* and other information contained in its filed disclosure. This would not necessarily require that an *evaluation* be carried out. However, the *reporting issuer* should ensure it complies with the general disclosure requirements set out in Part 5, as applicable. For example, if the material change report discloses an updated *reserves* estimate, this should be prepared in accordance with the *COGE Handbook* and by a *qualified reserves evaluator or auditor*.

This material change disclosure can reduce the likelihood of investors being misled, and maintain the usefulness of the original filed *oil* and *gas* information when the two are read together.

APPENDIX 1
to
COMPANION POLICY 51-101CP STANDARDS OF DISCLOSURE
FOR OIL AND GAS ACTIVITIES

SAMPLE RESERVES DATA DISCLOSURE

Format of Disclosure

NI 51-101 and *Form 51-101F1* do not mandate the format of the disclosure of *reserves data* and related information by *reporting issuers*. However, the CSA encourages *reporting issuers* to use the format presented in this Appendix.

Whatever format and level of detail a *reporting issuer* chooses to use in satisfying the requirements of *NI 51-101*, the objective should be to enable reasonable investors to understand and assess the information, and compare it to corresponding information presented by the *reporting issuer* for other reporting periods or to similar information presented by other *reporting issuers*, in order to be in a position to make informed investment decisions concerning securities of the *reporting issuer*.

A logical and legible layout of information, use of descriptive headings, and consistency in terminology and presentation from document to document and from period to period, are all likely to further that objective.

Reporting issuers and their advisers are reminded of the *materiality* standard under section 1.4 of *NI 51-101*, and of the instructions in *Form 51-101F1*.

See also sections 1.4, 2.2 and 2.3 and subsections 2.7(87) and 2.7(98) of Companion Policy 51-101CP.

Sample Tables

The following sample tables provide an example of how certain of the *reserves data* might be presented in a manner consistent with *NI 51-101*.

These sample tables do not reflect all of the information required by *Form 51-101F1*, and they have been simplified to reflect *reserves* in one country only. For the purpose of illustration, the sample tables also incorporate information not mandated by *NI 51-101* but which *reporting issuers* might wish to include in their disclosure; shading indicates this non-mandatory information.

**SUMMARY OF OIL AND GAS RESERVES
as of December 31, 2006**

CONSTANT PRICES AND COSTS [OPTIONAL SUPPLEMENTAL DISCLOSURE]

RESERVES CATEGORY	RESERVES ⁽¹⁾							
	LIGHT AND MEDIUM OIL		HEAVY OIL		NATURAL GAS ⁽²⁾		NATURAL GAS LIQUIDS	
	Gross (Mbbbl)	Net (Mbbbl)	Gross (Mbbbl)	Net (Mbbbl)	Gross (MMcf)	Net (MMcf)	Gross (Mbbbl)	Net (Mbbbl)
PROVED								
Developed Producing	xx	xx	xx	xx	xx	xx	xx	xx
Developed Non-Producing	xx	xx	xx	xx	xx	xx	xx	xx
Undeveloped	xx	xx	xx	xx	xx	xx	xx	xx
TOTAL PROVED	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
PROBABLE	xx	xx	xx	xx	xx	xx	xx	xx
TOTAL PROVED PLUS PROBABLE	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx

(1) Other product types must be added if material.

(2) Estimates of reserves of natural gas may be reported separately for (i) associated and non-associated gas (combined), (ii) solution gas and (iii) coal bed methane.

 OPTIONAL SUPPLEMENTAL

SUMMARY OF NET PRESENT VALUES OF FUTURE NET REVENUE
as of December 31, 2006
CONSTANT PRICES AND COSTS [OPTIONAL SUPPLEMENTAL DISCLOSURE]

RESERVES CATEGORY	NET PRESENT VALUES OF FUTURE NET REVENUE										
	BEFORE INCOME TAXES DISCOUNTED AT (%/year)					AFTER INCOME TAXES DISCOUNTED AT (%/year)					UNIT VALUE BEFORE INCOME TAX DISCOUNTED AT 10%/year
	0 (MM\$)	5 (MM\$)	10 (MM\$)	15 (MM\$)	20 (MM\$)	0 (MM\$)	5 (MM\$)	10 (MM\$)	15 (MM\$)	20 (MM\$)	(\$/Mcf) (\$/bbl)
PROVED											
Developed Producing	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
Developed Non-Producing	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
Undeveloped	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
TOTAL PROVED	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xx
PROBABLE	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
TOTAL PROVED PLUS PROBABLE	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxx

OPTIONAL
SUPPLEMENTAL

Reference: Item 2.2 of *Form 51-101F1*

**TOTAL FUTURE NET REVENUE
(UNDISCOUNTED)
as of December 31, 2006**

CONSTANT PRICES AND COSTS [OPTIONAL SUPPLEMENTAL DISCLOSURE]

RESERVES CATEGORY	REVENUE (M\$)	ROYALTIES (M\$)	OPERATING COSTS (M\$)	DEVELOPMENT COSTS (M\$)	ABANDONMENT AND RECLAMATION COSTS (M\$)	FUTURE NET REVENUE BEFORE INCOME TAXES (M\$)	INCOME TAXES (M\$)	FUTURE NET REVENUE AFTER INCOME TAXES (M\$)
Proved Reserves	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Proved Plus Probable Reserves	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx

OPTIONAL
SUPPLEMENTAL

Reference: Item 2.2 of *Form 51-101F1*

**FUTURE NET REVENUE
BY PRODUCTION GROUP
as of December 31, 2006**

CONSTANT PRICES AND COSTS [OPTIONAL SUPPLEMENTAL DISCLOSURE]

RESERVES CATEGORY	PRODUCTION GROUP	FUTURE NET REVENUE BEFORE INCOME TAXES (discounted at 10%/year) (M\$)
Proved Reserves	Light and Medium Crude Oil (including solution gas and other by-products)	xxx
	Heavy Oil (including solution gas and other by-products)	xxx
	Natural Gas (including by-products but excluding solution gas from oil wells)	xxx
	Non-Conventional Oil and Gas Activities	xxx
Proved Plus Probable Reserves	Light and Medium Crude Oil (including solution gas and other by-products)	xxx
	Heavy Oil (including solution gas and other by-products)	xxx
	Natural Gas (including by-products but excluding solution gas from oil wells)	xxx
	Non-Conventional Oil and Gas Activities	xxx

 OPTIONAL SUPPLEMENTAL

Reference: Item 2.2 of Form 51-101 F1

SUMMARY OF OIL AND GAS RESERVES
as of December 31, 2006
FORECAST PRICES AND COSTS

RESERVES CATEGORY	RESERVES ⁽¹⁾							
	LIGHT AND MEDIUM OIL		HEAVY OIL		NATURAL GAS ⁽²⁾		NATURAL GAS LIQUIDS	
	Gross (Mbbbl)	Net (Mbbbl)	Gross (Mbbbl)	Net (Mbbbl)	Gross (MMcf)	Net (MMcf)	Gross (Mbbbl)	Net (Mbbbl)
PROVED								
Developed Producing	xx	xx	xx	xx	xx	xx	xx	xx
Developed Non-Producing	xx	xx	xx	xx	xx	xx	xx	xx
Undeveloped	xx	xx	xx	xx	xx	xx	xx	xx
TOTAL PROVED	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
PROBABLE	xx	xx	xx	xx	xx	xx	xx	xx
TOTAL PROVED PLUS PROBABLE	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx

(1) Other product types must be added if material.

(2) Estimates of reserves of natural gas may be reported separately for (i) associated and non-associated gas (combined), (ii) solution gas and (iii) coal bed methane.

SUMMARY OF NET PRESENT VALUES OF FUTURE NET REVENUE
as of December 31, 2006
FORECAST PRICES AND COSTS

RESERVES CATEGORY	NET PRESENT VALUES OF FUTURE NET REVENUE										
	BEFORE INCOME TAXES DISCOUNTED AT (%/year)					AFTER INCOME TAXES DISCOUNTED AT (%/year)					UNIT VALUE BEFORE INCOME TAX DISCOUNTED AT 10%/year
	0 (MM\$)	5 (MM\$)	10 (MM\$)	15 (MM\$)	20 (MM\$)	0 (MM\$)	5 (MM\$)	10 (MM\$)	15 (MM\$)	20 (MM\$)	(\$/Mcft) (\$/bbl)
PROVED											
Developed Producing	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
Developed Non-Producing	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
Undeveloped	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
TOTAL PROVED	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xx
PROBABLE	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
TOTAL PROVED PLUS PROBABLE	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxx

- (1) A reporting issuer may wish to satisfy its requirement to disclose these unit values by inserting this disclosure for each category of proved reserves and for probable reserves, by production group, in the chart for item 2.1(3)(c) of *Form 51-101F1* (see sample chart below entitled Future Net Revenue by Production Group).
- (2) The unit values are based on net reserve volumes.

Reference: Item 2.1(1) and (2) of *Form 51-101F1*

**TOTAL FUTURE NET REVENUE
(UNDISCOUNTED)
as of December 31, 2006
FORECAST PRICES AND COSTS**

RESERVES CATEGORY	REVENUE (M\$)	ROYALTIES (M\$)	OPERATING COSTS (M\$)	DEVELOPMENT COSTS (M\$)	ABANDONMENT AND RECLAMATION COSTS (M\$)	FUTURE NET REVENUE BEFORE INCOME TAXES (M\$)	INCOME TAXES (M\$)	FUTURE NET REVENUE AFTER INCOME TAXES (M\$)
Proved Reserves	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Proved Plus Probable Reserves	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx

Reference: Item 2.1(3)(b) of *Form 51-101F1*

**FUTURE NET REVENUE
BY PRODUCTION GROUP
as of December 31, 2006
FORECAST PRICES AND COSTS**

RESERVES CATEGORY	PRODUCTION GROUP	FUTURE NET REVENUE BEFORE INCOME TAXES (discounted at 10%/year) (M\$)	UNIT VALUE (\$/Mcf) (\$/bbl)
Proved Reserves	Light and Medium Crude Oil (including solution gas and other by-products)	xxx	xxx
	Heavy Oil (including solution gas and other by-products)	xxx	xxx
	Natural Gas (including by-products but excluding solution gas and by-products from oil wells)	xxx	xxx
	Non-Conventional Oil and Gas Activities	xxx	xxx
	Total	xxx	
Proved Plus Probable Reserves	Light and Medium Crude Oil (including solution gas and other by-products)	xxx	xxx
	Heavy Oil (including solution gas and other by-products)	xxx	xxx
	Natural Gas (including by-products but excluding solution gas from oil wells)	xxx	xxx
	Non-Conventional Oil and Gas Activities	xxx	xxx
	Total	xxx	

Reference: Item 2.1(3)(c) of Form 51-101F1

**SUMMARY OF PRICING ASSUMPTIONS
as of December 31, 2006**

CONSTANT PRICES AND COSTS⁽¹⁾

Year	OIL ⁽²⁾				NATURAL GAS ⁽²⁾	NATURAL GAS LIQUIDS	EXCHANGE RATE ⁽³⁾
	WTI Cushing Oklahoma (\$US/bbl)	Edmonton Par Price 40 ⁰ API (\$Cdn/bbl)	Hardisty Heavy 12 ⁰ API (\$Cdn/bbl)	Cromer Medium 29.3 ⁰ API (\$Cdn/bbl)	AECO Gas Price (\$Cdn/MMBtu)	FOB Field Gate (\$Cdn/bbl)	(\$US/\$Cdn)
Historical (Year End)							
2003	XX	XX	XX	XX	XX	XX	XX
2004	XX	XX	XX	XX	XX	XX	XX
2005	XX	XX	XX	XX	XX	XX	XX
2006 (Year End)	XX	XX	XX	XX	XX	XX	XX

 OPTIONAL SUPPLEMENTAL

- (1) This disclosure is triggered by optional supplemental disclosure of item 2.2 of *Form 51-101F1*.
- (2) This summary table identifies benchmark reference pricing schedules that might apply to a reporting issuer.
- (3) The exchange rate used to generate the benchmark reference prices in this table.

Reference: Item 3.1 of Form 51-101 F1

SUMMARY OF PRICING AND INFLATION RATE ASSUMPTIONS
as of December 31, 2006
FORECAST PRICES AND COSTS

Year	OIL ⁽¹⁾				NATURAL GAS ⁽¹⁾ AECO Gas Price (\$Cdn/MMBtu)	NATURAL GAS LIQUIDS FOB Field Gate (\$Cdn/bbl)	INFLATION RATES ⁽²⁾ %/Year	EXCHANGE RATE ⁽³⁾ \$US/\$Cdn
	WTI Cushing Oklahoma \$US/bbl	Edmonton Par Price 40 ⁰ API \$Cdn/bbl	Hardisty Heavy 12 ⁰ API \$Cdn/bbl	Cromer Medium 29.3 ⁰ API \$Cdn/bbl				
Historical ⁽⁴⁾								
2003	xx	xx	xx	xx	xx	xx	xx	xx
2004	xx	xx	xx	xx	xx	xx	xx	xx
2005	xx	xx	xx	xx	xx	xx	xx	xx
2006	xx	xx	xx	xx	xx	xx	xx	xx
Forecast								
2007	xx	xx	xx	xx	xx	xx	xx	xx
2008	xx	xx	xx	xx	xx	xx	xx	xx
2009	xx	xx	xx	xx	xx	xx	xx	xx
2010	xx	xx	xx	xx	xx	xx	xx	xx
2011	xx	xx	xx	xx	xx	xx	xx	xx
Thereafter	xx	xx	xx	xx	xx	xx	xx	xx

(1) This summary table identifies benchmark reference pricing schedules that might apply to a reporting issuer.

(2) Inflation rates for forecasting prices and costs.

(3) Exchange rates used to generate the benchmark reference prices in this table

(4) Item 3.2 (1)(b) of *Form 51-101F1* also requires disclosure of the *reporting issuer's* weighted average historical prices for the most recent financial year (2006, in this example).

 OPTIONAL
SUPPLEMENTAL

Reference: Item 3.2 of Form 51-101 F1

**RECONCILIATION OF
COMPANY GROSS RESERVES
BY PRODUCT TYPE⁽¹⁾**

FORECAST PRICES AND COSTS

FACTORS	LIGHT AND MEDIUM OIL			HEAVY OIL			ASSOCIATED AND NON-ASSOCIATED GAS		
	Gross Proved (Mbbbl)	Gross Probable (Mbbbl)	Gross Proved Plus Probable (Mbbbl)	Gross Proved (Mbbbl)	Gross Probable (Mbbbl)	Gross Proved Plus Probable (Mbbbl)	Gross Proved (MMcf)	Gross Probable (MMcf)	Gross Proved Plus Probable (MMcf)
December 31, 2005	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Extensions & Improved Recovery	xx	xx	xx	xx	xx	xx	xx	xx	xx
Technical Revisions	xx	xx	xx	xx	xx	xx	xx	xx	xx
Discoveries	xx	xx	xx	xx	xx	xx	xx	xx	xx
Acquisitions	xx	xx	xx	xx	xx	xx	xx	xx	xx
Dispositions	xx	xx	xx	xx	xx	xx	xx	xx	xx
Economic Factors	xx	xx	xx	xx	xx	xx	xx	xx	xx
Production	xx	xx	xx	xx	xx	xx	xx	xx	xx
December 31, 2006	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx

(1) The reserves reconciliation must include other product types, including synthetic oil, bitumen, coal bed methane, hydrates, shale oil and shale gas, if material for the reporting issuer.

Reference: Item 4.1 of *Form 51-101F1*

Document comparison by Workshare Professional on Friday, September 11, 2009
13:38:22

Input:	
Document 1 ID	PowerDocs://ASC_LIB1/2572239/8
Description	ASC_LIB1-#2572239-v8-COMPANION_POLICY_51-101CP_- SENT TO COMMISSION
Document 2 ID	PowerDocs://ASC_LIB1/3283117/4
Description	ASC_LIB1-#3283117-v4-51-101CP_AMENDMENT_2009-2010
Rendering set	ASC Standard

Legend:	
<u>Insertion</u>	
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Style change	
Format change	
Moved deletion	
Inserted cell	
Deleted cell	
Moved cell	
Split/Merged cell	
Padding cell	

Statistics:	
	Count
Insertions	54
Deletions	37
Moved from	0
Moved to	0
Style change	0
Format changed	0
Total changes	91

LIST OF COMMENTERS

Proposed Amendments to National Instrument 51-101

Standards of Disclosure for Oil and Gas Activities

Request for Comment December 18, 2009

	COMMENTER	NAME	DATE
1.	Husky Energy Inc.	Janice Knoechel, P. Eng Fred Au-Yeung, P. Eng	March 17, 2010
2.	Northwest & Ethical Investments L.P.	John Kearns Bob Walker	March 19, 2010
3.	Nexen Inc.	Rick Beingessner	March 19, 2010
4.	Suncor Energy Inc.	Shawn P. Poirier	March 19, 2010
5.	Imperial Oil Limited	Paul A. Smith	March 19, 2010
6.	Macleod Dixon LLP	Kevin E. Johnson	March 19, 2010
7.	Cenovus Energy Inc.	Eric Geppert	March 26, 2010

March 17, 2010

British Columbia Securities Commission
Alberta Securities Commission
Saskatchewan Financial Services Commission – Securities Division
Manitoba Securities Commission
Ontario Securities Commission
Autorite des marches financiers
New Brunswick Securities Commission
Registrar of Securities, Prince Edward Island
Nova Scotia Securities Commission
Newfoundland and Labrador Securities Commission
Registrar of Securities, Northwest Territories
Registrar of Securities, Yukon Territory
Registrar of Securities, Nunavut

Dear Sir/Madam:

**Re: Notice and Request for Comment - Proposed Amendments to National Instrument
51-101 *Standards of Disclosure for Oil and Gas Activities***

Husky Energy is pleased to provide comments on the “Notice and Request for Comment - Proposed Amendments to National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities*”. Husky is a publicly held integrated energy and energy related company headquartered in Calgary, Alberta with total assets greater than \$26 billion. Husky has exploration and production assets in Canada in Alberta, British Columbia, Saskatchewan, Newfoundland and Labrador, the Northwest Territories and internationally in offshore Greenland, United States, offshore China and offshore Indonesia.

We are pleased that the securities commissions have requested comments on the proposed amendments to NI 51-101 before completing the process. Husky has chosen to comment on the most significant items but that does not imply that there may not be other beneficial changes to the proposed amendments.

Husky's recommendations are summarized as follows:

- Change the requirement to disclose the unrecoverable portion of petroleum initially-in-place (PIIP), if PIIP is disclosed.
- Change the requirement to identify and discuss significant economic factors or uncertainties that affect the anticipated development or production on *properties* with no attributed *reserves*.
- It should be noted that the proposed change to the price sensitivity to conform with U.S. SEC regulations does not in itself make reserves disclosure comparable to the full SEC disclosure rules.

Husky's recommendations are provided in more detail below.

Amendment 10. NI 51-101 new section 5.16 - Prohibition Against Addition Across Resource Categories - Subsection (2) (a) and (b)

The disclosure of total PIIP should be allowed but the requirement to also disclose the unrecoverable portion is not reasonable. If Contingent Resources, or the recoverable portion of PIIP is not known, then the unrecoverable portion of PIIP is also not known and cannot be disclosed. PIIP would usually be disclosed for projects that are less mature and recovery technology has not been chosen. In those cases, the unrecoverable portion of PIIP has not yet been evaluated and therefore cannot be disclosed.

The current cautionary statement required by NI 51-101 section 5.9 (v) is very clear. "There is no certainty that any portion of the resources will be discovered. If discovered, there is no certainty that it will be commercially viable to produce any portion of the resources". To add the additional cautionary language in the proposed amendment "The [PIIP] includes unrecoverable volumes and is not an estimate of the [value or volume] of the substances that will ultimately be recovered." is unnecessary as it is redundant. It would be more confusing to investors to repeat the statement twice in a slightly different way.

We recommend that subsection (2) should read: "Notwithstanding subsection (1), a *reporting issuer* may disclose an estimate of *total petroleum initially-in-place*." The remainder of subsection (2) and (a) and (b) should be deleted.

Amendment 22. NI 51-101 F1 new section 6.2.1 – Significant Factors or Uncertainties Relevant to Properties with no Attributed Reserves

This amendment requires the identification and discussion of significant economic factors or significant uncertainties that affect development or production. In the case of properties with no attributed reserves, then the projects are likely not mature enough to know the plans for future development or to be able to discuss them in a meaningful way. Anticipated development plans could change in the future and that could create more confusion for

investors. The cautionary language required for resources is already very clear, "There is no certainty that it will be commercially viable to produce any portion of the resources". Additional discussion is not necessary. Also, NI 51-101 already requires the specific contingencies which prevent the classification of the resources as reserves be disclosed. These are commercial items that would usually be related to development or production. Therefore, an additional discussion would not be necessary. For companies that may have several of these properties, especially if they are very different, this discussion could be very difficult to prepare in a way that is meaningful for the properties in aggregate and any attempt could be more confusing than helpful to investors

We recommend that new section 6.2.1 should be deleted.

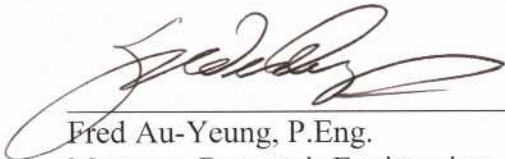
Amendment 19. NI 51-101 F1 revision to Item 3.1

This amendment changes the price sensitivity case from the last day of the year to the price as determined by the U.S. SEC. It should be noted that this change alone does not make the reserves disclosure fully compliant with SEC regulations, as it addresses only the price used in reserves disclosure.

Yours truly,



Janice Knoechel, P.Eng.
Reserve Specialist



Fred Au-Yeung, P.Eng.
Manager, Reservoir Engineering

March 19, 2010

British Columbia Securities Commission
Alberta Securities Commission
Saskatchewan Financial Services Commission – Securities Division
Manitoba Securities Commission
Ontario Securities Commission
Autorité des marchés financiers
New Brunswick Securities Commission
Registrar of Securities, Prince Edward Island
Nova Scotia Securities Commission
Newfoundland and Labrador Securities Commission
Registrar of Securities, Northwest Territories
Registrar of Securities, Yukon Territory
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Re: Request for Comment – Proposed Amendments to NI 51-101 *Standards of Disclosure for Oil and Gas Activities*, Form 51-101F1 *Statement of Reserves Data and Other Oil And Gas Information*, Form 51-101F2 *Report on Reserves Data by Independent Qualified Reserves Evaluator or Auditor*, Form 51-101F3 *Report of Management and Directors on Oil and Gas Disclosure* and Companion Policy 51-101CP *Standards of Disclosure for Oil and Gas Activities*

We are writing in response to the Canadian Securities Administrators' (CSA) request for comments on its proposed amendments to National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities*, and its companion policies¹.

¹ http://www.osc.gov.on.ca/documents/en/Securities-Category5/rule_20091218_51-101_rfc-pro-amd.pdf

With \$4.3 billion in assets under management, Northwest & Ethical Investments L.P.'s approach to investing incorporates the thesis that companies integrating best environmental, social and governance (ESG) practices into their strategy and operations will provide higher risk-adjusted returns over the long term. We pay particular attention to the oil and gas sector, because it makes a major contribution to the total market capitalization of the TSX Composite Index, and because it is associated with significant risks from an ESG perspective. Through our company evaluations, our active engagement with the companies in our funds, and our issues research, we have developed considerable insight into good practices and weaknesses in corporate ESG disclosure in the industry, which we endeavour to share in the context of consultations on policy and standards.

Northwest & Ethical Investments L.P. commends the CSA for its timely effort to enhance corporate disclosure in the oil and gas sector, and for seeking input in this process. In the following pages we set out our general response to the proposed amendments, as well as our specific comments and recommendations on the CSA consultation documents.

Changing disclosure needs for a changing oil and gas industry

A growing number of investment institutions are seeking to integrate material environmental, social and governance (ESG) factors into their decision making. According to research by the Social Investment Organization, assets managed under socially responsible investment (SRI) mandates in Canada reached over C\$609 billion in 2008, representing almost 20% of total assets under management². Internationally, 538 institutions managing assets in excess of US\$18 trillion have become signatories to the UN Principles for Responsible Investment³, while the Carbon Disclosure Project is supported by 534 investors with assets under management of US\$64 trillion⁴. To be able to integrate ESG considerations, investors need access to consistent data, allowing them to compare the systems and performance of companies across sectors. This suggests that enhancing ESG disclosure requirements will be an important factor in maintaining the future competitiveness of Canadian exchanges. We note that the Ontario Securities Commission (OSC) will be conducting activities this year to enhance environmental and governance disclosure requirements. We hope that other members of the CSA will participate in this work, and that it will be opened up to wide consultation.

Against this background of change in the disclosure needs of investors, the oil and gas industry is also undergoing a transformation, in Canada and internationally. Today's oil and gas industry looks very different from that of 20 years ago, and 10 years from now the industry will be different again from that of today. At present conventional oil and gas exploration and production remains the dominant revenue generator in Canada, but this is being outpaced by growth in exploitation of unconventional assets. Oil sands, shale gas, coal-bed methane, offshore oil, enhanced oil recovery and other relatively new production streams form an increasingly significant proportion of production and reserves. These unconventional assets bring a suite of benefits, costs and risks that differ from those associated with conventional oil and gas. As a result, investors require greater clarity both on the extent to which a company's strategic positioning depends on specific types of unconventional assets, and on the unique risks associated with those assets.

In Companion Policy 51-101CP, the CSA acknowledges that the present policy drafts make few specific references to unconventional oil and gas, and encourages issuers engaged in these areas of activity to

² <http://www.socialinvestment.ca/documents/caReview2008.pdf>

³ <http://www.unpri.org/files/PRI%20Annual%20Report%2009.pdf>

⁴ <https://www.cdproject.net/en-US/WhatWeDo/Pages/overview.aspx>

supplement prescribed disclosure with information that will help investors to understand the business (p10570). In our experience, while some Canadian oil and gas companies are showing leadership in recognizing the changing expectations of investors and acknowledging the specific risks and opportunities of unconventional oil and gas, not all issuers have been so responsive in meeting these new disclosure needs. Over the past year we have conducted comparative research into ESG disclosure among companies operating in the Alberta oil sands, highlights of which were published in the report *Lines in the Sands: Oil Sands Sector Benchmarking* (http://www.ethicalfunds.com/SiteCollectionDocuments/docs/lines_in_the_sands_full.pdf). We found that many of the companies were failing to provide information on what we believe to be material issues with potential to affect investment decision-making.

Drawing on our recent research, in the following sections we will focus in particular on disclosure issues relating to oil sands assets. We note, however, that the unique characteristics of other types of unconventional oil and gas activity may generate other sets of unique disclosure needs. The CSA is ideally placed to set minimum expectations for disclosure on unconventional oil and gas issues through national instruments such as NI 51-101, pushing all issuers to adapt to emerging disclosure needs. We believe the role of the CSA, in providing guidance and creating a level playing field, is crucial.

National Instrument 51-101 Standards of Disclosure for Oil and Gas Activities

Section 1.1(v) Definition of 'Product Types'

We recommend that issuers be required to specify the bitumen extraction method in disclosure on oil sands product types.

The draft recognizes that investors need to understand the extent to which a company is exposed to various aspects of oil and gas activity. This is indeed essential, as different activities are associated with distinct risks and opportunities. Section 1.1(v) provides a fairly comprehensive breakdown of product types for which companies should be providing disaggregated disclosure. However, we believe further clarification is required regarding 'synthetic oil' and 'bitumen'.

Bitumen can be extracted through two radically different approaches, in situ extraction and mining. There appears to be an assumption in the Companion Policy that the product of oil sands mining is invariably upgraded to synthetic oil, while the product of in situ extraction is always 'raw' bitumen (p10570). This is not always the case: there are examples of in situ producers upgrading bitumen, and recent changes in demand and price differentials have encouraged miners with upgrading facilities to ship 'raw' bitumen instead.

The significant differences between in situ and mining extraction create differing risks and opportunities, warranting disaggregated disclosure. Mining and in situ extraction involve differing technology, skills, and equipment. For example, a forecasted shortage of the massive tires used on oil sands dump-trucks could impact severely on a mining operation, but would have little effect on an in situ operation. In such a case, clarity on the relative exposure of the company's assets to oil sands mining or in situ extraction would be material information for investors.

The environmental challenges and impacts associated with the two types of oil sands extraction also vary. Although in situ has its own set of environmental challenges, much of the public controversy about current and potential environmental impacts of the oil sands industry relates to aspects that are specific to mining, such as the creation of tailings ponds. We note that in situ operators have created the In Situ

Oil Sands Alliance (IOSA), which devotes considerable effort to emphasising for the public and investors the distinction between in situ and mining operations.

The product type 'shale gas' is essentially similar to 'natural gas', but the CSA has rightly recognized the need to differentiate production and reserves estimates between these two forms of gas based on differing methods of extraction. In the same way, we believe investors need to be able to distinguish the extent of a company's exposure to the risks and opportunities of different methods of bitumen extraction.

Section 5.16 Prohibition Against Addition Across Resource Categories

We support the addition of Section 5.16, prohibiting addition across resource categories. This will help to prevent the disclosure of misleading reserves estimates and as such is an enhancement to the instrument.

Section 5.17 Disclosure of High and Low Case Estimates of Reserves and Resources other than Reserves

We support the addition of Section 5.17, particularly the requirement to disclose both the high and low case estimates. We believe that this requirement will also help to prevent misleading estimates, and that it represents an enhancement to the instrument.

Form 51-101F Statement of Reserves Data and Other Oil and Gas Information

The proposed amendments to Form 51-101F represent an improvement, but to enable investors to more completely assess the profitability of a company's future reserves, we recommend the following additions relating to costing.

Item 2.1 Reserves Data (Forecast Prices and Costs)

We recommend that oil sands miners be directed to disclose more information about reclamation and abandonment costs, and that all issuers be directed to disclose forecast costs of compliance with greenhouse gas emissions pricing regulations.

Investors need to understand the material assumptions that have been made about the profitability of future reserves. This is the basis for the current sound requirement for issuers to provide adequate disclosure on the forecast prices and costs that impact the evaluation of reserves and future net revenues. Forecast prices and costs used should be "generally accepted as being a reasonable outlook of the future" (p10569). This implies that factors that are inevitable or highly likely to emerge in the near term should be taken into consideration. We consider two such factors in the following sections. Specifically, the table referenced to Item 2.1.3(b) would be an appropriate place to include additional cost factors.

Section 2.1.3 (b) Abandonment and Reclamation Costs – Tailings Ponds

Abandonment and reclamation costs are included in the list of costs issuers are required to forecast against future revenues, recognizing that the reclamation obligation is an inevitable consequence of exploitation of a resource. However, our experience of studying current disclosure among companies operating oil sands mines suggests these issuers may not be providing a complete picture on reclamation and abandonment costs. With current technology, oil sands mining creates a unique reclamation obligation in the form of tailings ponds. Given the unresolved technical challenges surrounding tailings reclamation, and the large scale of the problem, the costs are likely to be significant, and therefore

should be considered material. We are concerned that companies with active or proposed tailings ponds may be not be including the potential costs of tailings reclamation when calculating future net revenue.

The following example illustrates the potential problem. According to its reporting for financial year 2008, a large-cap company involved primarily in oil sands mining (and therefore exposed to the obligation to reclaim tailings ponds) had allocated 0.15% of proved gross revenue towards abandonment costs. By way of comparison, a small-cap oil and gas company operating conventional assets (the reclamation of which might be assumed to present a lesser challenge) had allocated 0.77% of proved gross revenue towards abandonment costs.

Companies operating oil sands mines point to various factors to justify what appear to be low estimates of reclamation costs in their public disclosure. These include the distant horizon for reclamation of such long-lived assets, and the fact that recycled water from the tailings ponds forms part of the operational water balance. But if the purpose of disclosure is to allow investors to understand the reserves status and future net revenues from an oil sands mine, it seems misleading to downplay an unavoidable future cost that is potentially significant, even if it will not materialize in the short term. Indeed, if there is a real risk that the costs to reclaim the ponds might exceed the revenues generated, arguably these resources should not be considered as economically viable reserves.

Furthermore, mine operators now face the prospect of having to take action on tailings ponds in the near term. The Alberta government's new tailings directive specifies requirements on tailings reduction and reclamation progress, and will begin apply to operations as early as June 2011⁵. This implies that tailings reclamation costs are not merely a distant prospect, but will generate actual costs well within the forecasting timeframe commonly used for public disclosures. The Alberta regulator has indicated that this is the first of several directives focused on driving forward tailings management performance, with the eventual goal of eliminating the tailings ponds.

Tailing ponds are a significant environmental, reputational, and financial risk to the companies concerned, worthy of special attention within the context of NI 51-101

Section 2.1.3 (b) - Cost of Carbon

The list of costs to be considered against revenue includes royalties and income tax expenses. We believe that, in addition, carbon costs are likely to be increasingly material to the calculation of future net revenues. Oil and gas producers already recognize that they are likely to be exposed to impacts from current and future regulations relating to climate change. Carbon pricing is no longer a theoretical concept: it already applies in several jurisdictions, including in Alberta, where heavy emitters currently face an intensity-based cost of \$15/tonne CO₂ equivalent for emissions above their regulated allowance⁶.

Although Canadian federal and global carbon pricing frameworks remain uncertain, it seems likely that carbon costs will increase and be applied more widely in future. Prudent companies should be incorporating a price for carbon into their reserves estimates, but currently there is no disclosure on how future carbon prices could impact net revenues from reserves. Issuers should therefore be asked to disclose current and potential carbon costs to investors.

⁵ <http://www.ercb.ca/docs/documents/directives/directive074.pdf>

⁶ This regulation currently only applies to facilities that have annual GHG emissions of over 100 kilo tonnes.

Item 2.2 Supplemental Disclosure of Reserves Data

Under this item, issuers are allowed to supplement reserves disclosure under Item 2.1 with disclosure according to US requirements. When conducting our oil sands research, we observed that companies reporting under Canadian regulations provided better disaggregated disclosure than those reporting under US Securities and Exchange Commission (SEC) guidelines. We have no objection to supplemental disclosure, but note with concern that some issuers are avoiding the obligations under Item 2.1 entirely by requesting a complete exemption from the CSA reporting requirements in favour of disclosure under SEC requirements. We do not see value for investors in securities regulators granting such exemptions, as issuers reporting to SEC are not providing comparable disclosure.

Item 3.2 Forecast Prices Used in Estimates

We believe oil and gas companies should be asked to disclose the carbon pricing forecasts they are using in their estimates.

As noted earlier, greenhouse gas emissions costs are already a reality for companies operating in some jurisdictions, and there is reason to believe carbon pricing will become more common within the forecasting period that issuers currently report on. We note that in general issuers currently provide their forecast prices and costs in a table format that discloses forecast prices over 10 years – a window within which carbon pricing is likely to become an increasingly material issue. Item 3.2 guides companies on disclosure of pricing assumptions for each product type, including assumptions on inflation and exchange rates. If companies are to be asked to disclose carbon costs in the context of reserve estimates, it would seem logical to disclose assumptions regarding the future price of carbon here. Ideally we would like to see companies disclose forecast costs for carbon on a unit of oil equivalent basis (e.g. per barrel).

Carbon price forecasting is complicated by current regulatory uncertainty, but there is also great uncertainty about the future price of crude oil, which issuers are nevertheless expected to forecast. Investors need to know how companies are accounting for the future cost of carbon in their planning. As active owners, we know from engagement discussions that leading companies are already including carbon pricing as a factor in their capital investment planning. Some companies in the oil and gas industry already include this pricing in their public disclosures – a practice we would like to see adopted by all companies in high-emissions sectors.

Item 5.2 Significant Factors or Uncertainties Affecting Reserves Data / Item 6.2.1 Significant Factors or Uncertainties Relevant to Properties with No Attributed Reserves

Under Item 5.2, the reference in the Instructions to “the need to build a major pipeline or other major facility before production of reserves can begin” has been deleted. We would question the value to investors of this change. In light of the increasingly remote locations of some oil and gas exploration activities, disclosure on the potential barriers to future production (e.g. unusually high development costs or the need for pipeline infrastructure) is extremely relevant to investors. The need to build pipelines and other major facilities is included in Item 6.2.1 as an example of a factor or uncertainty relating to properties with no attributed reserves; it is not clear why this guidance is relevant here and not in the former case. If the intention behind the deletion is to highlight the fact that assets should not be booked as reserves if there is uncertainty about relevant facilities such as pipelines to distribute the product, this is a sensible change, but this intention could be specified more clearly.

Item 6.4 Additional Information Concerning Abandonment and Reclamation Costs

It is under Item 6.4 that oil sands mining companies generally choose to discuss the potential impacts of tailings pond reclamation costs on future net revenues. However, disclosure is generally limited to a boilerplate statement that reclamation costs for tailings ponds are potentially material, but have not been incorporated because the costs are undetermined. This disclosure is a welcome starting point, but does not provide robust information that investors can use to determine the long-term viability of a company's strategy. As noted earlier, investors need to understand the actual cost estimates associated with the final reclamation of tailings ponds, and the near-term costs of compliance with the Alberta Government's new tailings directive.

If reclamation and abandonment costs for tailings ponds are not being included under Item 2.1, then Item 6.4 should provide for more informative disclosure of the liability. Specifically, we would like to see an estimate of the future volume and extent of tailings ponds that will be created or sustained by exploitation of the reserves, as well as high and low estimates of the potential costs of reclamation. The latter disclosure could take the form of an aggregated estimate, or be provided on a \$/unit basis.

Conclusion

We commend CSA's continuing commitment to review and enhance disclosure standards. Robust disclosure equips investors with the information necessary for prudent decision making. At a time when investors are taking increasing interest in environmental, social and governance indicators, when carbon pricing is becoming a reality, and when the focus of the oil and gas industry is shifting towards exploitation of unconventional assets, it is timely to consider enhancements to disclosure requirements that could provide investors with a clearer picture of the differing risks and opportunities associated with emerging aspects of oil and gas production. In this context, we believe disclosure on oil sands operations could be enhanced by disaggregation of data according to the bitumen extraction approach used, and by addition of further detail on oil sands mine tailing pond reclamation; and that all oil and gas disclosure would be enhanced by disclosure of carbon costing assumptions.

Should you have any questions regarding this submission, please do not hesitate to contact Bob Walker, Vice President, Sustainability (bwalker@northwestethical.com, 604-742—8320).

Sincerely,

Northwest & Ethical Investments L.P.

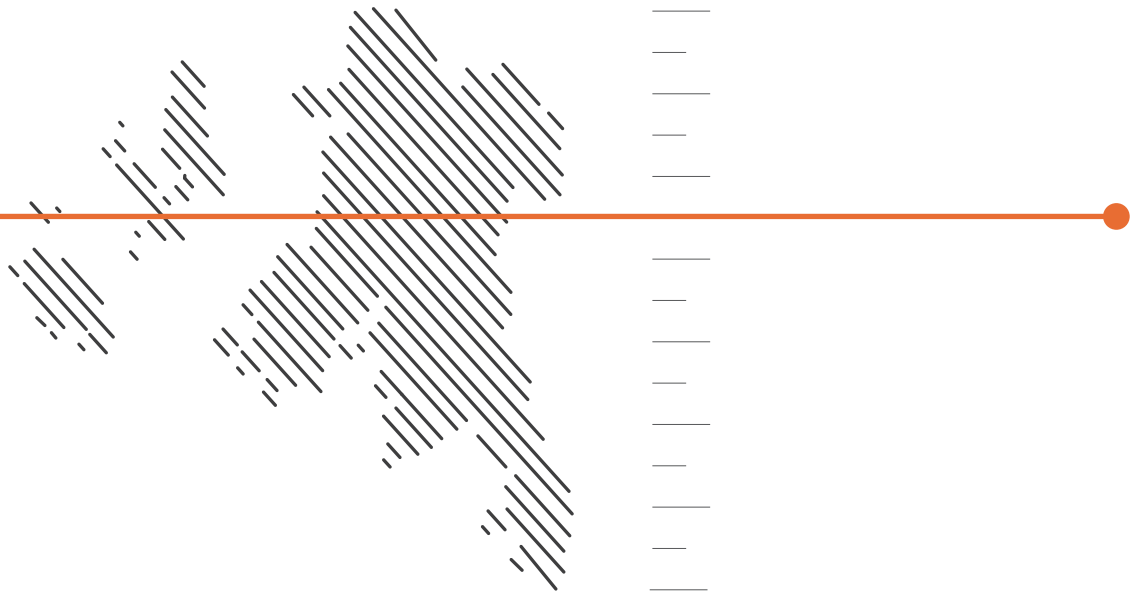


John Kearns
Chief Executive Officer



Bob Walker
Vice President, Sustainability

Lines in the Sands: Oil Sands Sector Benchmarking



Northwest & Ethical Investments L.P.



Who We Are

This report was written by Michelle de Cordova (Manager, Sustainability Research) and Jamie Bonham (Senior Sustainability Analyst) with the assistance of the Sustainability Department at Northwest & Ethical Investments L.P. The benchmarking project was conducted with the support of the National Union of Public and General Employees and Ceres.

Northwest & Ethical Investments L.P. has \$4.5 billion in assets under management. Through its Ethical Funds division, it is Canada's largest provider of socially responsible mutual funds. The Ethical Funds approach to investing is based on the thesis that companies integrating best environmental, social and governance (ESG) practices into their strategy and operations will provide higher risk-adjusted returns over the long term.

The 340,000-member National Union of Public and General Employees (NUPGE) is a family of 11 component unions. Taken together, it is one of the largest unions in Canada. NUPGE is committed to a joint trusteeship governance model for all its members' pension plans. Currently, the components of NUPGE have trustees on 10 of the largest public sector pension plans in four provinces in Canada. Together, those jointly-trusted pension plans have over C\$100 billion in assets. Within the joint trusteeship model, NUPGE promotes investment strategies that recognize the importance of ESG issues in protecting the broad and long-term interests of its members.

Ceres is a leading coalition of investors, environmental groups and other public interest organizations working with companies to address sustainability challenges, such as global climate change. Ceres coordinates the Investor Network on Climate Risk (INCR), a group of 80 institutional investors and investment firms with collective assets totalling more than US\$8 trillion.

Contact

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Summary

Alberta’s oil sands place the province second only to Saudi Arabia in the account of global oil reserves, and almost every major Canadian and international oil company is (or plans to be) involved in the development of the resource. But the oil sands have become a focus of global criticism because of the industry’s heavy environmental and social impacts—impacts that can generate a complex of litigious, regulatory, policy and social license risks to shareholder value. As more companies enter the oil sands, and the contribution of oil sands to company reserves increases, more investors are becoming exposed to these risks, and the level of their exposure is increasing.

Investors can manage risk and contribute to corporate change by informed investment decision-making, by engaging the companies they own, and by offering their perspective in policy consultations. To do so effectively, investors need to understand sector risks, and how they apply to specific companies: this is why we carry out benchmarking research.

For this benchmarking exercise, we limited the scope of our research to 13 publicly-traded companies currently operating commercial-scale oil sands projects.

We considered each company’s exposure to environmental, social and governance (ESG) risk in the following areas:

- Disclosure
- Aboriginal engagement
- Climate change and air pollution
- Water
- Land use, biodiversity and reclamation
- Strategy for change.

Eleven out of 13 companies completed the benchmarking survey, and seven companies met with us during the research process for in-depth discussions. Imperial and Husky declined to respond to the questionnaire, referring us instead to their public disclosure.¹

PUBLIC COMPANIES WITH OIL SANDS INTERESTS

- BP (future)*
- Canadian Natural Resources*
- Canadian Oil Sands Trust*
- Chevron
- Connacher Oil and Gas*
- ConocoPhillips*
- Devon Energy*
- EnCana*
- Exxon (future)*
- Husky Energy*
- Imperial Oil*
- Ivanhoe Energy (future)*
- Japan Petroleum Exploration — Japan Canada Oil Sands
- Marathon Oil
- Murphy Oil
- Nexen*
- Nippon Oil Exploration
- Mocal Energy
- OPTI Canada
- Pengrowth Energy Trust (future)*
- Petrobank Energy
- Shell*
- StatoilHydro (future)*
- Suncor Energy* / Petro-Canada*
- Teck (future)*
- Total*
- UTS Energy (future)*

*=included in benchmarking

	DISCLOSURE	FIRST NATIONS	AIR	WATER	LAND	STRATEGY
CNRL	◆◆◆◆◇	◆◆◆◆◆	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◆	◆◆◆◆◇
Connacher	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◆	◆◆◆◆◇	◆◆◆◆◆	◆◆◆◆◇
Conoco	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◆	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◇
COS	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◇
Devon	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◆	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◆
EnCana	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◆	◆◆◆◆◇
Husky	◆◆◆◆◆	◆◆◆◆◆	◆◆◆◆◆	◆◆◆◆◇	◆◆◆◆◆	◆◆◆◆◆
Imperial	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◆	◆◆◆◆◇
Nexen	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◆
Petro-Can	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◇
Shell	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◇
Suncor	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◇
Total	◆◆◆◆◇	◆◆◆◆◇	N/A	N/A	◆◆◆◆◇	◆◆◆◆◇
AVERAGE	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◇	◆◆◆◆◆	◆◆◆◆◇

Performance Risk:

◆◆◆◆◆ *Higher risk:*
The company failed to disclose, or disclosed minimal or non-existent risk mitigation policies and practices under this theme.

◆◆◆◆◇ *Lower risk:*
The company disclosed robust risk mitigation policies and practices under this theme.

Investors have a right to disclosure of material company information that could affect investment decision-making. Nexen, Suncor and ConocoPhillips stood out for the relative quality and completeness of their public disclosure. At the other end of the spectrum, it is cause for concern that Imperial and Husky either did not consider the issues we raised to be material, or were unaware that their public disclosure did not contain the information we sought. With a few exceptions, companies do not break down ESG-related reporting by business unit, making it difficult for investors to assess the specific risks associated with oil sands operations. Overall, disclosure was weakest on the themes of land and strategy for change.

All oil sands companies in our survey operate in areas overlapping Aboriginal traditional territories. Because Aboriginal rights claims are a matter to be determined between the communities concerned and the Crown, risk to company value cannot be wholly eliminated by company action—but it can be mitigated through an effective engagement strategy. Performance on this theme varied widely, with higher scores for companies with strong roots in the region. Worryingly, only a handful of companies acknowledge in public disclosure the risk posed by aboriginal rights litigation; only a third recognize treaty rights in their Aboriginal policies, and none incorporate the principle of Free, Prior and Informed Consent; and few base their consultation approaches on guidelines endorsed by Aboriginal communities themselves. Over a third of operators did not disclose the existence of even basic agreements with any impacted communities.

Compared to other oil sands operators, Shell stood out for the *relative* carbon efficiency of its projects. It was the only company with targets for absolute emissions reductions, and the company that had most strikingly reduced its absolute global emissions—although this can be attributed partly to a declining production trend over the past several years. Other companies lacked even emissions intensity targets to reduce exposure to current Alberta regulations. Companies are pursuing a variety of approaches to emissions control, ranging from alternative extraction methods and energy efficiency to carbon capture and storage (CCS). Although a few companies are taking significant steps to make the technology a reality, more display an apparent credibility gap between words and action on CCS. A further cause for concern is absence of targets and weak performance across the sector on reduction of emissions of health-impacting criteria air contaminants (nitrogen oxides, sulphur dioxide, volatile organic compounds and particulates).

Industry insiders cite water access as a showstopper issue, but erratic disclosure makes it hard for investors to assess the risk. Half the companies failed to provide data, or presented it in an ambiguous way that made comparison difficult. Less than a quarter disclosed any kind of water management targets. Only Suncor had absolute water use targets – even though as a legacy operator with a generous license provision it is among the least exposed to water access regulatory risk. Most in situ operators are already compliant with draft regulatory requirements, and use of saline rather than fresh groundwater appears to be on the rise.

Performance on the theme of land was poor across the sector. The absence of a strategic land use plan for the oil sands region places project capital investments at risk from future policy and regulatory decisions. Yet companies have a history of failing to advance multi-stakeholder planning initiatives, and none express support for the idea of a development moratorium until planning is complete. Only Suncor and Syncrude provide investor-oriented disclosure on reclamation progress, and their reclamation rates are diminishing or static. More positively, several companies are already involved in biodiversity offsetting initiatives, although it was less clear how companies are promoting an industry-wide offset regime.

Despite the obvious liability presented by mining tailings ponds, there is little clarity about financial provision for their reclamation. Not all operators include tailings ponds within their asset retirement obligation (ARO) reporting, and none were willing to disclose the reclamation cost estimates that underlie the tailings pond portion of their ARO calculations.

Given the need to tackle significant environmental and social impacts, evidence of sectoral weakness in strategy and capacity for change is perhaps the most worrying finding. On a positive note, most companies claim to be using carbon costing scenarios to evaluate the viability of projects. But less than a quarter of the companies report the existence of a dedicated committee of senior management responsible for enterprise risk management. Industry claims that technology can overcome environmental impacts of the oil sands, and companies are indeed involved in a wide range of research initiatives and pilot projects of technologies with potential to reduce risk. But research intensity (research spending as a percentage of revenues) is extremely low across the sector. Disclosure on research spending is patchy, but with the exception of Total none of the companies appeared to meet the energy sector average of 0.75% research intensity over the past three years.

The results of the benchmarking exercise are not reassuring. Before investors can get a true picture of oil sands risk, many companies will need to improve their public disclosure significantly. Some operators appear to be lagging in all areas – or if they are not lagging, they are not telling. Companies with plans to enter or go deeper into the oil sands need to show that they – and their prospective project partners—can mitigate the same risks against which we assessed current operators.

Over time, oil sands operators have reduced impacts per barrel of oil, but the expanding scale of the industry means that absolute impacts have continued to increase. Alberta does not have a strong tradition of planning and regulating oil sands development. In a context of mega-projects with high development costs and long investment horizons, a continuing lack of policy clarity could contribute to risk across the entire sector.

In the earlier Ethical Funds report *Unconventional Risks*, companies were called upon to suspend new oil sands development pending completion of integrated land use planning, and to accelerate application of technologies that could improve project environmental and social performance and reduce portfolio risk. We believe this call remains relevant a year later. Although we have not yet seen a return to the boom conditions that prevailed in the oil sands up to 2008, the effective moratorium on new development brought about by the financial crisis appears to be over. Engagement by responsible investors is therefore necessary and timely.

We will be looking to oil sands companies to:

- Openly acknowledge oil sands risks in their public disclosures;
- Include in public disclosure material information on ESG strategy, performance and risk mitigation systems;
- Improve operational performance in areas of environmental and social risk;
- Increase research and investment into technology to reduce environmental and social impacts;
- Make constructive contributions to oil sands-related policy debate and stakeholder processes;
- Engage in constructive dialogue with concerned shareholders.

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Introduction

Advancing Sectoral Change in the Oil Sands

Alberta's oil sands have become the focus of a global firestorm of criticism directed at the heavy impacts of this form of oil production. We believe oil sands companies must proactively address these impacts if they are to create long-term sustainable value and maintain their social license to operate—and that ignoring them will lead to greatly increased exposure to risk. We also believe investors can manage risk and contribute to change in the oil sands sector by engaging the companies they own on environmental, social and governance (ESG) issues.

To engage an industry sector effectively, investors first need to understand its ESG risks. In October 2008 Ethical Funds (a division of Northwest & Ethical Investments L.P.) released *Unconventional Risks*², an overview of ESG issues in the oil sands sector, calling on companies to suspend new oil sands development pending the completion of comprehensive land use planning, while speeding up deployment of new strategies and technologies to reduce environmental and social impacts.

To engage a specific company effectively, investors need to understand the specific ESG risks that it faces. The next step is to benchmark the performance of individual companies in mitigating sectoral ESG risks against that of peers. This allows the responsible investor to prioritize engagement on areas of highest risk, identify sector leaders and focus more effort on laggards, advance company-specific solutions, and offer strategic support to corporate sustainability champions.

This report presents key findings from oil sands company benchmarking research conducted in the summer of 2009 by Northwest & Ethical Investments L.P., with input and financial support from the National Union of Public and General Employees and Ceres. The questions explored derive largely from the conclusions of *Unconventional Risks*, focusing on the themes of disclosure, aboriginal engagement, climate change and air pollution, water, land use, and strategy for change.

The benchmarking results will feed into our continuing engagement with oil sands companies.

Oil Sands: The New Face of Canadian Oil

As of January 2009, Canada's proven oil reserves were 178 billion barrels. Of these, 95% were oil sands deposits in Alberta – making the province second only to Saudi Arabia in the global account of oil reserves. After a dip in 2008, Canadian oil production is expected to continue a steadily increasing trend to 3.48 million barrels/day in 2010. Conventional crude production is in decline, but is being more than replaced by expanding offshore and unconventional supplies. The contribution of the oil sands to total Canadian production is growing, reaching 50% in 2008³, compared to 40% in 2007. Bitumen production averaged 1.3 million barrels/day in 2008⁵, and could reach 4.2 million barrels/day by 2030⁴. Although relatively few projects have reached the operational stage, almost every major Canadian and international oil company now has a stake in the oil sands.

Oil Sands – The Basics

Background information on the Alberta oil sands, the production methods used and associated environmental and social impacts can be found in the 2008 Ethical Funds report *Unconventional Risks: An Investor Response to Canada's Oil Sands* - available for download at https://www.ethicalfunds.com/SiteCollectionDocuments/docs/Albertaoilsands_whitepaper.pdf.

At present the US is the biggest market for Canadian oil, consuming about a third of total production, and over 99% of exports. Canada edged out Saudi Arabia to become number one supplier to the US in 2004, and provided 19% of US oil imports in 2008⁶.

Energy is the second largest sector of the TSX Composite, comprising close to 30% of the index by market capitalization, and has been a major contributor to TSX performance over the last five years. In 2007 the industry accounted for 5.6% of national GDP (C\$90 billion in export revenues) and directly employed 372,200 people, or 2.2% of the national workforce⁷.

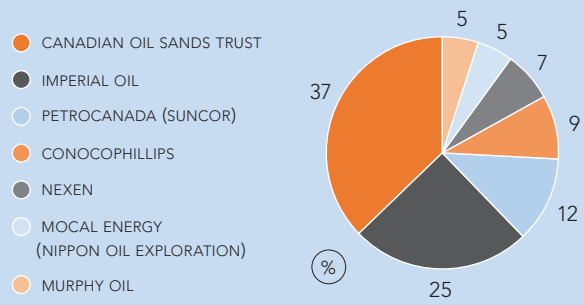
Who's In—And How Deep?⁸

OPERATING COMPANY	ACTIVITIES	OPERATING CAPACITY	UNDER CONSTRUCTION	FUTURE PLANS ⁹	PARTNERS
Canadian Natural Resources	In situ	120,000	-	285,500	-
	Mining	135,000	-	442,000	-
	Upgrading	135,000	-	442,000	-
Chevron	In situ ¹⁰	-	-	100,000	Shell 20%, Marathon Oil 20%
Connacher Oil and Gas	In situ	10,000	10,000	24,000	-
ConocoPhillips	In situ	27,000	-	83,000	Total 50%
Devon Energy	In situ	35,000	35,000	-	-
EnCana	In situ	138,800	40,000	350,000	ConocoPhillips 50%
Husky Energy	In situ (Tucker)	30,000	-	10,000	-
	In situ (Sunrise)	-	-	200,000	BP 50%
Imperial Oil	In situ	140,000	-	30,000	-
	Mining	-	110,000	200,000	Exxon
Ivanhoe Energy	In situ	-	-	20,000	-
Japan Petroleum Exploration	In situ	10,000	-	35,000	-
Nexen	In situ	72,000	-	356,000	OPTI Canada 35%
	Upgrading	72,000	-	360,000	
Pengrowth Energy Trust	In situ	-	-	2,500	-
Petrobank Energy	In situ	1,900	-	101,900	-
Shell	Mining	155,000	100,000	515,000	Chevron 20%, Marathon Oil 20%
	Upgrading ¹¹	155,000	90,000	400,000	-
	In situ	22,500	-	97,500	-
StatoilHydro	In situ	-	10,000	240,000	-

Who's In—and How Deep? cont...

OPERATING COMPANY	ACTIVITIES	OPERATING CAPACITY	UNDER CONSTRUCTION	FUTURE PLANS	PARTNERS
Suncor Energy ¹²	Mining	321,000	-	120,000	-
	In situ	93,000	52,500	211,000	-
	Upgrading	440,000	156,000 ¹³	78,000	-
Petro-Canada ¹⁴	Mining	-	-	190,000	Teck 20%, UTS 20%
	In situ	33,000	-	240,000	-
	Upgrading	-	-	340,000	Teck 20%, UTS 20%
Syncrude	Mining	407,000		186,000	Canadian Oil Sands Trust 37%, Imperial Oil 25%, Petro-Canada 12%, ConocoPhillips 9%, Nexen 7%, Murphy Oil 5%, Mocal Energy 5% (owner: Nippon Oil Exploration)
	Upgrading	407,000		186,000	
Total	In situ	Decommissioning		200,000	-
	Mining			295,000	-
	Upgrading			210,000	-
UTS	Mining			210,000	Teck

Who's Behind Syncrude?



Syncrude is one of the largest and longest-established producers in the oil sands. It is not a public company in its own right, but is owned by a group of companies. The largest stake in Syncrude (37%) is held by Canadian Oil Sands Trust.

Oil Sands Policy and Regulation: A Pattern of Failure?

In Canada, resource development falls under provincial jurisdiction. Alberta does not have a strong tradition of planning and regulating oil sands development. In a context of mega-projects with massive upfront development costs and unusually long investment horizons, lack of policy clarity has contributed to investor risk across the entire sector.

Time and again, government has left it to industry to develop strategy or self-regulate, industry has failed to deliver, and government has then been forced to intervene too late - sometimes making exceptions for legacy operations that would otherwise struggle to achieve compliance. We explore specific instances of this pattern of failure later in the report.

Over time oil sands operators have reduced energy, water and pollution intensity per barrel of synthetic crude oil. However, the expansion of the industry has wiped out the benefit of these improvements, and absolute impacts have increased. Even if individual companies make efforts to reduce their own impacts, at present Alberta sets no limits on the scale of the oil sands industry, and there is no completed land use plan defining which areas will be set aside for conservation, and how the rest should be managed for sustainability. Projects have been viewed in isolation, and the cumulative impacts have not been taken into account by the government agencies responsible for granting licenses. Absence of strategy has exacerbated the negative environmental and social impact of the industry—but failure to define an appropriate scale and pace of development has also affected project economics. From 2006 to 2008, accelerating demand for labour, materials and natural gas to supply a proliferation of oil sands projects caused estimates of the break-even oil price for new projects to double, and massive cost overruns on construction.

But in the face of increasing global attention on the oil sands, times are changing. 2009 saw the release of a number of new policies and regulations (some of which are detailed later in the report), an increase in enforcement resources and record fines¹⁵. Over the past year Alberta has also issued a variety of strategy documents with implications for the oil sands. In February 2009 the provincial government released its long-awaited oil sands strategy *Responsible Actions: A Plan for Alberta's Oil Sands*. This acknowledges the need to consider the cumulative impacts of development, although it stops short of setting clear limits to oil sands growth or considering alternatives¹⁶.

Companies need to demonstrate that they are taking into account and preparing for regulatory scenarios that may impact directly on operations, increase development costs or reduce return on investment. It is not enough to tell investors that these are areas of uncertainty and carry on with business as usual.

The Benchmarking: Comparing Oil Sands Operators

Benchmarking Companies

CNQ	Canadian Natural Resources
COS	Canadian Oil Sands Trust
CLL	Connacher Oil and Gas
COP	ConocoPhillips
DVN	Devon Energy
ECA	EnCana
HSE	Husky Energy
IMO	Imperial Oil
NXY	Nexen
RDS	Shell
SU	Suncor (pre-merger)
PCA	Petro-Canada (pre-merger)
TOT	Total

Methodology

The scope of the benchmarking was limited to publicly-traded companies that are the sole or lead operator of a currently-producing commercial-scale oil sands project. This resulted in a universe of 13 companies¹⁷.

The benchmarking research was carried out by Northwest & Ethical Investments L.P.'s Sustainability Department. Based on the conclusions of the Ethical Funds report *Unconventional Risks*, a detailed questionnaire was developed relating to air, water and land use impacts, Aboriginal engagement and corporate strategy for change. Because mining and in situ production impacts differ, the questionnaire was tailored to the type of production practiced by each company.

Eleven out of 13 companies responded to the questionnaire: only Husky Energy and Imperial Oil declined to participate¹⁸. Seven companies met with Northwest & Ethical Investments L.P. staff during the research period to discuss their answers to the questionnaire: Canadian Natural Resources, Canadian Oil Sands Trust, Connacher Oil and Gas, Nexen, EnCana, Petro-Canada, and Suncor Energy.

More details on research methodology can be found in Appendix 1.

Report Conventions

Company Level

Performance Risk:

◆◆◆◆◆ *Higher risk:* The company failed to disclose, or disclosed minimal or non-existent risk mitigation policies and practices under this theme.

◆◇◇◇◇ *Lower risk:* The company disclosed robust risk mitigation policies and practices under this theme.

Sector Level

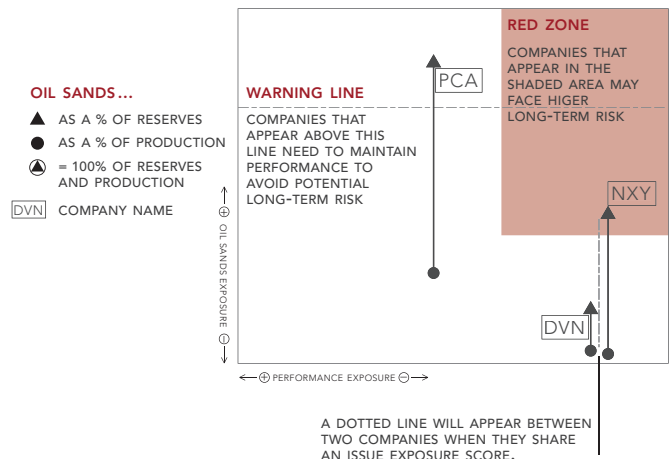
Issue Performance:

◆◆◆◆◆ *Higher risk:* Across the sector, companies failed to disclose, or disclosed minimal or non-existent risk mitigation policies and practices on this issue.

◆◇◇◇◇ *Lower risk:* Across the sector, companies disclosed robust risk mitigation policies practices and policies on this issue.

Long-term Risk:

To illustrate the potential significance to the company of each thematic risk area over time, performance is considered in the context of the contribution of oil sands to the company's current production and total reserves.

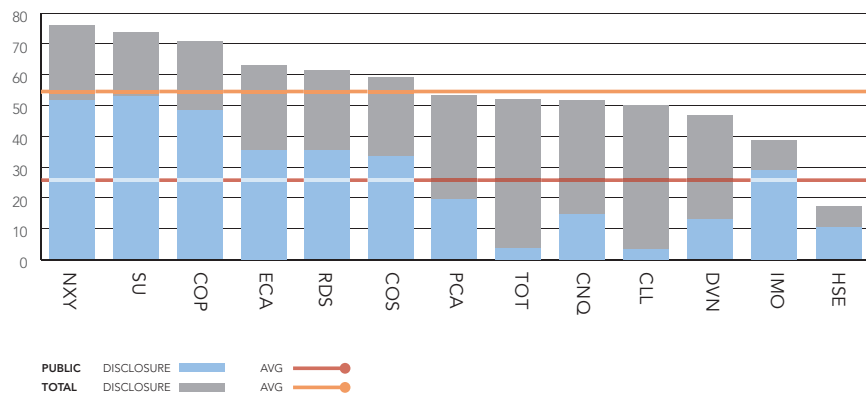


Benchmarking on Disclosure

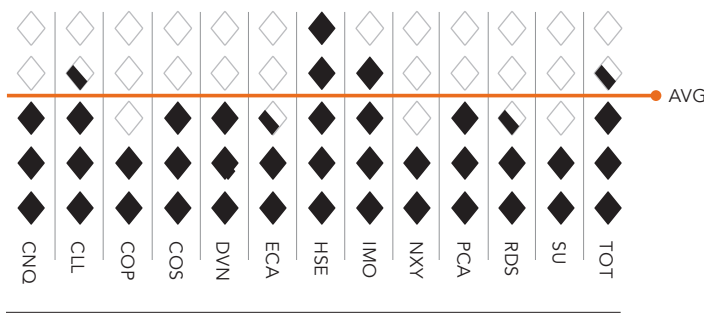
Adequate disclosure on material environmental, social and governance (ESG) issues is the foundation of responsible investment decision-making. Without this information investors are unable to assess accurately the ESG risk to their portfolios.

We believe all information we were seeking through the benchmarking is material, and that it should therefore be included in standard company disclosures. If it is not, we must assume that the company does not consider it material—a cause for concern. Increasingly, companies will find themselves obliged to provide information on these issues, as more and more exchanges, securities regulators and standards authorities begin to mandate non-financial risk disclosures.

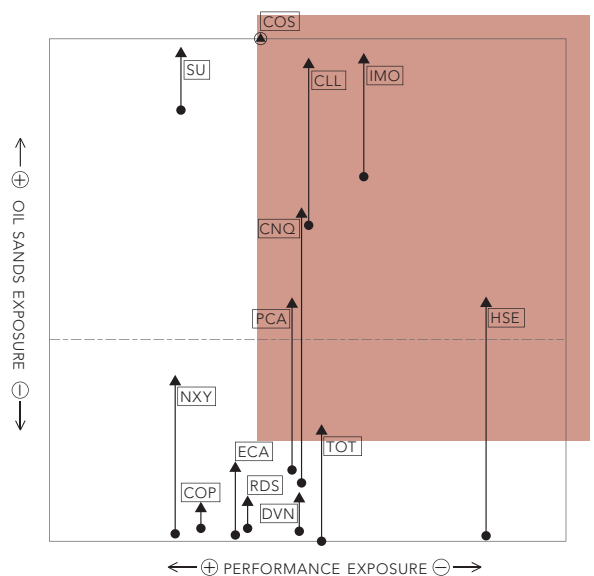
Disclosure Performance



Disclosure Performance Risk:



Long-term Risk



Investors, Have Your Say

One way for investors to play a role in improving ESG disclosure by oil sands companies is to call on securities regulators to mandate it. In late 2009 the Canadian Securities Administrators plan to release for comment updated disclosure requirements for oil and gas companies – an opportunity for responsible investors to make their voices heard.

Oil From Nowhere?

Current SEC rules for reserves reporting, based on a determination of what is economic to produce, can create confusion for investors attempting to assess a company's long-term exposure to oil sands risk. For example, on the basis of its annual report, Devon Energy appears to have no oil sands reserves whatsoever – yet it is producing bitumen at a rate of 11,000 barrels/day. New SEC rules in effect at the end of 2009 should create more clarity.

We distinguished and awarded a higher score for disclosure through a public investor-oriented channel—the annual report, proxy circular, corporate social responsibility report or Carbon Disclosure Project response. We gave lower scores for disclosure only via our survey, meetings or filings required by governmental regulatory bodies, as few investors seek information from these sources. The graph shows each company's overall disclosure score, with a breakdown of how much came from public disclosure.

Accessing company-level data on oil sands ESG risk is challenging for even the most determined investor. Many issues are ignored entirely or covered inadequately in standard public disclosure. In some cases, data may simply not exist, because no measuring is taking place—making risk assessment and management impossible. Where companies provided additional information through the benchmarking survey, at times responses were so diverse and linked so loosely to the question that comparison of results was difficult. More positively, company engagement with the benchmarking process was high, and most companies took the issues raised seriously.

Two companies, Husky Energy and Imperial Oil, declined to answer the survey and referred us to their public disclosure, which did not fully meet our needs. It is discouraging that these companies did not feel the need to respond to investor concerns, or were unaware that their public disclosure did not contain the ESG information required.

The most comprehensive disclosure was on climate issues. In this we may trace the influence of the Carbon Disclosure Project, and increasing focus on climate risk among investors in general¹⁹. The weakest disclosure was on land impacts and strategy for change. This may indicate an underestimation by companies of the materiality of these issues, giving rise to concern that they may not be receiving sufficient management attention.

In public disclosure, quantity is important, but it isn't everything. Not all public disclosure is useful ESG information—because of a lack of context, confusing delivery, or because it is only obliquely related to the issue. Companies that stood out for the relative quality of their disclosure were Nexen, Suncor and ConocoPhillips. Nexen and ConocoPhillips were perhaps most consistent in providing concise, relevant and easily-understandable information.

For some companies, the most basic information proved hard to obtain. Simply locating oil sands-specific production and reserves information was difficult or impossible. The relevant data could be buried in an obscure part of a company report, amalgamated with other data, or absent. Meanwhile other companies provided breakdown of their oil sands production and reserves in a clear and forthright manner. Disclosure requirements should support this. Unless ESG information is broken down by business unit, investors cannot gauge the extent of a company's exposure now and in the long term to the risks and opportunities associated with oil sands—or indeed with other types of oil production that may pose different risks. It was notably easier to find this information for Canada-based companies, compared to companies reporting to the US Securities and Exchange Commission (SEC).

Suncor stands out for distinguishing its oil sands operations and associated ESG performance from other parts of its business, while Canadian Natural Resources is starting to isolate emissions and other data for its Horizon project—although it does not provide information breakdown for its in situ operations.

SOR: If We Could Have One Piece of Data ...

A key metric for understanding the environmental performance of in situ projects is the steam-oil-ratio (SOR)—the amount of steam it takes to produce one barrel of bitumen. Companies that reduce their SOR achieve multifaceted benefits: they cut energy intensity, reducing energy costs, combustion emissions, and upstream footprint impacts associated with natural gas inputs; and they cut water intensity, reducing exposure to costs of water recycling and any future restrictions on absolute water usage.

SOR data would be a welcome addition in public disclosure by in situ operators. Some companies have disclosed a strategic goal of reducing their SOR, but do not consistently provide SOR data so we can track how well they are doing.

Benchmarking on Aboriginal Engagement

Aboriginal Rights in Canada

Canada is one of few states not signatory to the United Nations Declaration on the Rights of Indigenous People. Nevertheless, Aboriginal people in Canada (First Nations, Métis, Inuit) have constitutional and treaty rights to practice traditional lifestyles, and legal precedents underline a Crown duty to consult and accommodate Aboriginal people before permitting development within their traditional territories. In cases relating to resource extraction projects elsewhere in Canada, Aboriginal peoples' rights have been recognized and upheld by Canada's highest courts, and permits for company operations have been denied or voided as a result. A decision handed down in a distant province against another company or the Crown can have implications throughout Canada.

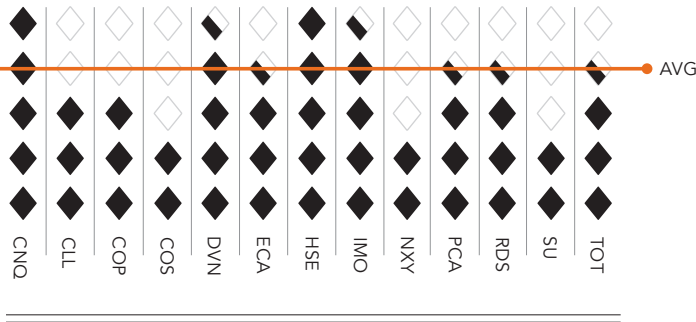
Some Aboriginal communities have become involved in the development of the oil sands, but much concern has also been expressed about the environmental and social impacts, and about the process of consultation. Aboriginal leaders in the region have passed joint resolutions calling for a moratorium on oil sands project approvals until strategic watershed and land use planning is completed, and committing "to take all steps in our power to protect our lands, sustain our communities and assert our rights"²⁰.

We believe issues relating to Aboriginal engagement and consultation are among the most pressing, and the most material to investors. The intersection of constitutionally-guaranteed Aboriginal rights and large scale development in the oil sands has created a complex and at times confusing web of risk and uncertainty. What is clear is that opposition from Alberta First Nations and Métis communities has the potential to stop projects cold.

Although Alberta has downloaded engagement responsibilities to companies, there is no role for industry in determining the extent of Aboriginal rights—this can only be achieved on a nation-to-nation basis between the Crown (Canada and Alberta) and the Aboriginal communities involved. Risk to company value cannot, therefore, be eliminated—but it can be mitigated through an effective Aboriginal engagement strategy that recognizes and respects Aboriginal rights. Certain concepts and standards are beginning to emerge in the wider extractives sector for corporate engagement with

Aboriginal peoples. Although they do not eliminate the risk posed by inadequate government consultation processes, they can help companies to generate and protect local license to operate by creating a continuing relationship of consent, trust and collaboration—reducing the risk of conflict with communities before, during and after the project.

Aboriginal Engagement Performance Risk



Not surprisingly, the two longest-standing oil sands players, Syncrude and Suncor, scored relatively well in this category—a reflection of lessons learned during years of interaction with local First Nations. The fact that their operations centre on the Athabasca region has allowed them to focus their resources on engaging the relevant Aboriginal communities.

Do companies understand which First Nations and Métis communities they impact, and do they have agreements in place?



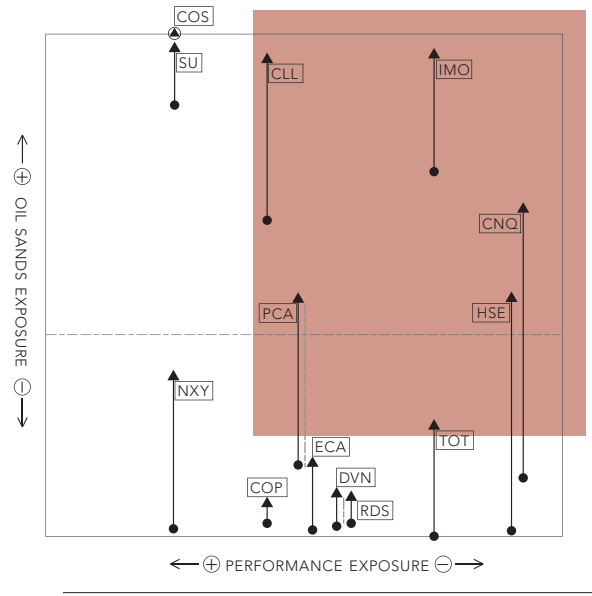
All the companies responding to the survey (11 out of 13) were able to identify Aboriginal communities they believed were impacted by their operations. Some companies acknowledged the difficulty in determining what constitutes an “impacted community”—the company’s interpretation and the community’s interpretation may differ. Government downloading of process responsibility to companies creates a risk of impasse.

A key indicator of how well a company is mitigating the risk of opposition to its projects is the existence of agreements with impacted Aboriginal communities.

Building Capacity to Engage: The All Parties Core Agreement

The All Parties Core Agreement (APCA) is a unique approach to building appropriate capacity among impacted First Nations for meaningful engagement with industry. Companies that are party to the agreement (including most of the companies in the benchmarking) provide funding to the five First Nations of the Athabasca Tribal Council to support Industry Relations Corporations (IRCs), which then take on the task of engaging with companies on development issues. The purpose of the agreement is to enable First Nations to identify key concerns about development in their traditional territories and represent those concerns effectively in consultations.

Long-term Risk



A Memorandum of Understanding (MOU) is simply an agreement between a company and a community outlining basic parameters for their relationship, and committing both sides to approach the relationship in a certain way. A signed MOU should not be seen as an indicator of community support for a project, but it does mean that substantive discussions have taken place, and that a company has recognized its responsibility to ensure a certain level of consultation. An Impact and Benefit Agreement (IBA) is a more substantive agreement that lays out the responsibilities of the company, recognizes that the project will have impacts, and provides undertakings on how these impacts will be mitigated and what benefits will be delivered (for example revenue sharing, procurement and employment opportunities²¹). In return, the community provides support during approval and operation of the project. An IBA may contain consent provisions - a strong indicator for continuing community support.

The extent of disclosure on agreements varies, but this is not necessarily down to the companies—the impacted community determines if it wishes the agreement to be publicized, and the company must respect that. Companies could nonetheless disclose the number of agreements they have negotiated. Over a third of the companies did not report having either type of agreement in place with any impacted communities. Among companies that did have agreements in place, MOUs were far more common than IBAs.

We found some correlation between the number and depth of agreements, and the size of the engagement team and strength of the consultation policy. Companies that had a less robust team structure or that relied on the Alberta government’s consultation guidelines appeared to have fewer substantive agreements.

Do companies have adequate Aboriginal Engagement policies?



An Aboriginal engagement policy should be seen as a minimum requirement for an extractives company working in this region. Most companies could point to some kind of relevant policy, although some companies had only a generalized stakeholder engagement policy. About a third of the companies expressly recognized the treaty and legal rights of First Nations in their policies, demonstrating understanding of the constitutional situation and of how First Nations communities approach the issue of resource development on their traditional lands. Canadian Natural Resources and Husky did not disclose on Aboriginal engagement policy, raising the troubling question of whether such policy exists.

Not Just Another Stakeholder

Some companies make no distinction between their Aboriginal engagement function and overall stakeholder engagement efforts. While this practice may arise from a laudable desire to treat all stakeholders equally, the reality is that First Nations and Métis communities are not just another set of stakeholders. Aboriginal people have a nation-to-nation relationship with the Crown that is distinct from that of other communities, and oil sands project proposals can directly conflict with First Nations and Métis constitutional rights. Not recognizing this distinction—even if it is just a matter of semantics – is at best a bad start to relationship-building, and at worst a serious misunderstanding of the risks involved.

What standards do companies follow in consultations with First Nations and Métis communities?



How a company consults is almost as important as whether it consults at all. Many First Nations have explicit expectations about how and when consultation should happen. For example, the Treaty 8²² First Nations of Alberta have produced a set of guidelines laying out for companies the ground rules for consultation²³. A handful of companies working in the Treaty 8 area reported using these guidelines, but no company publicly disclosed its intention to follow the guidelines in all consultations with Treaty 8 First Nations. Several companies did state that they followed the consultation guidelines of the specific impacted community, which is also a good practice.

Worryingly, a number of companies appear to be relying on the Alberta Government's First Nations Consultation Guidelines on Land Management and Resource Development²⁴. There is little support for these guidelines within the communities concerned, and First Nations have roundly rejected them²⁵.

Free, Prior and Informed Consent (FPIC) describes respecting the right of Aboriginal people to be fully informed about exploration, development and closure activities on a timely basis, to approve operations prior to commencement, and if necessary to refuse consent²⁶. FPIC is a core principle in First Nations expectations of consultation, although it is not yet widespread in practice. In terms of mitigating the risks of Aboriginal opposition to oil sands projects, a policy integrating FPIC would be the most robust strategy. None of the companies have adopted FPIC as the goal of their consultation process, although a few indicated that they were not opposed in principle to the concept.

Do companies devote adequate resources and priority to Aboriginal engagement?



The size, structure and mandate of Aboriginal engagement teams varies widely from company to company. There is no template for how companies should structure engagement responsibilities. For example, some companies have a dedicated Aboriginal engagement team that is solely responsible for interactions with First Nations and Métis communities, while others delegate engagement to employees who work day-to-day on the project, providing them with support and training. It is difficult for an investor to determine which model works best, but a number of practices appeared to distinguish companies who are taking Aboriginal engagement seriously:

- Dedicating significant staff resources to the task: size does matter if the engagement function is centralized, and larger teams have more resources to navigate relationships effectively;
- Clear lines of responsibility for engagement extending to the level of senior management, creating confidence that employees have authority to make decisions;
- Having staff dedicated exclusively to Aboriginal engagement and not to “stakeholder engagement” at large;
- Having staff of Aboriginal descent on the engagement team.

How are companies educating employees on Aboriginal awareness and cultural sensitivity?



Understanding Aboriginal culture and expectations is critical to relationship-building, but not a given for most people from outside the communities. Effective training and education is required. Many companies offer a component

of Aboriginal awareness training, but approaches differ significantly. Good practices include:

- Compulsory training;
- In person training rather than on-line or a training manual;
- Training tiered according to the level of interaction;
- Training created in conjunction with the local First Nations impacted by the project;
- Training delivered in part or fully by members of the impacted communities (although it should be recognized that not all First Nations would necessarily have interest or capacity to deliver such training).

Training Based on Consultation

Nexen's Aboriginal training program is mandatory for all employees at Long Lake, the training module is developed in cooperation with the local First Nations, and parts of the program are delivered by elders from those communities. Conoco-Phillips linked its training program to its MOU with the local community—committing to developing a training program in conjunction with the First Nation.

Are companies disclosing the risk posed by First Nation and Métis rights litigation?



Several Alberta First Nations have launched legal challenges against leases and approvals for oil sands projects within their traditional territories. The Chipewyan Prairie Dene First Nation and Athabasca Chipewyan First Nation have each lodged cases relating to lack of consultation surrounding issue of oil sands leases, while the Beaver Lake Cree Nation has filed against Alberta and Canada, claiming the cumulative impact of over 15,000 project approvals in its traditional territory has undermined treaty rights to hunt, trap and fish. The success of any of these cases would have important implications for all oil sands operators.

Despite the fact that the cases reference oil sands projects, few companies considered Aboriginal litigation material enough to include in public disclosure. Only three companies disclosed the risks that would arise should current lawsuits be successful, while others made no mention of this—leaving the investor uncertain if the implications have been recognized.

Disclosing Aboriginal Litigation Risk —From Nexen's 2008 Annual Report

"Aboriginal peoples have claimed aboriginal title and rights to a substantial portion of western Canada. Certain aboriginal peoples have filed a claim against the Government of Canada, the Province of Alberta, certain governmental entities and the regional municipality of Wood Buffalo (which includes the city of Fort McMurray, Alberta) claiming, among other things, aboriginal title to large areas of lands surrounding Fort McMurray, including the lands on which the project and most of the other oil sands operations in Alberta are located. Such claims, if successful, could have a significant adverse effect on the Long Lake Project and on us."

Benchmarking on Climate Change and Air Pollution

Current oil sands production methods demand high inputs of natural gas for process heat, steam and hydrogen production—creating significant emissions to air.

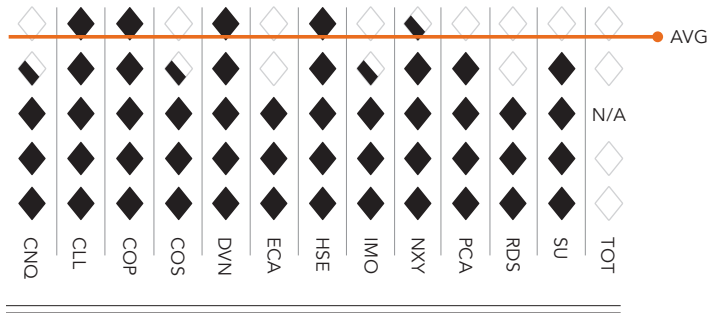
There is much debate about the greenhouse gas (GHG) emissions intensity of oil sands production compared to the “average” conventional barrel. The average barrel is becoming heavier, and some recent studies have pointed to sources of conventional oil with production emissions similar to, or even higher than, the most GHG-intensive forms of oil sands production²⁷. Regardless of source, combustion of the final product accounts for the majority of lifecycle emissions associated with a barrel of oil. One often-quoted estimate is that wells-to-wheels GHG emissions of the “average” oil sands barrel are 5 – 15% higher than the “average” barrel consumed in the US²⁸. In the oil sands as in other industrial sectors, life cycle emissions may be underestimated at present because of failure to account for climate impacts of land use change.

Oil sands production is Canada’s fastest-growing source of GHG emissions. Currently it accounts for some 5% of Canadian emissions, but this is expected to triple by 2020, making the sector by far the largest contributor to emissions growth²⁹. Canada as a whole is responsible for roughly 2% of global GHG emissions.

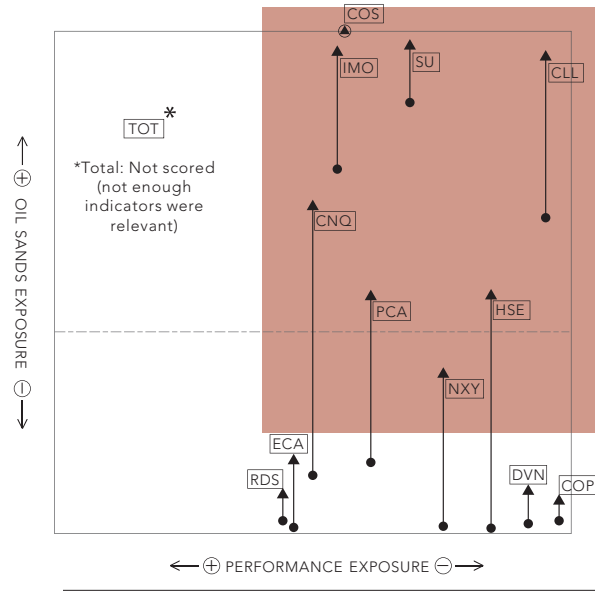
Carbon regulation could increase the cost of oil sands emissions intensity or place restrictions on total emissions. Alberta has gone ahead with implementation of an intensity-based GHG regulatory framework—a first in North America, although the current pricing is too low to stimulate major investment in innovation. The Canadian regime, *Turning the Corner*, has stalled in the face of uncertainty about US carbon policy, with the federal government indicating it will seek a common North American carbon pricing regime. At this stage it seems unlikely that the Canadian government will rush to place an absolute emissions cap on the oil and gas industry.

Carbon regulatory risk does not stop at the border. Given that most oil sands production is exported to the US, a potential demand risk relates to emerging US standards penalizing high carbon fuels. Under the new California Low Carbon Fuel Standards, by 2020 suppliers must reduce by 10% the average life-cycle carbon footprint of transportation fuels they sell in California; a number of other US jurisdictions are considering similar action. Low carbon fuel standards also featured in the discussion draft for the American Clean Energy and Security Act, passed by the US House of Representatives in June 2009, but were dropped after strong opposition from oil companies. There is uncertainty regarding the position of the US administration, and if it would really turn away a secure supply of Canadian oil on the basis of carbon content. President Obama has made ambivalent statements pointing to both negative environmental impacts and positive security aspects of oil sands production. In August, Secretary of State Clinton approved the Alberta Clipper pipeline that would transport more oil sands product from Canada to the US. At the global level, conclusion of a new climate agreement at Copenhagen in December now appears unlikely. Nevertheless, the general direction of international policy suggests high-carbon industries are likely to face increasing costs and risks in the future.

Climate & Air Performance Risk



Long-term Risk



How does GHG emissions intensity compare, and is it increasing or decreasing?

We considered oil sands production GHG emissions intensity because this is the target of the current Alberta carbon regulations. We wanted to identify the most carbon-efficient producers, in order to understand if there is a prospect of companies reducing absolute emissions despite increasing oil sands production.

Interpreting carbon risk from emissions data is complicated by the different types and stages of projects operated by the companies. Mining extraction emissions make up the minority of production emissions for synthetic crude oil—most are associated with upgrading. Early stage in situ projects have very high emissions intensity, because a great deal of steam must be injected before commercial-scale production can be achieved. Once an in situ project achieves “steady state”, its steam-to-oil ratio (and hence its emissions) should settle at a much lower level. If not, there is a serious problem from both an environmental and economic perspective. The emissions intensity of bitumen from a steady state in situ project is usually lower than for upgraded SCO—but because diluted bitumen requires more intensive heavy oil refining, the emissions risk has been transferred down the pipeline out of Alberta. Finally, some in situ producers also upgrade their bitumen.

Taking all of this into account, most of the projects appeared to have quite similar carbon-intensity performance in relation to their direct peers. One operator stood out: Shell’s emissions performance at the Muskeg mine appears to be sector-leading. It should be recognized, however, that with current production methods even the most efficient oil sands producers could face significant carbon regulatory risk.



Are companies achieving global absolute GHG emissions reductions?

From an atmospheric perspective, it makes little difference in what part of its business a company is generating emissions—what counts is the total, and whether it is decreasing. Alberta is unlikely to be an independent early mover in the direction of an absolute emissions reduction regime. But if concrete

emissions reduction targets are agreed globally, and if they reflect current scientific consensus on the level of reduction required, even the best performers on emissions intensity will face significant challenges if they cannot reduce absolute emissions.

We therefore considered the absolute global emissions of each company. A few companies showed a decreasing trend. The most striking reduction was reported by Shell—although this can be attributed partly to a declining production trend over the past several years.



Do companies have GHG emissions reduction targets?

None of the companies had aggressive targets for absolute greenhouse gas emissions reductions. Shell came closest, disclosing a clear target for absolute emissions reductions: reducing direct emissions by at least 5% relative to a 1990 baseline by 2010 (a target it has already passed). However, the company has gone back on earlier commitments to aggressively reduce GHG emissions at its new oil sands facilities, stating that it will only pursue regulatory compliance³⁰. Devon and Connacher stated that they were working towards emissions equivalence with conventional oil, but given the controversy about the emissions profile of the “average” conventional barrel, it is unclear what this would mean in practice³¹.

Let Someone Else Deal With The Problem?

In October 2009 Marcel Coutu, CEO of Canadian Oil Sands Trust (the largest partner in Syncrude), and a governor of the Canadian Association of Petroleum Producers, publicly challenged the necessity for GHG emissions reductions in the oil sands. He suggested that oil sands companies should be allowed to significantly increase their emissions—even if other industries then had to make more aggressive cuts in order for Canada to meet its national targets³². It is not known if this view is shared by other Syncrude partners, or other CAPP members, but it would be worrying indeed if the strategy of the sector for mitigating the risks posed by a carbon-constrained future were to rely on a continuing policy exception for the oil sands.

Of the remaining companies, six reported targets relating to energy efficiency or intensity. It was not always clear that meeting these targets would allow the company to avoid being penalized by the current Alberta regulations - which place a low, but clear, price on carbon intensity. A further four companies did not disclose any targets relating to GHGs or energy efficiency. Nexen complained that in the past it had set targets, exceeded them, and not received any credit for early action from government.



How are companies going to reduce GHG emissions?

Companies pointed to fuel switching and energy efficiency as key to reducing GHG emissions. Eight out of 13 companies employ cogeneration to some extent in the oil sands—producing process heat and power from the same facility, with any excess power sold to the grid. This approach offers added environment benefits if the fuel produces lower emissions than the grid average. Reducing or replacing the use of steam in extraction is also a priority for all in situ producers: for example, EnCana, Imperial and ConocoPhillips reported tests and pilots of solvent-assisted in situ extraction.

The Alberta government has made much of the potential for Carbon Capture and Storage (CCS) to reduce GHG emissions. According to the Alberta climate strategy, CCS should account for 70% of the province’s “business as usual”

emissions reductions by 2050³³. But there are limitations on the current scope of application in the oil sands—it is most suited to large concentrated point sources of CO₂, such as upgraders. The current cost of carbon (C\$15/tonne) does not provide much incentive for companies to move ahead with costly CCS infrastructure.

A few companies state publicly that CCS has limited application for oil sands, and that carbon reduction through energy efficiency is a better route to cutting emissions. It is interesting to note that neither EnCana nor Total, both of which have actual experience of CCS projects elsewhere (Weyburn and Lacq), refer to CCS as an early solution for the oil sands. Nevertheless, most companies make reference to CCS in their public disclosure as a way to tackle climate change. Almost all are involved in industry-wide initiatives to explore or promote CCS, but only a few reported significant short-term action towards make CCS a reality at the project level.

Bridging the CCS Credibility Gap

We can respect the position of a company that posits CCS as a possible solution and takes action on it; likewise if a company is openly sceptical about CCS, and therefore pursuing carbon reduction instead. However, if a company claims CCS is the solution, but is doing little or nothing to further it, a credibility gap opens up. The following companies—and the Alberta Government—place faith in CCS in their public statements. What are they doing about it?

IN THEIR OWN WORDS → ACTION SPEAKS LOUDER

Government of Alberta

“Slow the rate of growth in oil sands greenhouse gas emissions through leading-edge technologies ... e.g. carbon capture and storage through an integrated CO₂ network.”³⁴ Alberta’s Climate Strategy relies on CCS for 70% of the province’s total emissions reduction by 2050.³⁵

SOME GAP

Alberta has set up a C\$2 billion fund to stimulate CCS projects — but this is not specifically targeted at oil sands projects.³⁶ The government’s own advisors have pointed out limitations on application of CCS in the oil sands.³⁷

Canadian Natural Resources

“Canadian Natural has ongoing projects and programs in place to pursue GHG emission reduction including ... CO₂ capture and sequestration in oil sands tailings, CO₂ capture and storage in association with enhanced oil recovery.”³⁸

NO GAP

Assuming it goes ahead as planned, the new Horizon upgrader would capture 613,000 tonnes CO₂e/year, via tailings sequestration and pipeline and aquifer sequestration.

ConocoPhillips

“We believe widespread application of carbon capture and storage could ultimately result in a 70 per cent reduction of CO₂ emissions in our SAGD operations.”³⁹

MIND THE GAP!

CCS is included in the plot plan for Surmont 2, but otherwise there is little evidence of specific action beyond participation in sector-wide initiatives. It is unclear how CCS could be applied to such significant effect for in situ operations—other SAGD operators a more sceptical...

Devon Energy

“Our engineers and geoscientists are exploring carbon sequestration and storage technology as well as other innovations that could enhance our efficiency even more and further reduce our emissions.”⁴⁰

SOME GAP

The company’s oxy-combustion pilot could create potential for carbon capture. But it expressed some scepticism in the survey about the current viability of CCS.

Imperial Oil

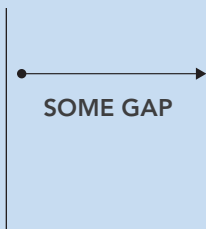
“Carbon capture and storage has been identified as a potential method of reducing future GHG emissions from the oil sands.”⁴¹



Little evidence of specific action beyond participation in sector-wide initiatives. In CSR reporting the company plays down the role of CCS.

Nexen

“We are also positioned at the forefront of carbon capture and storage with the gasification technology we are employing at Long Lake. However, we need clarity from governments around regulation and carbon pricing so we can evaluate long-term emission management strategies and understand how greenhouse gas regulation will affect future investment decisions.”⁴²



Gasification technology could produce relatively concentrated CO₂ stream for capture. It is less clear what action is being taken to make CCS a reality—and to push government to establish policy clarity.

Shell

“We have identified six main ways in which we are determined to make a difference ... [including] build[ing] our capability in CCS ... We are also doing early preparatory work for larger-scale demonstration projects, like the Quest project in Canada. If it were to go ahead, Quest would capture and store underground around one million tonnes of CO₂ a year from our oil sands upgrader.”⁴³



Shell Quest is one of the CCS projects selected for funding by the Alberta government.



How are the companies performing on other air pollutants?

It is the climate impacts of oil sands production that have attracted most attention from environmental NGOs and investors. But oil sands production also contributes to other forms of air pollution with more localized impact on human health and the environment. Despite reductions in per barrel emissions intensity, industry expansion has increased total emissions of the criteria air contaminants (CACs)—nitrogen oxides (NO_x), sulphur dioxide (SO₂), volatile organic compounds (VOCs) and particulates—against a diminishing national trend.⁴⁴ NO_x and SO₂ are respiratory irritants in their own right, contribute to smog, and cause acid deposition (“acid rain”), damaging forests and lakes. VOCs include carcinogens such as benzene, and particulates have been linked to lung and heart problems. CACs may in some ways present a more immediate corporate risk than GHG emissions. Failure to control CAC emissions could result in litigation or regulatory intervention directly affecting the operations of the companies concerned.

We considered emissions of the criteria air contaminants (CACs) both on an absolute basis, and on an intensity trend line basis (whether a company’s emissions per barrel were going up or down). From both perspectives, performance on CACs was surprisingly weak across the sector.

On an absolute basis, the largest producers are obviously most exposed to current risk associated with CACs. Suncor, Imperial and Syncrude (and by extension Canadian Oil Sands Trust) had greatly elevated exposure in relation to their peers. For some contaminants, these three companies together represent over 75% of the total emissions for the entire benchmarking group. Suncor was the biggest emitter in absolute terms for each CAC.

Discouragingly, only a handful of companies had decreasing trendlines for CAC emissions intensity. Petro-Canada and Syncrude (and by extension, Canadian Oil Sands Trust) stood out for achieving intensity reductions year over year. Suncor’s inability to reduce its emissions intensity across four of the five CAC indicators is a matter of concern, considering the current scale of its absolute emissions.

Given generally weak performance, a further cause for concern is absence of targets for CAC reductions. Only Canadian Natural Resources, Suncor and Syncrude disclosed any targets in this area that go beyond regulatory compliance.

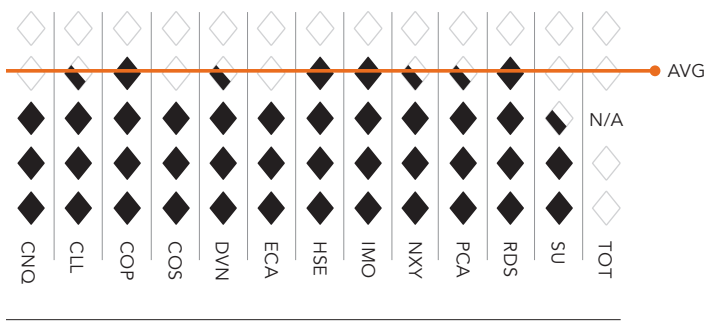
Benchmarking on Water

Oil sands mining is water-intensive: taking into account recycling, up to four barrels of water are used to extract and upgrade one barrel of synthetic crude oil. Existing and planned oil sands mines will be licensed to divert a total of more than 500 million m3 of water from the Athabasca River annually. Withdrawals during the winter are a particular concern, as river flow is sometimes low enough to threaten fish habitat: although there have been moves to tighten the regulatory regime,⁴⁵ the mines are still permitted to withdraw water at these times.

In situ net water use averages around one barrel of water per barrel of bitumen. In situ operators also face new water regulations: in February 2009 a draft directive was issued on measurement, use and recycling of water at in situ oil sands projects.⁴⁶ Under draft regulations, operators will be encouraged to use saline rather than fresh groundwater. However, uncertainty surrounds the long-term availability of groundwater and the impacts of large scale extraction on regional hydrogeology.⁴⁷

Water

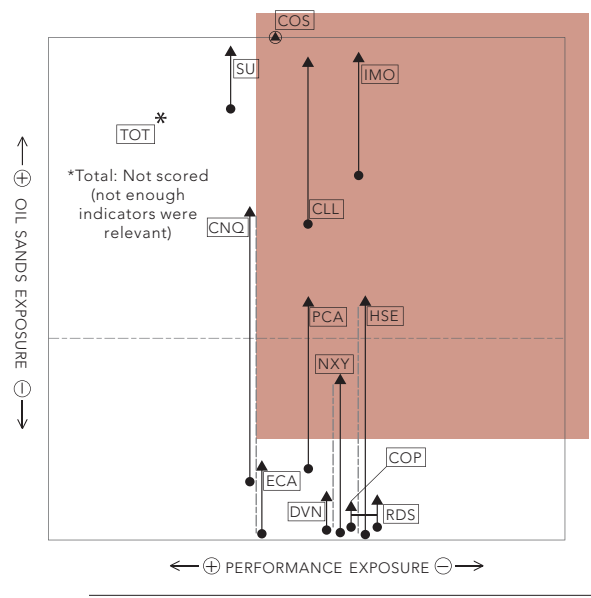
Performance Risk



Have companies outlined the strategic importance of water issues to investors?

Considering that water is a potential show-stopper for oil sands operations—something that is supposed to “keep the CEOs awake at night”—it is surprisingly difficult for the investor to gain an understanding of company performance on any aspect of the issue from public disclosure.

Long-term Risk



Although most companies mentioned water risk in their survey response, there is little analysis of this issue in annual reports, whereas many companies have begun to mention climate risk. The worrying implication is that companies may not see water risk as material—and may not be devoting adequate management resources to the issue. Conversely, evidence of a high-level, company-wide water strategy is reassuring to investors. Petro-Canada should be recognized for having implemented company-wide water principles that mandated water risk assessments: we hope that Suncor will follow this lead post-merger. Nexen also reported plans to roll out a water strategy in 2009.



Do companies set targets, track and report on water use?



Companies cannot reduce water use unless they can track it over time. Public disclosure of water use data is a first step to assuring investors that an effective management system is in place. Roughly half the companies in the benchmarking provided no useful public disclosure on water use for their oil sands operations, and also failed to do so when given the opportunity through this benchmarking exercise. Where data is provided, lack of standardization in the way it is presented makes it difficult to draw comparisons.

EnCana stood out for demonstrating a clear reduction in freshwater use since the start-up of its in situ projects. Suncor, Canadian Natural Resources and ConocoPhillips all disclosed project-specific water reduction targets, but except in the case of Suncor it was unclear if these targets related to absolute water usage. In situ reduction targets are specifically linked to fresh water usage, meaning that overall water use could remain constant, with reductions in fresh water use matched by a corresponding increase in saline water use.

How do companies perform against proposed water recycling regulations



In situ projects mainly use water from underground sources rather than surface water (although some use waste water from other operations). For in-situ operators, at present the type of water used is more important from a regulatory perspective than the amount. Under the draft in situ water

Learning to Share?

“Legacy” oil sands miners operations enjoy generous water licenses. They are at little risk of exceeding their allowances and in theory would take precedence over newcomers in making water withdrawals in low flow periods. From an investor perspective, operational access to water is primarily a concern for new mining projects—which explains why new projects have built-in water storage to ensure water supply during low-flow periods.

Oil sands miners—including the legacy operators—have been working together on a voluntary basis to craft an agreement that will allow them to meet the government’s 2006 water management framework for the Athabasca River.⁴⁸ However, it should be noted that framework was imposed by government due to failure of the oil sands mining industry to craft a solution for low flow periods through a stakeholder collaborative process.⁴⁹ The government has put the industry on

notice that a collective answer must be found—if not, a tougher solution may be imposed in a second phase of the water management framework.

The Alberta government has also released an Interim Management Framework for the Muskeg River,⁵⁰ which drains into the Athabasca and is the site of several existing and proposed mining projects (Albian Oil Sands, Syncrude, Kearl, Jackpine and Fort Hills). The government released this framework in the hope of minimizing direct impacts on water quantity and quality in the Muskeg River. It calls for no withdrawals during critical low flow periods, which could have major operational ramifications for mines. Following a familiar pattern, during the consultation period for the framework, industry representatives resisted precautionary measures and complained of a bias towards conservation.⁵¹

directive, operators must achieve a recycling rate of 90% for facilities that utilize fresh water and 75% for operations using saline water. Access to saline water is therefore desirable, but the type of water available is a matter of geology—not all sites have access to saline water. We note that two of the three companies who are not yet meeting the 90% recycling target are utilizing mainly freshwater sources. While the proposed directive would represent a new application of regulation, it does not represent a particularly high bar. Existing in situ projects would have five years to comply with the regulation, but eight out of 11 in situ operators already meet the requirement today. Several companies could reduce their recycling efficiency over the next five years and still be compliant. The companies do not, therefore, face a significant regulatory risk from the new directive—although all continue to be exposed to a long-term cumulative water access risk.

The water recycling directive would apply to in-situ operators only, but miners do recycle much of the water that goes through their operations. Operations that have better recycling rates reduce their exposure to water access risk. Syncrude currently reports the highest rate of recycling among miners. It is worth noting that improvements in tailings management would increase the water recycling rate in oil sands mining and reduce reliance on water withdrawals from the Athabasca River.

Benchmarking on Land

The Boreal Forest, a mosaic landscape of forest and wetlands stretching across 53% of Canada's landmass, is of immense value: culturally, for biodiversity, and for the ecological services it provides. Over 50% of the province of Alberta falls within the Boreal, making up 7% of the Canadian total. Oil sands deposits underlie 37% of Alberta's Boreal, and the Athabasca oil sands deposit falls entirely within the ecoregion.⁵²

Oil sands mining requires the complete removal of surface vegetation and soil. Companies must return land to the province reclaimed to “equivalent land capability” —but they are not required to restore the site to pre-impact state. Although a number of pilot projects are underway, so far no areas disrupted by mining have been successfully restored to wetland - the reclaimed landscape is radically different. Extensive ecosystem conversion may have significant consequences for wildlife and for the groundwater system.

Current mining processes create tailings—a mixture of water, sand, clay, silt, residual bitumen and solvents that is too toxic to be released back to the river. Tailings are pumped into large ponds to settle and await reclamation. Concern focuses on the potential for contamination of surrounding soil and groundwater through leaching, and for catastrophic breaches of tailings pond containment. Fine clay particles in the tailings mix pose a special problem. It can take decades for these “mature fine tailings” to settle, and they are too wet and toxic to be easily reclaimed. As yet no oil sands tailings pond has ever been fully reclaimed, although Suncor expects to make its first pond trafficable by 2010.⁵³ In response to decades of lack of progress under voluntary regimes, in February 2009 the Alberta Energy Resources Conservation Board (ERCB) released an initial oil sands tailings directive,⁵⁴ setting performance criteria for tailings management and reclamation, and requiring companies to file annual compliance reports. September 30, 2009 was the first filing deadline, and it remains to be seen if companies can meet their obligations. If not, enforcement action could include operational shutdowns.

Although the immediate landscape impact of an in situ project is less dramatic visually, it creates a network of disturbance—seismic lines, well pads, pipelines,

roads—over a wide area. The resulting habitat fragmentation may have greater impact on wildlife than the more concentrated impacts of mining.

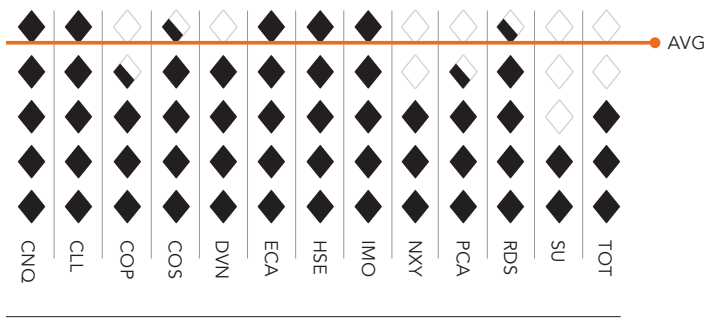
Compared to the scale of disturbance, the rate of reclamation in the oil sands is slow. In 2008 oil sands operators claimed that just under 14% of some 48,000 hectares of disturbed land had been reclaimed, but to date only 0.02% of disturbed land has been certified as reclaimed.⁵⁵

Developments in land use and conservation policy could impact on oil sands leases covering areas of special biodiversity significance. In December 2008 the Alberta government released a new land-use planning framework that is intended to address cumulative impacts of development.⁵⁶ A regional plan for the Lower Athabasca is scheduled for completion in 2010. In August, the provincial cabinet indicated to the Lower Athabasca planning council that it should explore setting aside at least 20% of the Lower Athabasca region for protection—acknowledging that this might impact on existing minerals leases.⁵⁷ In addition, recent legal decisions relating to the Species At Risk Act (SARA) may oblige Alberta to enforce tougher requirements for habitat protection. In *Alberta Wilderness Association vs. Minister of Environment* and *Environmental Defence Canada vs. Minister of Fisheries and Oceans*, the court ruled that the government should be identifying critical habitat during the creation of a recovery plan for species covered by SARA. Companies holding oil sands leases that overlap critical habitat for species at risk, such as the Woodland Caribou, could face new conservation requirements.

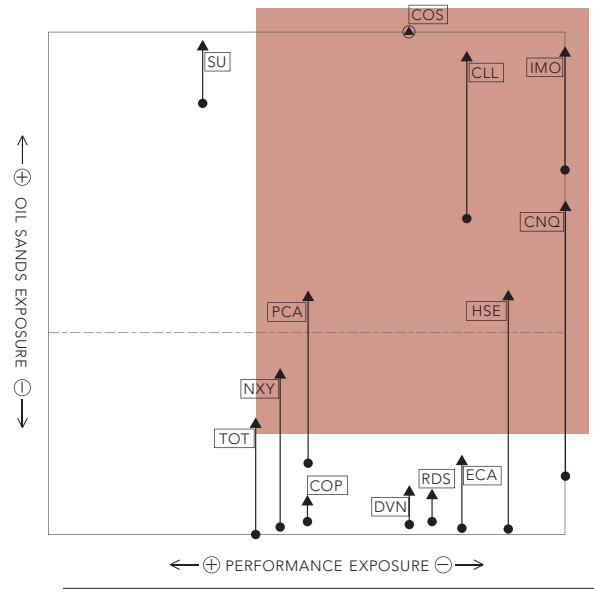
Performance on the Land theme was poor across the sector, although some companies are working to address the issues of biodiversity, reclamation, and conservation of key ecosystems.

Land

Performance Risk



Long-term Risk



How have companies worked to address the cumulative impacts of rapid development?

Although strategic land use planning falls under the mandate of government, companies have an important role to play in multi-stakeholder initiatives to address the impacts of rapid development of the oil sands. A telling insight is provided by the history of land use planning under the auspices of the Cumulative Environmental Management Association (CEMA).

CEMA is a multi-stakeholder group tasked with studying the cumulative impacts of industrial development in the Wood Buffalo Region (site of the Athabasca oil sands) and developing strategic solutions. Membership consists of industry, government, NGOs, and First Nations and Métis communities. In 2008, the organization released the Terrestrial Ecosystem Management Framework (TEMF), which defined zones for various types of industrial development while setting aside a portion of the region for strict conservation. The TEMF was the culmination of nine years of discussions during a boom in oil sands development.

The Canadian Boreal Initiative's Boreal Forest Conservation Framework calls for conservation of at least 50% of Canada's Boreal forest in large inter-connected protected areas, and sustainable development within the remainder. Suncor and Nexen have endorsed the Framework and are also members of the multi-stakeholder Boreal Leadership Council.

Of the CEMA participating companies (all the companies in our survey group except for Connacher), only Devon provided unqualified support for the TEMF.⁵⁸ While only Canadian Natural Resources flatly rejected the framework, many companies attached lists of objections to their statements of "qualified support". While some of the qualifications appeared reasonable (for example, Suncor wanted the scope expanded to include areas outside of the Wood Buffalo Region, while EnCana wanted conservation decisions to be based on sound science), others risked undermining the conservation basis of the framework (several companies stated that no currently-leased areas should be considered for conservation). The reality is that after years of discussion industry could only agree to defer a decision to an indefinite time in the future. Several NGOs and First Nations resigned from CEMA, citing obstructionist tactics from industry and lack of commitment from the government of Alberta.

When asked about support for TEMF or for the Canadian Boreal Initiative's Boreal Forest Conservation Framework, many companies suggested that the new focus of effort should be the Alberta Government's Land Use Framework. Since industry plays such an obvious role in the creation of regional policy, it is indeed essential that it should champion effective solutions during the land use planning discussions. However, a history of failure to progress earlier initiatives does not provide much basis for optimism.

While all the companies in our survey claim to agree that strategic land-use planning is crucial, not one company is supportive of a moratorium on new lease sales until the planning question is resolved.

Planning Can Wait, But Development Can't?

Despite the fact that strategic land use planning that considers cumulative impact is not yet completed, industry is calling for, and government is actively considering, ways to speed up permitting for in situ projects. In October 2009, Alberta Environment announced it was looking at ways to eliminate the lengthy and potentially costly requirement for an environmental assessment to be completed prior to the granting of in situ licenses.⁵⁹ It proposed that companies instead agree to follow a code of practice similar to that used by conventional oil and gas operators in Alberta. The In Situ Oil Sands Alliance and the Canadian Association of Petroleum Producers both actively support this approach. It may be the case that the current environmental assessment process is not the most effective approach to protecting cultural and environmental values when it comes to in situ projects. However, pushing for this change now—before land use planning is completed—risks increasing negative public perceptions of the industry.



The Alberta Biodiversity Monitoring Institute (ABMI) is an ambitious effort to create a monitoring network tracking over 2000 species and habitats to support science-based land use decision-making.⁶⁰ While funded by government and natural resources users, it has been set up as an independent, arms-length provider of biodiversity information. Currently, seven out of 13 companies provide funding to ABMI, but only a few indicated that they plan to incorporate ABMI findings into their development plans.



What are companies doing to mitigate the biodiversity impacts of their projects?

There are significant differences in the impacts of in situ and mining projects—and also in the difficulty of dealing with those impacts. Reclaiming a tailings pond involves much greater challenges and costs than reclaiming a SAGD well pad. That said, the companies provide little data to demonstrate effective and speedy reclamation of areas disturbed by their projects. The only oil sands-specific investor-oriented disclosure on reclamation performance is provided by miners Suncor and Syncrude. In Suncor's case the percentage reclaimed is actually diminishing year-on-year, while Syncrude's percentage remains static.⁶¹

Biodiversity offsetting is a relatively new approach to make up for loss of biodiversity through project development, relevant for both in situ and mining projects. Through biodiversity offsets, critical habitat elsewhere is conserved to compensate for the unavoidable loss of similar habitat at the project site—the goal being no net loss of biodiversity. In practice, biodiversity offsetting would result in the project proponent ensuring that a certain ratio of similar habitat is set aside before the loss of habitat occurs.⁶² Obviously, a successful offsetting program demands an adequate understanding of the cumulative impacts of development on biodiversity throughout the region.⁶³ A few companies reported proactive engagement in advancing use of offsets. Petro-Canada, Suncor, Shell and Total were already buying and setting aside offsets, while Nexen and ConocoPhillips were involved in efforts to create offset standards.

Where Does the In Situ Footprint Begin?

In situ operators consistently pointed out that their land impacts were less than those of the miners, as they did not create tailings ponds or open pits. Several companies referred to the in situ footprint as being more or less equal to that of a conventional oil and gas operation, and Devon highlighted the claim that in situ operations are more productive than conventional oil wells, meaning that less land is disturbed per barrel.⁶⁴

Recent research has suggested, however, that when the upstream land use impacts of natural gas inputs are incorporated into the equation, in situ projects have roughly the same footprint as oil sands mining operations.⁶⁵ When it comes to GHG emissions, the industry rightly draws attention to the need to consider the impact of a barrel of oil from a life-cycle perspective. It seems logical to extend the same approach to consideration of land and biodiversity impacts.



Are companies disclosing clearly the size of their future liabilities for reclamation?

Of all the reclamation obligations that face oil sands companies, the miners' tailings ponds are the most troublesome. To date, companies have not been able to show that they can reclaim tailings ponds in an efficient and effective way. The technology is unproven, and the scale of reclamation required is vast.

The Asset Retirement Obligation (ARO) is a line in the company's annual report which should, in theory, incorporate all foreseeable long-term reclamation costs discounted to a present day value. It should give investors insight into the future risks the company faces from reclamation obligations, and some assurance that the company is assessing these risks accurately. The ARO does not, however, represent hard cash being set aside for reclamation.

Few companies were willing or able to separate the reclamation obligations of their oil sands projects from their overall ARO. None of the companies provided detail on the basis for calculating their future reclamation costs. Some companies stated that the life of their project is indeterminate and thus they could not calculate costs at this point in time. While this sounds reasonable, there are methods to create a best estimate of future costs and providing no information at all seems to be inadequate.

Not only is it unclear how companies are calculating tailings reclamation costs, but in some cases tailings ponds may not even be included in the ARO. Legacy mining companies Suncor and Syncrude indicated that at least some tailings ponds are included in their ARO. Canadian Natural Resources stated that ponds were not included, because as the water is being constantly recycled back into the production process, they are considered to be part of ongoing operational infrastructure. This means that the investor cannot rely on current public disclosure for information about the ultimate costs of reclaiming tailings ponds.

With the present state of disclosure, it is difficult for an investor to assess if a company is setting aside adequate funds to cover tailings reclamation liabilities. This information does not appear in the balance sheet or elsewhere in an easily-comprehensible form, and none of the companies provided detail on how they determine how much money to set aside each year.

For a clearer picture of how much an oil and gas company is setting aside for reclamation, we must look beyond the oil sands operators. Crescent Point Energy—a conventional Canadian oil and gas company—discloses how much it has put aside in its reclamation fund over the last five years, and at what rate it earmarks money for this purpose—30 cents per barrel of production in 2008.⁶⁶

We do not know if any oil sands companies are coming close to putting aside this much money on a per barrel basis. Canadian Oil Sands Trust was most forthright on how it is planning for future reclamation costs, explaining that it sets aside 13.2 cents for every barrel of its share of Syncrude production. In 2008 the reclamation trust held \$44 million.⁶⁷ While this was the most open disclosure on the topic, we are nonetheless left wondering why a conventional producer like Crescent Point appears to be allocating more than double the amount set aside by an oil sands miner.

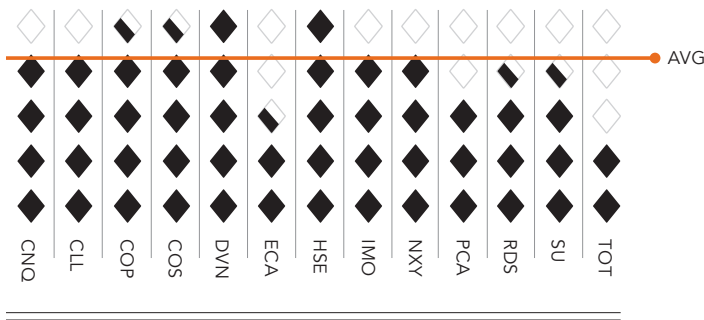
Benchmarking on Strategy for Change

The oil sands industry finds itself at the centre of a global firestorm of criticism focused on the negative impacts of this form of production. NGO campaigning is increasing reputational and social license risk, and the regulatory environment is becoming more challenging. To mitigate this complex of risks, companies will need to make significant changes in the way they do business—beginning by acknowledging that change is necessary. Seeking to understand the companies’ strategy and orientation towards change, we explored their approach to a variety of issues, including risk management, carbon strategy, and research.

If industry does not acknowledge oil sands impacts, and cannot demonstrate that they are being mitigated, negative public sentiment is likely to grow in Canada and internationally. This could lead to pressure for tougher regulation at local and national level, a rougher passage for companies negotiating the project approval process, and reputational damage to companies and their investors.

Strategy

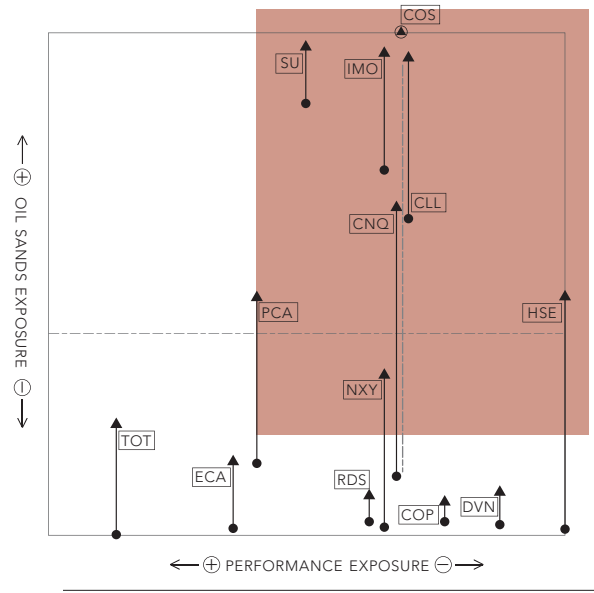
Performance Risk



Do companies acknowledge oil sands risk and the controversy it creates?

Polls consistently find that most Canadians consider the oil sands to be an asset to the country - but that there is concern about the way they are being developed. In a public opinion survey conducted for the Canadian Association of Petroleum Producers in 2008, 46% of those polled thought oil sands companies had not done a good job balancing economic and environmental concerns, while 71% believed achieving this balance was possible. Less than 20% gave credence to information published by oil and gas companies.⁶⁸ Clearly the industry has much work to do in closing this credibility gap. A good place to start would be openness about oil sands challenges. Companies operating in the oil sands are at least willing to acknowledge that the industry has significant impacts that must be mitigated. ConocoPhillips, Nexen, Imperial and Suncor stood out for their forthright public disclosure on aspects of oil sands risk and on the controversy surrounding the development of the resource.

Long-term Risk



Do companies have clear structures for Enterprise Risk Management?

Enterprise Risk Management (ERM) involves integrated consideration and management of all the major risks to the company, including financial, environmental, social, reputational and other aspects. We see ERM as an essential tool for building and maintaining long-term company value.

One might expect ERM to be more prevalent in a high-risk industry such as oil and gas, but alarmingly, not all the companies disclosed clear structures in this area either in their public disclosure or in their discussions with us. Only three out of 13 referred to a dedicated committee of senior management charged with comprehensive risk management duties. All companies have Environment, Health and Safety (EHS) structures, but risk may not be dealt with comprehensively if EHS functions as an island within the company. More positively, at EnCana the Executive Vice President for Environment is also Chief Risk Officer for the whole company.

Traditionally, in many companies, risk management has been delegated to the Audit Committee of the Board. This situation can create a danger that financial considerations will dominate thinking. To ensure a vital issue is not trivialized, it is preferable to establish a specific board committee for risk management. ERM committees of the board are universal in the Canadian banking industry—which has recently been lauded globally as a leader in risk management. None of the companies in the benchmarking currently disclose the existence of a board-level ERM committee.

Are companies taking into account the future cost of carbon?

Major oil sands projects—particularly mines—are capital-intensive undertakings with a long operating life compared to conventional oil and gas wells. Given this massive long-term investment, and the likelihood that the cost of carbon will increase in the future, it is essential that companies consider the viability of projects under different carbon pricing scenarios. Ten out of 13 companies claimed to undertake carbon pricing scenario planning, but only EnCana and Total include information on the pricing used in their public disclosure.

Recent studies have suggested that to meet the federal government's stated target of a 20% reduction from 2006 GHG emissions levels by 2020, a minimum carbon price of C\$100 a tonne will be required by 2020—a mere ten years away.⁶⁹ Only two companies claimed to incorporate such a high carbon price into project economics, and neither company includes this information in public disclosure.

Are companies monitoring long-term environmental health impacts of operations on employees and communities?

Industry spokespeople tell us that the oil sands are not a threat to health—but this is not yet a certainty. The litigious and regulatory consequences for long-term projects if serious health impacts are revealed at a later date could be disastrous. The huge liabilities that resulted from exposure of employees to asbestos are indicative of the scale of the risk.⁷⁰

Although most companies indicated that they were conducting environmental exposure monitoring of employees to some extent, few provided details on the type of exposure that is being monitored. Robust health and safety measures were in place for traditional workplace risks, but it is not at all clear that companies are actively monitoring for potential toxic risks associated, for example, with working near tailings ponds. In situ operators believe the risks to their employees are essentially the same as for conventional oil and gas.

Community health impacts downwind and downstream of oil sands projects could also become a flashpoint for litigation and undermine social license to operate. Concern has focused on an apparent cluster of serious and unusual illnesses in the mainly Aboriginal community of Fort Chipewyan, where environmental research conducted for the community found high levels of contaminants associated with industrial air and water pollution. A review was launched by the Alberta Cancer Board, but with inconclusive results;⁷¹ the study found higher incidences of some cancers, recommended further study to determine if these trends were significant, but did not examine causes of the higher incidence rates. Future studies will likely focus on possible links between oil sands development and health issues.

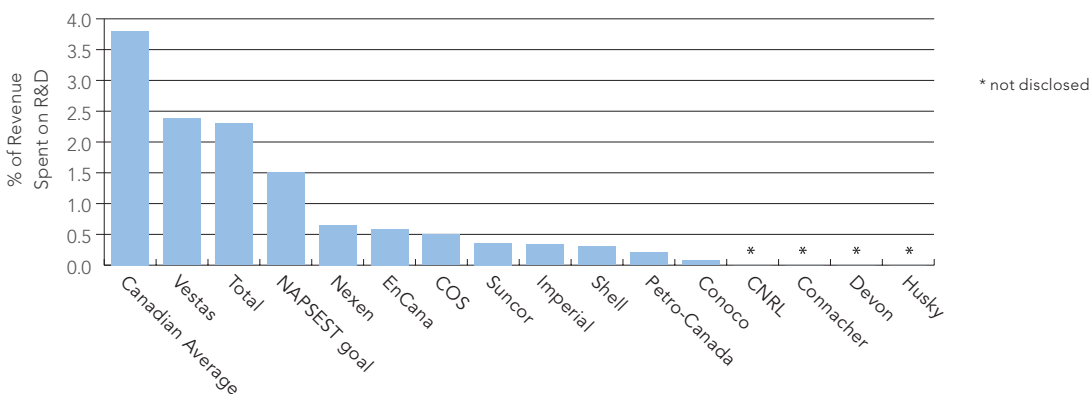
When asked if they had supported independent studies on community health impacts for those communities in the immediate vicinity of the oil sands, most companies stated that they provided this funding through collaborative efforts such as the Wood Buffalo Environmental Association (WBEA). Only one company described an effort to fund an independent study directly. Shell stated that it offered to provide funding for a study on health impacts in Fort Chipewyan, but the company and the community have not agreed on terms of reference as yet. One barrier to reaching consensus with a community on such a study might be the potential for conflict of interest if a company is closely involved in monitoring its own impacts. Other companies pointed to this issue in explaining why they did not directly fund such studies.

Companies also pointed out that the governments of Canada and Alberta have primary responsibility for public health. Regardless of mandate, the pace of oil sands development has increased the potential risks for companies. We believe they should be pressuring the federal and provincial governments to perform the necessary studies and due diligence to determine what, if any, health impact oil sands operations are having on nearby communities. Once again, Shell was the only company to disclose that it has been writing to the relevant levels of government requesting action on this front.

What are companies doing to contribute to the development of new oil sands technologies?



Research Intensity in the Oil Sands



Extracting bitumen from the oil sands is already an impressive technological feat. The companies tell us that further technological developments will allow industry to overcome many of the environmental impacts of oil sands production. But progress requires investment. The oil and gas industry has traditionally performed poorly in terms of intensity of expenditure on research and development (R&D). According to the 2006 report of National Advisory Panel on Sustainable Energy Science and Technology (NAPSEST), the Cana-

dian industrial average for research intensity (percentage of revenues spent on R&D) was 3.8%. For the energy industry, it was only 0.75%, and for the oil and gas industry, only 0.36%.⁷² To place this in context, Vestas, the world's largest supplier of wind turbines, had research intensity of 2.3% in 2008.

Reporting on research spending is patchy, but 12 out of 13 companies in our sample either did not meet the energy industry average of 0.75% research intensity over the past three years, or did not disclose on research spending. The majority of companies appeared to show a decreasing research intensity trend over the period 2006-2008. Total is the exception: its global research intensity was 2.4% in 2008, and it was also willing to disclose what was spent on oil sands efficiency and impact reduction.

Rethinking the Oil Sands

Most of the companies operating in the oil sands are at least willing to acknowledge that change is needed. But what could that change look like? Innovation and collaboration are emerging as two critical requirements for improving sectoral environmental and social performance.

Innovation for Sectoral Change

A Good Idea Is Not Enough

Although research spending intensity is relatively low compared to other sectors, oil sands companies, universities and the government are nevertheless devoting considerable effort to developing new oil sands technologies. Imperial stood out for the clarity of its public disclosure on current research initiatives to improve the environmental performance of its oil sands operations. However, new technologies will not have a significant impact on reducing the footprint of the industry until they are integrated into commercial operations.

In October 2009 EnCana announced it would seek approval for the first commercial-scale solvent-assisted SAGD project.⁷³ This approach could reduce in situ GHG emissions significantly, by cutting steam requirements. Suncor announced that it was applying for permits to use a new technology to reclaim tailings. If it works, Suncor will have access to an important tool for mitigation the risks associated with its massive tailings ponds.⁷⁴ However, technology undertakings made during the permitting process do not always translate to the final project: Total promised commercial-scale dry tailings for its proposed Joslyn mine, and now it seems to be backtracking.⁷⁵

Tailings management is a top priority for research – and will be even more important as Alberta rolls out tailings regulation. Dry tailings would eliminate the need for giant tailings ponds and their associated reclamation costs, and represent the Grail for oil sands miners. Is the lack of progress in implementing dry tailings the result of lack of effort, or is it not possible to fix this problem? If it is not possible to fix—what are the implications for investors of building new mines that will create massive new tailings liabilities?

Small is Beautiful?

The oil sands have long been associated with mega-projects. Large, capital-intensive projects with unusually long investment horizons have been the norm. However, as the industry shifts from mining towards in situ as the prevailing method of extracting bitumen, the paradigm may be shifting. An outlier in our research was Connacher: a smaller company, following a modular approach, which achieved commercial production relatively rapidly. The modular approach involves designing a project consisting of discrete

stages that can be expanded over time, often with factory-fabricated components, while producing bitumen at each stage. The advantages of the modular approach could include:

- The possibility of integrating the most recent technological advances (including innovations that reduce environmental impact and increase efficiency);
- Improved quality from components built offsite by experienced workers;
- Reduction in up-front costs, and costs of materials and site labour;
- Less disruption to communities from influx of site workers and stress on local infrastructure.

Several in situ operators refer to the merits of staged or modular approaches in their reporting, suggesting that it may be gaining some traction at least in part of the industry.⁷⁶ Perhaps one of the biggest advantages from the investor perspective would be reduced payback periods. New oil sands mega-projects are relying on continuing demand and high oil prices up to 30 years from now. While this scenario is not implausible, with the current uncertainty around the future role of oil, it is a gamble. A modular approach could reduce the level of investor risk.

Collaboration for sectoral change

The oil sands has been labelled “the dirtiest project on earth”. In fact it is not a single, integrated project but a large collection of independent projects of different kinds operated by different companies. However, for certain risks to be mitigated effectively, the industry needs to act as one, and collaborate with other stakeholders. Examples where this is an imperative include opportunities for industrial ecology approaches and footprint sharing, and burden-sharing on costs of research into regional impacts.

	CNQ	CLL	COP	COS		ECA	HSE	IMO	NXY	RDS	TOT
				SYNCRUDE	DVN						
ICO2N – Integrated CO ₂ Network: A proposed carbon capture and storage (CCS) system for Canada incorporating facilities to capture CO ₂ , a transport pipeline and distribution system, and injection facilities at enhanced oil recovery sites or long-term disposal locations. ⁷⁷	YES		YES	YES	YES		YES	YES	YES	YES	YES
ASAP – Alberta Saline Aquifer Project: Identification of deep saline aquifers in Alberta suitable for the permanent storage of CO ₂ . ⁷⁸	YES		YES		YES	YES			YES ⁷⁹	YES	YES
WBEA – Wood Buffalo Environmental Association: Monitors air quality in the region. ⁸⁰	YES			YES			YES	YES	YES	YES ⁸¹	YES
RAMP – Regional Aquatics Monitoring Program: Objective is to understand the impact of oil sands development on aquatic systems. ⁸²	YES			YES			YES	YES	YES	YES	YES
ABMI – Alberta Biodiversity Monitoring Institute: Provides information on the state of biodiversity to facilitate responsible land use. ⁸³			YES		YES	YES			YES ⁸⁴		YES
CEMA – Cumulative Environmental Management Association: Study the cumulative environmental effects of industrial development in the region and produce guidelines and management frameworks. ⁸⁵	YES		YES	YES	YES	YES	YES	YES	YES	YES	YES

Everyone Pays Their Way

The Wood Buffalo Environmental Association (WBEA) offers a unique example of how to organize funding for an initiative that will benefit the collective. WBEA funding is linked to production—thus companies that are contributing more to the impacts on the region pay a correspondingly bigger portion of the costs. This model could be adopted for other initiatives where companies share a common responsibility and would likewise all benefit from a solution. For example, the Alberta Biodiversity Monitoring Institute (ABMI) could benefit from such an approach. All companies involved in the oil sands will benefit from its efforts to provide sound scientific data on biodiversity impacts, but currently not all are supporting the initiative.

Collaborating For Change, Not Failure

The oil and gas industry has a strong tradition of speaking with one voice and most companies are comfortable with the idea of collective approaches to managing issues. The number of active coalitions and collaborations in the oil sands is indicative of this culture—potentially a strength that can be leveraged to achieve progress. However, the industry needs to work on its capacity to work effectively with *other* stakeholders.

The history of CEMA's land use framework and of Athabasca River water management suggests that involvement in an initiative may not always equate to working for a solution. Companies can kill collaboration through constant foot-dragging, and industry associations may tend to cater to the lowest common denominator when seeking to influence policy initiatives. Investors would not expect industry always to share the same viewpoint as environmental NGOs, but companies should at least be able to work effectively with all relevant stakeholders. The oil sands industry's record so far in this respect appears to be fairly dismal. Industry needs to protect its interests, but to protect social license to operate it should seek to achieve results acceptable to all stakeholders and not simply fight changes to the status quo. By participating *constructively* in multi-stakeholder initiatives to define policy for oil sands development, companies may be able to mitigate the risk that imposed solutions will expose them to higher than anticipated costs.

Breaking From The Pack?

Until recently, the main voice of the oil sands has been provided by the Oil Sands Developers Group,⁸⁶ which has tended to communicate a relentlessly positive and pro-development version of the oil sands story. All companies in the benchmarking are members except Connacher and Canadian Oil Sands Trust (although Syncrude is a member).

Connacher is a member of the In Situ Oil Sands Alliance (IOSA)⁸⁷, a recently-formed group of smaller and mainly privately-owned in situ operator companies, which seeks to differentiate this part of the industry from the prevailing image of mining mega-projects. It remains to be seen to what extent IOSA will become a forum for promoting a different approach to oil sands development.

The Oil Sands Leadership Initiative (OSLI) is a little-publicized group of five companies with oil sands interests – Suncor, Nexen, ConocoPhillips, Total and StatoilHydro - that may be attempting to break from the pack in terms of working to rectify industry impacts. OSLI seems to have been borne out of recognition that the industry at large has not been progressive in acknowledging impacts or making changes. While it is too early to tell what will come of this initiative, it does provide some hope that a smaller group unencumbered by the current wider group dynamic could create space for real action.

Conclusion

Benchmarking Results: Could Do Better

	DISCLOSURE	FIRST NATIONS	AIR	WATER	LAND	STRATEGY
CNRL	◆◆◆◆◇◇	◆◆◆◆◆◆	◆◆◆◆◇◇	◆◆◆◆◇◇	◆◆◆◆◆◆	◆◆◆◆◇◇
Connacher	◆◆◆◆◇◇	◆◆◆◆◇◇	◆◆◆◆◆◆	◆◆◆◆◇◇	◆◆◆◆◆◆	◆◆◆◆◇◇
Conoco	◆◆◇◇◇◇	◆◆◆◆◇◇	◆◆◆◆◆◆	◆◆◆◆◆◆	◆◆◆◆◇◇	◆◆◆◆◇◇
COS	◆◆◆◆◇◇	◆◆◇◇◇◇	◆◆◆◆◇◇	◆◆◆◆◇◇	◆◆◆◆◆◆	◆◆◆◆◇◇
Devon	◆◆◆◆◇◇	◆◆◆◆◆◆	◆◆◆◆◆◆	◆◆◆◆◇◇	◆◆◆◆◆◆	◆◆◆◆◆◆
EnCana	◆◆◆◆◇◇	◆◆◆◆◇◇	◆◆◆◆◇◇	◆◆◆◆◇◇	◆◆◆◆◆◆	◆◆◆◆◇◇
Husky	◆◆◆◆◆◆	◆◆◆◆◆◆	◆◆◆◆◆◆	◆◆◆◆◇◇	◆◆◆◆◆◆	◆◆◆◆◆◆
Imperial	◆◆◆◆◇◇	◆◆◆◆◆◆	◆◆◆◆◇◇	◆◆◆◆◇◇	◆◆◆◆◆◆	◆◆◆◆◇◇
Nexen	◆◆◇◇◇◇	◆◆◇◇◇◇	◆◆◆◆◆◆	◆◆◆◆◇◇	◆◆◆◆◆◆	◆◆◆◆◆◆
Petro-Can	◆◆◆◆◇◇	◆◆◆◆◇◇	◆◆◆◆◆◆	◆◆◆◆◇◇	◆◆◆◆◆◆	◆◆◆◆◇◇
Shell	◆◆◆◆◇◇	◆◆◆◆◇◇	◆◆◆◆◇◇	◆◆◆◆◆◆	◆◆◆◆◆◆	◆◆◆◆◇◇
Suncor	◆◆◇◇◇◇	◆◆◇◇◇◇	◆◆◆◆◆◆	◆◆◆◆◇◇	◆◆◆◆◇◇	◆◆◆◆◇◇
Total	◆◆◆◆◇◇	◆◆◆◆◇◇	N/A	N/A	◆◆◆◆◇◇	◆◆◆◆◇◇
AVERAGE	◆◆◆◆◇◇	◆◆◆◆◇◇	◆◆◆◆◇◇	◆◆◆◆◇◇	◆◆◆◆◆◆	◆◆◆◆◇◇

Alberta’s oil sands place the province second only to Saudi Arabia in the account of global oil reserves, and almost every major Canadian and international oil company is (or plans to be) involved in the development of the resource. As more companies enter the oil sands, and the contribution of oil sands to company reserves increases, more investors are becoming exposed to these risks, and the level of their exposure is increasing.

As investors, we are not reassured after carrying out this benchmarking exercise. There are instances of good practice under every theme, but some companies are lagging in all areas—or if they are not lagging, they are not telling. The following are areas of particular concern:

DISCLOSURE

Before investors can get a true picture of oil sands risk, many companies need to improve their public disclosure significantly. Nexen, Suncor and Conoco-Phillips stood out for the relative quality and completeness of their public disclosure. At the other end of the spectrum, Imperial and Husky either did not consider some of the issues raised to be material, or were unaware that the information we sought was not included in their public disclosures. With a few exceptions, companies do not break down ESG-related reporting by business unit, making it difficult for investors to assess the specific risks associated with oil sands operations. Standardized reporting on key metrics, such as the steam to oil ratio for in situ projects, is required across all companies.

ABORIGINAL ENGAGEMENT

All oil sands companies in our survey operate in areas that overlap with Aboriginal traditional territories. Risk to company value from Aboriginal rights claims cannot be eliminated by company action—but it can be mitigated through an effective Aboriginal engagement strategy. There was a significant range of performance for this theme, with some companies much better positioned than others. Worryingly, only a handful of companies acknowledge the risk from aboriginal rights litigation in their public disclosure; only a third recognize treaty rights in their Aboriginal policies, with none incorporating the principle of Free, Prior and Informed Consent; and only not all companies base their consultation approaches on guidelines endorsed by Aboriginal communities themselves. Over a third of operators could not tell us if they had negotiated even basic agreements with any impacted communities.

CLIMATE CHANGE AND AIR POLLUTION

Shell stood out for the *relative* carbon efficiency of its projects. It was the only company with targets for absolute emissions reductions, and the company that had most strikingly reduced its global absolute emissions (although this can be partly attributed to decreasing production). Other companies lacked even emissions intensity targets to reduce exposure to costs associated with current Alberta regulations. Companies are pursuing a variety of approaches to emissions control, ranging from alternative extraction methods and energy efficiency to carbon capture and storage (CCS). Although a few companies are taking significant steps to make the technology a reality, half the companies appear to display a credibility gap between their pronouncements and action on CCS.

Lost in the focus on carbon emissions is absence of targets and weak performance across the industry on reducing emissions of health-impacting criteria air contaminants (CACs). Only Syncrude (and by extension Canadian Oil Sands Trust) and Petro-Canada displayed steady reduction in the intensity of their CAC emissions.

WATER

Regarding water, half the companies failed to provide data, or presented it in an ambiguous way that made comparisons difficult. Less than a quarter of the companies disclosed any kind of water management targets. Only Suncor had absolute water use targets—although as a legacy operator with generous license provision it is among the least exposed to water access risk.

Most in situ operators are already compliant with draft regulatory requirements on water recycling, and the use of saline in place of fresh groundwater seems to be on the rise.

LAND USE, BIODIVERSITY AND RECLAMATION

The continuing lack of a strategic land use plan for the oil sands region creates long-term policy and regulatory risk for companies, yet they have a history of failing to advance multi-stakeholder initiatives, and none express support for the idea of a moratorium until planning is completed.

On a positive note, several companies are already experimenting with biodiversity offsets.

Despite the obvious liability presented by the mining tailings ponds, there is little clarity about corporate provision for the costs of their reclamation. Not all tailings ponds are included within company asset retirement obligation

(ARO) disclosure, and no companies were willing to disclose the tailings pond reclamation cost estimates that form the basis for this portion of their ARO calculations.

STRATEGY FOR CHANGE

Given the need to tackle significant environmental and social impacts, sector-wide weakness in indicators of strategy and capacity for change is perhaps the most worrying finding. Less than a quarter of the companies report the existence of a dedicated committee of the board responsible for enterprise risk management.

More positively, companies have largely accepted the importance of testing investments against different levels of carbon costing—although they may not be considering high enough carbon prices in their scenarios.

Industry claims that technology can overcome environmental impacts of the oil sands, and companies are indeed involved in a wide range of research initiatives and pilot projects of technologies with potential to reduce risk. But with the exception of Total, research intensity is extremely low across the companies, even by the low standards of the wider energy sector. Considering the urgency of the risks facing the oil sands industry, evidence of higher levels of spending on R&D would be reassuring to investors.

For practical reasons, this report focuses on current operators. But current production is a fraction of what is expected by 2030, and many new companies are entering the business. Companies with plans to enter or go deeper into the oil sands need to show that they—and their prospective project partners - can mitigate the same risks against which we assessed current operators.

After the Gold Rush

In the Ethical Funds report *Unconventional Risks*, companies were called upon to suspend new oil sands development pending completion of integrated conservation and land use planning, and to accelerate the development and application of potential solutions that could improve project environmental and social performance and reduce portfolio risk.

In the decade up to 2008 new extraction technologies, a generous royalty regime, increasing oil prices and considerations of geopolitical risk elsewhere led to an oil sands boom. Then came the financial crisis, and the plunge in oil prices. Late 2008 and early 2009 saw the over-heated oil sands sector entering a freeze, with many proposed projects – including some that were already under construction - being placed on temporary or indefinite hold.

From mid-2009 onwards, signs of a thaw appeared. The price of labour, construction materials and natural gas remain considerably lower than during the boom, reducing development and production costs. Increasing demand from heavy oil refineries in the US altered, at least temporarily, the pricing differentials between conventional crude, synthetic crude oil and diluted bitumen, making it highly attractive for producers to ship diluted bitumen (though as a result, most upgrader projects in Alberta have been cancelled or delayed indefinitely). In the summer, Suncor and Petro-Canada completed a merger to create Canada's biggest oil company, and second-biggest company. The new Suncor Energy indicated it would maintain a focus on oil sands, divesting of other assets;⁸⁸ while EnCana revived its plan to split its gas and oil sands operations, creating a new integrated oil sands company, Cenovus. Imperial's massive Kearl mining project, which had been placed on hold, received corporate go-ahead. Interest from Asia revived, with PetroChina International Invest-

ment taking a 60% stake in privately-owned Athabasca Oil Sands Corporation's in situ projects—and causing a spike in the share price of other small players. In September 2009, the Alberta government held its most successful oil sands lease sale of the year.⁸⁹

Although the boom times have not returned, the effective moratorium on new oil sands development brought about by the financial crisis would appear to be over. The slowdown did provide a pause for reflection, and there are encouraging signs that industry and government are beginning to take action on at least some of the biggest risks in the oil sands. A few industry voices are even acknowledging that a slower pace of development may have benefits, at least in terms of managing costs – although as yet there is little evidence that companies are advocating the idea of controlled and more orderly oil sands development to the Alberta government. Based on the benchmarking results, we believe the moratorium call remains relevant.

To Action: Engaging with the Oil Sands

As desirable as a fossil-free future may be, the oil and gas industry will be with us for years to come – and it's getting dirtier. The oil sands are an important manifestation of that problem. We believe responsible investors can contribute to corporate change by informed investment decision-making, by engaging the companies they own, and by offering their perspective in consultations on policy and regulation.

We will be looking to oil sands companies to:

- Openly acknowledge oil sands risks in their public disclosures
- Include in public disclosure material information on environmental and social strategy, performance and risk mitigation systems
- Improve operational performance in areas of environmental and social risk
- Increase research and investment into technology to reduce environmental and social impacts
- Make constructive contributions to oil sands-related policy debate and stakeholder processes
- Engage in constructive dialogue with concerned shareholders

Let's get to work.

Appendix 1: Methodology for the Benchmarking

The benchmarking research was carried out by Northwest & Ethical Investments L.P.'s Sustainability Department.

Scope

The scope of the benchmarking was limited to 13 publicly-traded companies that were the sole or lead operator of a currently-producing project in the oil sands in Spring 2009. As investors, our sphere of engagement influence extends only to the companies we can own; and it is problematic to compare planned and operating projects, as experience shows that performance promised at the planning stage is not always delivered in the field.

Total's Joslyn in situ project failed to meet expectations and is being decommissioned, but because the company plans a major mining project and was willing to participate in the survey it was retained in the benchmarking. However, it was not been included in scoring on every issue because of lack of comparable data. The Suncor merger took place after the research had begun: as consolidated data is not yet available for the new Suncor, and it is unclear whether Suncor or Petro-Canada policies will prevail in specific areas, no attempt was made to merge the data. Petrobank and Japan Canada Oil Sands were excluded from the benchmarking because of the small scale or pilot status of their projects. Although it is not an operator technically, we included Canadian Oil Sands Trust in the benchmarking because it is the largest partner in Syncrude—one of the biggest oil sands producers, but not a public company in its own right. Some operational data used for benchmarking Canadian Oil Sands Trust is drawn from documentation published by Syncrude.

Process

Data Collection

Based on the Ethical Funds report *Unconventional Risks*, we developed a detailed questionnaire relating to air, water and land impacts, Aboriginal engagement and corporate strategy. The questionnaire was tailored to the type of production practiced by each company, as mining and in situ environmental impacts differ. Benchmarking questions were tested with companies, environmental experts, and aboriginal contacts. Feedback was incorporated into the questionnaire.

Northwest & Ethical Investments L.P. staff first tried to answer the questionnaire for each company through desk research of publicly-available data (including company reports, government-mandated emissions disclosures, and the Carbon Disclosure Project). The partially-completed questionnaires were then sent to the 13 companies covered by the benchmarking.

Eleven companies responded to the questionnaire. Husky Energy and Imperial Oil wrote to decline participation in the survey. Seven companies met in person with Northwest & Ethical Investments L.P. staff to discuss survey responses: Canadian Natural Resources, Canadian Oil Sands Trust, Connacher Oil and Gas, EnCana, Nexen, Petro-Canada, and Suncor Energy.

Company responses were summarized, incorporated with desk research and analyzed to assess whether the original survey question had been answered. Consolidated questionnaires were then sent back to the companies to provide the opportunity to correct mistakes, fill in missing information, or dispute our analysis. Feedback from companies was incorporated into benchmarking results. Prior to publishing the report, with the aim of furthering engagement on the issues raised, the results were shared at meetings with each of the companies included in the benchmarking (except for Petro-Canada, because of the merger with Suncor).

Scoring and Analysis

Company responses were assessed and scored based on Northwest & Ethical Investments L.P.'s evaluation methodology. Each company was only scored on questions relevant to its business and stage of operation – thus if a company only had in-situ operations, it was not scored on questions relating to oil sands mining. Some questions were not scored because the variation in the type of answer provided made comparison impossible.

If a company refused to disclose information on a performance issue, and the answer could not be found in its public disclosures, it was given the lowest possible score. Our decision to award a score of zero to companies that did not answer a question means that companies with poor disclosure were penalized in the same way as companies with poor performance. From an investor perspective, this is strongly warranted. Investors have a right to material information that might affect their decision on investing in a company, and the right to assume the worst when they don't get it.

Scores were summarized by theme, with companies given a final score for each theme based on the percentage of the maximum possible score they had achieved. (For example, if a company scored 10 out of a possible 20 points relevant to its business, it was awarded a score of 50%.)

Based on the scoring, we assigned each company to a risk category for each theme. We also considered the long-term exposure of each company to the risk theme, based on current production and oil sands reserves. We did not weight any of the themes, nor did we attempt to consolidate the scoring into a single overall risk assessment. It is problematic to assign relative priority to any of the themes. We also believe for engagement purposes it is more useful to consider each theme separately.

Limitations

Comparing the companies was complicated by a number of practical issues. Projects are at different stages of maturity, and current performance data may not be indicative of long-term performance. This is particularly significant in the case of in situ projects, which in the initial phase use heavy steam inputs to produce little oil, creating a skewed GHG emissions intensity profile. It should also be noted that many of the indicators used represent proxies for performance, rather than direct evidence of performance. For example, under the Aboriginal Engagement theme we looked for evidence of policies, guidelines, and agreements that could facilitate good relations with impacted Aboriginal communities—but from the investor vantage point we cannot rate the actual quality of these relationships.

Appendix 2: Company Information Sources

Canadian Natural Resources

Stewardship Report 2007

http://www.cnrl.com/client/media/2397/2399/2007_stewardship_report_-_150_dpi.pdf and Stewardship site http://www.cnrl.com/operations/stewardship_report.html

Annual Report 2008

http://www.cnrl.com/upload/media_element/6/01/cnq_2008_ar.pdf

Annual Information Form 2008

http://www.cnrl.com/upload/media_element/48/01/2008_aif.pdf

Management Information Circular 2009

http://www.cnrl.com/upload/media_element/58/01/2009_agm_ic_filed.pdf

Survey response and meeting on June 1, 2009.

Canadian Oil Sands Trust

Syncrude Sustainability Report 2007

<http://sustainability.syncrude.ca/sustainability2007/footer/sd2007.pdf> or
<http://sustainability.syncrude.ca/sustainability2007/>

Syncrude Aboriginal Review 2007

http://www.syncrude.ca/users/FolderData/%7B3932A7A4-6AE4-4E91-98D2-86BE6678E738%7D/2007_aboriginal_review.pdf

Syncrude Aboriginal Review 2008

<http://www.syncrude.ca/pdf/aboriginal-review-2008.pdf>

Annual Report 2008

http://www.cos-trust.com/Theme/COS/files/COS_2008_eAnnual/pdf/COS_AR08_Complete.pdf

Proxy Circular 2009

<http://canadianoilsandstrust.spotservice.ca/>

Survey response and meeting on June 4, 2009.

Connacher Oil and Gas

Annual Report 2008

http://www.connacheroil.com/documents/fin/CLL_AR2008_bookmarked-final.pdf

Annual Information Form 2008

<http://www.connacheroil.com/documents/fin/CLL-2008-AIF.pdf>

Survey response and meeting on June 2, 2009.

ConocoPhillips

Canada Sustainable Development Report 2007

<http://www.conocophillips.ca/EN/social/sustainable/documents/CPC-2007SustainableDevelopmentReport.pdf>

Annual Report 2008

http://www.conocophillips.com/EN/investor/financial_reports/annual_reports/documents/2008_AR.pdf

Form 10K 2008

http://www.conocophillips.com/EN/investor/financial_reports/sec_filings/Pages/index.aspx

Proxy Statement 2009

http://www.conocophillips.com/EN/investor/financial_reports/proxy/documents/ConocoPhillipsFinal2009NoticeandProxyStatement.PDF

Survey response

Devon Energy

Corporate Responsibility website

http://www.devonenergy.com/CorpResp/Pages/corporate_responsibility.aspx

Corporate Responsibility Report 2008-09

http://www.devonenergy.com/Newsroom/Documents/DVN08-09_CRR_lr.pdf

Annual Report 2008

<http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9MjE2MnxDaGlsZElEPS0xfFR5cGU9Mw==&t=1>

Form 10K 2008

<http://phx.corporate-ir.net/phoenix.zhtml?c=67097&p=irol-sec&leftnav=5>

Survey response

EnCana

Corporate Responsibility website

<http://www.encana.com/responsibility/reporting/>

Corporate Responsibility Summary Report 2008

<http://www.encana.com/responsibility/reporting/pdfs/cr-highlights-report-2008.pdf>

Annual Report 2008

<http://www.encana.com/investors/financial/annualreports/2008/pdfs/annual-report-2008.pdf>

Annual Information Form 2008

<http://www.encana.com/investors/financial/annualreports/2008/pdfs/p006996.pdf>

Management Information Circular 2009

<http://www.encana.com/investors/financial/2009/pdfs/info-circular-english.pdf>

Aboriginal Guideline

<http://www.encana.com/responsibility/engagement/aboriginal/pdfs/p001791.pdf>

Survey response and meeting on June 4, 2009.

Husky Energy

Sustainable Development Report 2008

http://www.huskyenergy.com/downloads/AboutHusky/Publications/HSE_SD_Report_2008.pdf

Sustainable Development June 2009

http://www.huskyenergy.com/downloads/AboutHusky/Publications/HSE_SD_June_2009.pdf

Annual Report 2008

http://www.huskyenergy.com/downloads/InvestorRelations/2008/HSE_Annual2008.pdf

Management Information Circular 2009

http://www.huskyenergy.com/downloads/InvestorRelations/2009/Mgt_Info_Cir2009.pdf

Annual Information Form 2008

<http://www.huskyenergy.com/downloads/InvestorRelations/2008/AnnualInfoForm2008.pdf>

Heavy Oil and Oil Sands Fact Sheet

http://www.huskyenergy.com/downloads/AboutHusky/Publications/Fact-Sheets/2009/FS_HeavyOil&OilSands.pdf

Imperial Oil***Corporate Citizenship website***

http://www.imperialoil.ca/Canada-English/Corporate_Citizenship/CC_Citizenship08.asp

Corporate Citizenship Summary Report 2008

http://www.imperialoil.ca/Canada-English/Files/Corporate_Citizenship/2008_Full_CCR.pdf

Annual Report 2008

http://www.imperialoil.ca/Canada-English/Files/Investors/2008_AR.pdf

Proxy Circular 2008

http://www.imperialoil.ca/Canada-English/Files/Investors/2008_ProxyCircular.pdf

Nexen***Sustainability Report website***

http://www.nexeninc.com/Sustainability/Sustainability_Report/

Sustainability Report 2008

<http://www.nexeninc.com/files/Sustainability/2008/2008NexenSR.pdf>

Annual Report 2008

http://www.nexeninc.com/files/AGM/nexen_2008_summary-10k.pdf

Management Proxy Circular 2009

http://www.nexeninc.com/files/AGM/nexen_2009_proxy_mgmt_circular.pdf

Survey response and meeting on June 3, 2009.**Petro-Canada*****Environment & Society***

<http://www.petro-canada.ca/en/environsociety/4378.aspx>

Report to the Community 2007-2008

http://www.petro-canada.ca/pdfs/PC_Community_2007_ENG.pdf

Annual Report 2008

http://www.suncor.com/pdf/2008_annual_report-e.pdf

Survey response and meeting on June 2, 2009.

Shell (Royal Dutch Shell)

Sustainable Development website

http://www.shell.ca/home/content/ca-en/society_environment/dir_sustainable_dev.html Shell

Canada Sustainable Development Report 2006

http://www-static.shell.com/static/ca-en/downloads/society_environment/sd06.pdf

Royal Dutch Shell Sustainability Report 2008

http://sustainabilityreport.shell.com/2008/servicepages/downloads/files/entire_shell_ssr_08.pdf

Royal Dutch Shell Annual Report 2008

http://www.annualreportandform20f.shell.com/2008/servicepages/downloads/files/entire_shell_20f_08.pdf

Survey response

Suncor Energy

Website <http://www.suncor.com/en/responsible/1644.aspx>

Report on Sustainability 2009

<http://www.suncor.com/doc.aspx?id=526>

Report on Sustainability 2007

2008 Climate Change Report on Progress

<http://www.suncor.com/pdf/climate-change-report-2008.pdf>

Annual Report 2008

<http://www.suncor.com/pdf/ic-annualreport2008-e.pdf>

Aboriginal Affairs Policy

http://www.suncor.com/pdf/2008_annual_report-e.pdf

Survey response and meeting on June 3, 2009.

Total

CSR website Canada

<http://www.total-ep-canada.com/csr/index.html>

Total in 2008

http://www.total.com/static/en/medias/topic3546/Total_2008_total_in_2008.pdf

Environment and Society 2008: Our Corporate Social Responsibilities

http://www.total.com/static/en/medias/topic3606/Total_csr_en_2008.pdf

Survey response

Other Sources

Carbon Disclosure Project CDP6 and CDP7 information request responses

<http://carbondisclosureproject.net/>

Environment Canada—Canada's Greenhouse Gas Inventory

http://www.ec.gc.ca/pdb/ghg/inventory_e.cfm

National Pollutant Release Inventory

<http://www.ec.gc.ca/inrp-npri/default.asp?lang=En&n=4A577BB9-1>

Re\$earch Infosource Top 100 Corporate R&D Spenders List

<http://www.researchinfosource.com/top100.shtml>

Dyer S, Moorhouse J, Laufenberg K, Powell R (2008) Undermining the Environment: The Oil Sands Report Card, Pembina Institute/ WWF

<http://pubs.pembina.org/reports/OS-Undermining-Final.pdf>

Alberta Energy Carbon Capture and Storage website

<http://www.energy.alberta.ca/Initiatives/1438.asp>

- ¹ Imperial and Husky have since agreed to meet with Northwest & Ethical Investments staff to discuss the findings of this study.
- ² Ethical Funds (2008) Unconventional Risks: An Investor response to Canada's Oil Sands https://www.ethicalfunds.com/SiteCollectionDocuments/docs/AlbertaOilsands_whitepaper.pdf
- ³ Energy Information Administration (2009) Short-Term Energy Outlook July 2009 <http://www.eia.doe.gov/oiaf/forecasting.html>
- ⁴ Energy Resource Conservation Board (2008) Year in Review 2008 http://yearinreview.ercb.ca/reserves_bitumen.htm
- ⁵ Energy Information Administration (2009) Country Analysis Brief – Canada - July 2009 <http://www.eia.doe.gov/emeu/cabs/Canada/Oil.html>
- ⁶ Energy Information Administration (2009) “US Imports by Country of Origin” http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbb1_a.htm
- ⁷ Government of Alberta (2008) Launching Alberta's Energy Future: Provincial Energy Strategy http://www.energy.gov.ab.ca/Org/pdfs/AB_ProvincialEnergyStrategy.pdf
- ⁸ Based on Government of Alberta (2009) Alberta Oil Sands Industry Quarterly Update – Fall 2009 http://www.albertacanada.com/documents/AOSID_QuarterlyUpdate.pdf, Strategy West (2009) Existing and Proposed Canadian Commercial Oil Sands Projects http://strategywest.com/downloads/StratWest_OSProjects_200908.pdf, and company websites.
- ⁹ Includes approvals, applications, announcements and disclosures.
- ¹⁰ Chevron's Ells River Project is not considered commercially viable at this time – see Alberta Oil Sands Industry Quarterly Update – Fall 2009 http://www.albertacanada.com/documents/AOSID_QuarterlyUpdate.pdf
- ¹¹ The present Scotford upgrader is part of Athabasca Oil Sands Project, in partnership with Chevron and Marathon. The proposed upgrader will be 100% Shell equity.
- ¹² During the benchmarking project Suncor and Petro-Canada merged. The new Suncor Energy is Canada's second-largest company and North America's fifth-largest oil company. The two companies are considered separately for the purpose of the benchmarking.
- ¹³ The Voyageur upgrader construction is suspended at present..
- ¹⁴ During the benchmarking project Suncor and Petro-Canada merged. The new Suncor Energy is Canada's second-largest company and North America's fifth-largest oil company. The two companies are considered separately for the purpose of the benchmarking.
- ¹⁵ “Health, Safety and Environmental Law: Increased Regulation and Enforcement in the Oil Sands” - presentation by Ron Kruhlak, Oil Sands Law Group, McLennan Ross LLP, at the 2009 Athabasca Oil Sands Conference, Edmonton..
- ¹⁶ Government of Alberta (2009) Responsible Actions: A Plan for Alberta's Oil Sands <http://www.treasuryboard.alberta.ca/ResponsibleActions.cfm>
- ¹⁷ Total's Joslyn in situ project failed to meet expectations and is being decommissioned, but because the company plans a major mining project and was willing to participate in the survey it has been retained in the benchmarking. However, it has not been included in scoring for every issue because of lack of comparable data. The Suncor merger took place after the research had begun: because consolidated data is not yet available for the new Suncor, and it is unclear whether Suncor or Petro-Canada policies will prevail in specific areas, no attempt was made to merge the data. Petrobank and Japan Canada Oil Sands were excluded from the benchmarking because of the small scale/pilot status of their projects. Although it is not an operator technically, we included Canadian Oil Sands Trust in the benchmarking because it is the largest partner in Syncrude – one of the biggest oil sands producers, but not a public company in its own right. Some operational data used for benchmarking Canadian Oil Sands Trust is drawn from documentation published by Syncrude..
- ¹⁸ Husky and Imperial have now agreed to meet with Northwest and Ethical Investments L.P. staff.
- ¹⁹ All of the companies in the benchmarking apart from Petro-Canada responded to the CDP 2009 information request. We assume that the merger with Suncor may have contributed to Petro-Canada's decision not to respond, and that Suncor's 2010 response will cover the whole scope of the merged operations.
- ²⁰ “First Nations demand oil sands moratorium”, Edmonton Journal, August 18, 2008 <http://www.canada.com/topics/news/national/story.html?id=00686d4c-24d9-417d-9dd1-714592491e7f>; “First Nations communities prepare for battle over water, culture” Fort McMurray Today, August 27, 2008 <http://fortmcmurraytoday.com/ArticleDisplay.aspx?archive=true&e=1163611>
- ²¹ Companies use various terms for IBAs. For example, Petro-Canada referred to them as Bilateral Agreements.
- ²² Details of Treaty 8 and other agreements with implications for the oil sands region can be found at the Aboriginal Canada Portal <http://www.aboriginalcanada.gc.ca/acp/site.nsf/en/ao20030.html>.
- ²³ Treaty 8 First Nations of Alberta (2005) First Nations Consultation Policy and Guidelines Framework <http://www.treaty8.ca/upload/documents/T8FNA%20FN%20Consultation%20Policy%20and%20Guidelines%20Framework.pdf>.
- ²⁴ Government of Alberta (2005) First Nations Consultation Policy on Land Management and Resource Development <http://www.aboriginal.alberta.ca/1.cfm>
- ²⁵ On September 14, 2006, the Assembly of Treaty Chiefs of Treaty No. 6, Treaty No. 7 and Treaty No. 8 (representing the three major treaties in Alberta) passed a unanimous resolution rejecting the Alberta Government's First Nations Consultation Policy on Land Management and Resource development – including the Framework and Consultation Guidelines. This decision is documented in the Assembly of Treaty Chiefs Resolution 14-09-06/#003R. Referenced in Ross M & Potes V (2007) Crown Consultation with Aboriginal Peoples in Oil Sands Development: Is it Adequate, is it Legal? Canadian Institute of Resources Law Occasional Paper 19 <http://dspace.ualgary.ca/bitstream/1880/47190/1/OP19AboriginalOilsands.pdf>
- ²⁶ More details on the concept of FPIC can be found in the Ethical Funds 2008 report Winning the Social License to Operate: Resource Extraction with Free, Prior and Informed Community Consent <https://www.ethicalfunds.com/SiteCollectionDocuments/docs/FPIC.pdf>
- ²⁷ See Alberta Energy Research Institute – Energy Innovation Platform of Alberta website “Life Cycle Analysis” <http://eipa.alberta.ca/home/lifecycle.aspx>. The conclusions of the AERI-commissioned studies have been challenged by various stakeholders, with criticism focusing on the selection of crudes used for comparison with oil sands production.
- ²⁸ IHS Cambridge Research Associates (2009) Growth in the Canadian Oil Sands: Finding the New Balance <http://www.cera.com/asp/cda/client/knowledgeArea/serviceDescription.aspx?KID=228>
- ²⁹ Government of Canada (2008) Turning the Corner – Detailed Emissions and Economic Modelling http://www.ec.gc.ca/doc/virage-corner/2008-03/pdf/571_eng.pdf. This estimate predates the economic downturn.
- ³⁰ The Oil Sands Environmental Coalition, which negotiated these targets for Shell's Jackpine and Muskeg River mines, appealed to the government of Canada and the Alberta Energy Resource Conser-

- vation Board to reconvene the joint panel hearing that granted the expansion permits to the mine projects in light of the broken commitment. Both governments have denied the request (“Court ruling demonstrates oil sands review process broken”, Pembina Institute, August 28, 2009 <http://www.oilswatch.org/media-release/1882>). Shell claims that voluntary targets for future oil sands projects are unnecessary because current and emerging regulations will drive the company to reduce or offset emissions from oil sands production to equivalence with competing crude oil alternatives (“Shell responds to court decision on oil sands approvals”,
- ³¹ August 28, 2009 http://www.shell.ca/home/content/can-en/about-shell/media_centre/news_and_media_releases/2009/2009aug28_co2_oilsands.html).
- ³² For example, Nigerian conventional crude production is considered to be more carbon-intensive than oil sands production.
- ³³ “Allow higher oil sands emissions: CEO”, *Globe and Mail*, October 15, 2009 <http://www.theglobeandmail.com/globe-investor/allow-increased-oil-sands-emissions-ceo-urges/article1325369/>
- ³⁴ Government of Alberta (2008) Alberta’s 2008 Climate Change Strategy <http://environment.gov.ab.ca/info/library/7894.pdf>
- ³⁵ Government of Alberta (2009) Responsible Actions: A Plan for Alberta’s Oil Sands <http://www.treasuryboard.alberta.ca/ResponsibleActions.cfm> (page 19).
- ³⁶ Government of Alberta (2008) Alberta’s 2008 Climate Strategy <http://environment.gov.ab.ca/info/library/7894.pdf>, page 18
- ³⁷ Alberta Energy “Carbon Capture and Storage” homepage <http://www.energy.alberta.ca/Initiatives/1438.asp>
- ³⁸ ecoEnergy Carbon Capture and Storage Task Force (2008) Canada’s Fossil Energy Future: The Way Forward on Carbon Capture and Storage http://www.energy.gov.ab.ca/Org/pdfs/Fossil_energy_e.pdf
- ³⁹ Canadian Natural Resources 2007 Stewardship Report (page 8).
- ⁴⁰ ConocoPhillips Canada 2007 Sustainable Development Report (page 73).
- ⁴¹ Devon Energy Corporate Responsibility Report 2008-2009 (page 21).
- ⁴² Imperial Oil Annual Report 2008 (page 7).
- ⁴³ Nexen 2008 Sustainability Report (page 5).
- ⁴⁴ Royal Dutch Shell Sustainability Report 2008 (page 12).
- ⁴⁵ Alberta Environment (2008) Alberta Air Emissions Trends and Projections <http://environment.gov.ab.ca/info/library/7964.pdf>
- ⁴⁶ Alberta Environment/Fisheries and Oceans Canada (2007) Water Management Framework: Instream Flow Needs and Water Management System for the Lower Athabasca River http://www.dfo-mpo.gc.ca/regions/central/pub/water-eau/pdf/water-eau_e.pdf
- ⁴⁷ Energy Resource Conservation Board (2009) Draft Directive: Requirements for Water Measurement, Reporting, and Use for Thermal In Situ Oil Sands Schemes http://www.ercb.ca/docs/documents/directives/Draft_Directive_InSitu_Water.pdf
- ⁴⁸ Council of Canadian Academies (2009) The Sustainable Management of Groundwater in Canada: The Expert panel on Groundwater [http://www.scienceadvice.ca/documents/\(2009-05-11\)%20GW%20Report.pdf](http://www.scienceadvice.ca/documents/(2009-05-11)%20GW%20Report.pdf). Alberta is now setting up monitoring frameworks for groundwater – after the approval of a large number oil sands projects that will rely on the availability of the resource.
- ⁴⁹ For details of the short-term Water Management Agreement, see <http://environment.alberta.ca/documents/Oil-Sands-Water-Mgt-Agreement-winter-2008-09.pdf>
- ⁵⁰ Alberta Environment/Fisheries and Oceans Canada (2007) Water Management Framework: Instream Flow Needs and Water Management System for the Lower Athabasca River http://www.dfo-mpo.gc.ca/regions/central/pub/water-eau/pdf/water-eau_e.pdf
- ⁵¹ Alberta Environment (2008) Muskeg River Interim Management Framework for Water Quantity and Quality <http://environment.gov.ab.ca/info/library/7951.pdf>
- ⁵² Documented in the “Stakeholder Draft Review” section of the Muskeg River Interim Management Framework.
- ⁵³ Based on the following data: Canadian Boreal - 574 million hectares, Alberta Boreal - 38 million hectares. From Canadian Boreal Initiative/Pembina Institute (2008) Catching Up: Conservation and Biodiversity Offsets in Alberta’s Boreal Forest <http://pubs.pembina.org/reports/CatchingUp-Offsets.pdf>
- ⁵⁴ <http://www.suncor.com/en/responsible/1414.aspx>. This does not represent the full reclamation of the pond or final disposal of the tailings..
- ⁵⁵ Energy Resource Conservation Board (2009) Directive 074, Tailings Performance Criteria and Requirements for Oil Sands Mining Schemes <http://www.ercb.ca/docs/documents/directives/Directive074.pdf>.
- ⁵⁶ Reclamation as defined by the company should not be confused with reclamation as certified by the government. While government certification is the end goal for reclamation, once lease land is certified as reclaimed it reverts to the Crown and is no longer accessible for company purposes. Therefore companies may delay the final certification process to ensure continuing access to a reclaimed area of the lease.
- ⁵⁷ Government of Alberta (2008) Land Use Framework <http://www.landuse.alberta.ca/AboutLanduseFramework/LanduseFramework-Progress/documents/LanduseFramework-FINAL-Dec3-2008.pdf>
- ⁵⁸ Government of Alberta (2009) Terms of Reference for Developing the Lower Athabasca Regional Plan <http://www.landuse.alberta.ca/RegionalPlans/LowerAthabasca/documents/TermsOfRefDevLowerAthabascaRegionalPlan-Jul2009.pdf>
- ⁵⁹ CEMA Responses Received on TEMF Recommendations, June 5, 2008.
- ⁶⁰ “Alberta aims to streamline permit process” *Globe and Mail*, October 2, 2009 <http://www.theglobeandmail.com/report-on-business/alberta-aims-to-streamline-permit-process/article1309365/>
- ⁶¹ For more information on the Alberta Biodiversity Monitoring Institute, see <http://www.abmi.ca/abmi/home/home.jsp>
- ⁶² Reclamation as defined by the company should not be confused with reclamation as certified by the government. While government certification is the end goal for reclamation, once lease land is certified as reclaimed it reverts to the Crown and is no longer accessible for company purposes. Therefore companies may delay the final certification process to ensure continuing access to a reclaimed area of the lease.
- ⁶³ Under the Water Act in Alberta, companies may be required to compensate for loss of wetland habitat. See Alberta Environment (2007) Provincial Wetland Compensation Guide http://www3.gov.ab.ca/env/water/reports/Prov_Wetland_Rest_Comp_Guide.pdf
- ⁶⁴ For a detailed overview on biodiversity offsets, see Canadian Boreal Initiative/Pembina Institute (2008) Catching Up: Conservation and Biodiversity Offsets in Alberta’s Boreal Forest <http://pubs.pembina.org/reports/CatchingUp-Offsets.pdf>
- ⁶⁵ It is not clear if this comparison includes the seismic lines necessary for in-situ exploration.

- ⁶⁶ Jordaan S, Keith D, Stelfox B (2009) Quantifying land Use of Oil Sands Production: A Life Cycle Perspective <http://www.iop.org/EJ/abstract/1748-9326/4/2/024004>
- ⁶⁷ See Crescent Point Energy's 2008 Annual Information Form for full details.
- ⁶⁸ This figure was disclosed in the survey and is referenced publicly in an oil sands chat room: <http://www.canadasoilsands.ca/en/forum/topic.aspx?id=95> – though not in the Annual Report!
- ⁶⁹ CAPP “Oil Sands Producers Hear Directly From Canadians” January 8, 2009 <http://www.capp.ca/aboutUs/mediaCentre/NewsReleases/Pages/OilSandsProducersHearDirectlyfromCanadians.aspx>
- ⁷⁰ If the government chooses not to utilize international carbon credits, the carbon price would need to be \$145 per tonne by 2020. David Suzuki Foundation, Pembina Institute (2009) Climate Leadership, Economic Prosperity: Final report on an economic study of greenhouse gas targets and policies for Canada http://www.davidsuzuki.org/files/reports/Climate_Leadership_Economic_Prospersity_-_Web.pdf
- ⁷¹ A 2002 study by the Rand Institute pegged the potential costs of asbestos litigation in the US as being between \$200 and \$265 billion. The Rand Institute for Civil Justice (2002) Asbestos Litigation and Costs: An Interim Report.
- ⁷² Alberta Cancer Board, Division of Population Health and Information Surveillance (2009) Cancer Incidence in Fort Chipewyan, Alberta, 1995-2006
- ⁷³ Office of Energy Research and Development, Natural Resources Canada (2006) Powerful Connections: Priorities and Directions in Energy Science in Canada, Report of the National Advisory Panel on Sustainable Energy Science and Technology http://www.nrcan.gc.ca/eps/oerd-brde/report-rapport/pdf/Report_eng_web.pdf The Panel proposed a research intensity target for the energy industry of 1.5% by 2016.
- ⁷⁴ “Encana oil spin-off firm proposes new oil sands project” Edmonton Sun , October 2, 2009 <http://www.edmontonsun.com/money/2009/10/02/11243761-sun.html>
- ⁷⁵ “Suncor unveils new tailings pond technology” Financial Post, October 23, 2009 <http://www.financialpost.com/most-popular/story.html?id=2137828>
- ⁷⁶ Details of the Joslyn approval process can be found at Canadian Environment Assessment Agency website <http://www.ceaa-acee.gc.ca/050/documents/39092/39092E.pdf>.
- ⁷⁷ A number of presentations at the 2009 Oil Sands conference noted on the potential financial and environmental benefits of staged and modular approaches to project development,
- ⁷⁸ <http://www.ico2n.com/>
- ⁷⁹ <http://www.albertaasap.com/>
- ⁸⁰ Nexen's partner OPTI Canada is a member.
- ⁸¹ <http://www.wbea.org/>
- ⁸² Albian Sands project is a member.
- ⁸³ <http://www.ramp-alberta.org/RAMP.aspx>.
- ⁸⁴ <http://www.abmi.ca/abmi/home/home.jsp>
- ⁸⁵ Long Lake project is a sponsor.
- ⁸⁶ <http://www.cemaonline.ca/>
- ⁸⁷ For more information on the Oil Sands Developers Group, see <http://www.oilsandsdevelopers.ca/>
- ⁸⁸ For more information on the In Situ Oil Sands Alliance, see <http://www.iosa.ca/>
- ⁸⁹ “Suncor to sell billions in assets”, Globe and Mail, November 6, 2009 <http://www.theglobeandmail.com/globe-investor/suncor-reports-third-quarter-profit-of-929-million/article1353419/>
- ⁹⁰ “Oil sands rights sales on upswing”, Calgary Herald, September 17, 2009 <http://www.calgaryherald.com/business/Oilsands+rights+sales+upswing/2001563/story.html>

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November 2009



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March 19, 2010

Via E-Mail

British Columbia Securities Commission
Alberta Securities Commission
Saskatchewan Financial Services Commission
Manitoba Securities Commission
Ontario Securities Commission
Autorité des marchés financiers
New Brunswick Securities Commission
Nova Scotia Securities Commission
Office of the Attorney General, Prince Edward Island
Securities Commission of Newfoundland and Labrador
Registrar of Securities, Government of Yukon
Registrar of Securities, Department of Justice, Government of the Northwest Territories
Registrar of Securities, Legal Registries Division, Department of Justice, Government of Nunavut

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and

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Dear Mr. Young and Madame Beaudoin,

Re: Notice and Request for Comment dated December 18, 2009 (the “Notice”) - Proposed Amendments to National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities*, Form 51-101F1, Form 51-101F2, Form 51-101F3, and Companion Policy 51-101CP (collectively, the “Proposed Amendments”)

Please accept this letter as our response relating to Proposed Amendments to National Instrument 51-101, the corresponding Forms and Companion Policy 51-101 outlined in the Notice.

Nexen Inc. is an independent, Canadian-based global energy company formed in 1971. We are listed on the Toronto and New York stock exchanges under the symbol NXY, and voluntarily file our annual report on Form 10-K in the U.S. and Canada. We have exploration and production assets in Canada, the United States, the United Kingdom, Norway, Nigeria, Colombia, and Yemen.

To preface our responses to the Proposed Amendments, we would like to express support for regulatory standards that help investors and analysts understand an issuer's business and the issues affecting its value to stakeholders. Reserves are the most important asset of an oil and gas company. They are an indication of a company's potential for growth and profitability, and ultimately investment quality. The effective communication of reserves is therefore critical to an oil and gas company's value proposition and positioning amongst competing investment choices. The difficulty is that reserves disclosures are among the most complex disclosures in the North American financial markets. For this reason, we feel the objective of reserves disclosure standards should be to improve the clarity and relevance of reserves disclosure to a company's investor audience.

In response to certain of the Proposed Amendments we offer the following comments:

Item 10 – New Section 5.16 - Prohibition Against Addition Across Resource Categories - Subsection (2)(a):

This proposed amendment prohibits disclosure of quantities resulting from the addition across resource categories. In the Notice, the reason for this change is to prevent misleading disclosure and to provide additional guidance to reporting issuers wishing to make meaningful and understandable disclosure of their oil and gas resources.

Disclosure of separate resource categories may be more precise from a technical perspective, but it may not be as meaningful to readers because it does not adequately support an issuer's discussion and analysis of resources that is based upon aggregated categories. Disclosures should relate to an issuer's past and future performance, expenditures or business objectives, and the associated risks of achieving those objectives. We believe that disclosure of an aggregation of categories such as "remaining recoverable resources" that includes reserves and contingent resources is valuable to readers. It allows an issuer to provide a resource quantity that illustrates the purpose and potential of a capital project, transaction or business strategy. This type of disclosure should be permitted so long as the disclosure is not misleading and is accompanied by cautionary notes regarding the differences in those classifications. This view is consistent with CSA Staff Notice 51-237 *Oil and Gas Disclosure: Resources Other Than Reserves Data* and the Canadian Oil and Gas Evaluation Handbook (COGEH) which recognize a need to refer to subsets of Petroleum Initially In Place (PIIP):

Reserves, contingent resources, and prospective resources should not be combined without recognition of the significant differences in the criteria associated with their classification. However in some circumstances (e.g. basin potential studies) it may be desirable to refer to certain subsets of total PIIP. For

such purposes the term “resources” should include clarifying adjectives “remaining” and “recoverable”, as appropriate. For example the sum of reserves, contingent resources, and prospective resources, may be referred to as “remaining recoverable resources”. However the contingent and prospective resources estimates involve additional risks, specifically the risk of not achieving commerciality and exploration risk, respectively, not applicable to the reserves estimates. Therefore when resources categories are combined, it is important that each component of the summation also be provided, and it should be made clear whether and how the components in the summation were adjusted for risk. [COGEH Volume 1, Section 5.2]

The Petroleum Resources Management System handbook offers similar guidance.

Accordingly, we respectfully suggest that the Proposed Amendments be reconsidered to provide that if resource quantities for each classification/category are clearly identified, an issuer can also disclose an aggregated number to assist a broader discussion of company activities. This approach would satisfy the CSA’s stated objectives for separate disclosure, be consistent with COGEH guidance, and allow the issuer to provide valuable information to the reader.

We also note that the Proposed Amendment requires that PIIIP disclosure is to be separated into discovered, undiscovered, and associated recoveries anticipated with each. This disclosure assumes the issuer has advanced their exploration to a point where the expected discoveries (undiscovered resource) and recoveries associated with a project are known. This is often not the case and such a disclosure requirement may not be practical with the level of technical information available.

Item 16: Amendments to Item 2.2 of Form 51-101F1 – This proposed amendment changes the wording of Item 2.2 of Form 51-101F1 *Supplemental Disclosure of Reserves Data* as a result of changes to the price and cost definitions in the new United States Securities and Exchange Commission oil and gas reporting rules (the SEC rules). However, we are concerned with the suggestion on page two of the Notice that using costs and prices determined in accordance with the SEC rules to an estimate otherwise prepared in accordance with NI 51-101 will allow for disclosure which is comparable to reserves disclosure prepared entirely under the SEC rules. In our opinion, this is an over-simplification of the differences between the NI 51-101 and the SEC rules that will mislead and confuse investors for the following reasons:

- The SEC rules are unique to the SEC and are based on petroleum engineering definitions and standards that are different than those of COGEH required by NI 51-101. Having recently completed our annual reserves evaluation and disclosure process, we have determined that the differences in those definitions and standards can result in materially different reserves estimates and disclosures;
- The price and cost assumptions applicable to a reserve estimate are but one of the numerous differences between the preparation of reserves disclosure under the SEC rules and NI 51-101. The SEC rules and NI 51-101 apply a number of economic filters and other assumptions to the reserves estimates prepared under those rules which affect the reserves disclosure. The SEC rule filters and assumptions are different than the NI 51-101 filters and assumptions. A complete set of identical economic filters and

assumptions would be required to generate disclosures under NI 51-101 that are comparable to disclosures prepared under the SEC rules; and

- The composition of the proposed supplemental disclosure tables is not consistent with the SEC reporting requirements. This proposed disclosure cannot therefore be used to satisfy SEC rules disclosure or SEC filing requirements and will also not be comparable to disclosures prepared using the SEC rules.

We strongly believe that the proposed price and cost sensitivity to NI 51-101 estimates cannot be relied upon as a meaningful comparison, or used as a substitution for, reserves disclosures prepared entirely in accordance with the SEC rules. To attempt such a comparison risks confusion and the potential for adverse interpretation of the reserves disclosure by an issuer's investor base and analyst following. We respectfully request that the Notice and the Proposed Amendments be reconsidered to modify the potentially misleading guidance on the comparability of this supplemental disclosure to US disclosures.

Thank you for offering to us the opportunity to comment on this issue. Should you wish to discuss these comments in more detail, we would be pleased to do so.

Sincerely,

NEXEN INC.

A handwritten signature in black ink, appearing to read 'Rick', followed by a long horizontal line extending to the right.

Rick Beingessner
VP, Chief Legal Officer – Corporate & Marketing,
and Assistant Secretary



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March 19, 2010

British Columbia Securities Commission
Alberta Securities Commission
Saskatchewan Financial Services Commission–Securities Division
Manitoba Securities Commission
Ontario Securities Commission
Autorité des marchés financiers
New Brunswick Securities Commission
Registrar of Securities, Prince Edward Island
Nova Scotia Securities Commission
Newfoundland and Labrador Securities Commission
Registrar of Securities, Northwest Territories
Registrar of Securities, Yukon Territory
Registrar of Securities, Nunavut

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e-mail: blaine.young@asc.ca

Attention: Anne-Marie Beaudoin, Corporate Secretary
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Re : Comments on Proposed Amendments to National Instrument 51-101 Standards of Disclosure for Oil and Gas Activities (“NI 51-101”), Form 51-101F1, Form 51-101F2, Form 51-101F3, Form 51-101F4 and NI 51-101 Companion Policy (collectively, the “Proposed Rules”)

Dear Sirs/Mesdames:

Suncor appreciates the efforts of the CSA to review and update National Instrument 51-101 and related instruments and forms to ensure that oil and gas companies are able to fairly present their activities and that investors have the information required to assist them in their investment decisions. We also appreciate you allowing us the opportunity to comment on the Proposed Rules.

Suncor would like to comment on the prohibition against adding across resource categories.

In the Proposed Rules, you have included the addition of a new Section 5.16 which states “5.16 Prohibition Against Addition Across Resource Categories (1) A *reporting issuer* must not disclose a summation of any combination of an estimate of quantity or value of any two or more of the following: (a) *reserves*; (b) *contingent resources*; (c) *prospective resources*; (d) the unrecoverable portion of *discovered petroleum*

initially-in-place; (e) the unrecoverable portion of *undiscovered petroleum initially-in-place*; (f) *discovered petroleum initially-in-place*; and (g) *undiscovered petroleum initially-in-place*.”

In the CSA’s Notice and Request for Comment dated December 18, 2009 the stated rationale for this change is as follows: “[w]e have added a prohibition against adding across resource categories. This prohibition is intended to prevent misleading disclosure and to provide additional guidance to reporting issuers wishing to make meaningful and understandable disclosure of their oil and gas resources.”

Suncor believes that its disclosure of “remaining recoverable resources” as represented by the addition of proved plus probable reserves plus the best estimate of contingent resources and similar disclosure made by other issuers should be allowed provided that existing guidance in the Canadian Oil and Gas Evaluation (COGE) Handbook, Volume 1, Section 5.2 and the existing CSA Staff Notice 51-327 *Oil and Gas Disclosure: Resources Other Than Reserves Data* dated February 27, 2009 (Notice 51-327) is followed. Similar guidance is also provided in the Petroleum Resources Management System document. All of these documents recognize that such disclosure can provide meaningful and understandable disclosure if disclosed in a responsible manner.

The COGE Handbook, Volume 1 at Section 5.2 states:

“Reserves, contingent resources, and prospective resources should not be combined without recognition of the significant differences in the criteria associated with their classification. However, in some instances (e.g., basin potential studies) it may be desirable to refer to certain subsets of the total PIIP. For such purposes the term “resources” should include clarifying adjectives “remaining” and “recoverable,” as appropriate. For example, the sum of reserves, contingent resources, and prospective resources may be referred to as “remaining recoverable resources.” However, contingent and prospective resources estimates involve additional risks, specifically the risk of not achieving commerciality and exploration risk, respectively, not applicable to reserves estimates. Therefore, when resources categories are combined, it is important that each component of the summation also be provided, and it should be made clear whether and how the components in the summation were adjusted for risk.”

Suncor believes that if disclosed in accordance with the COGE Handbook and Notice 51-327, such disclosure is not misleading and that the goals of the CSA can be achieved without an outright prohibition. Suncor’s disclosure of “remaining recoverable resources” provides the proved, plus probable plus the best estimate contingent resource components by major business unit along with the proximate definitions and cautionary notes. Suncor believes that this disclosure provides investors with valuable information relating to the long term viability of the company and the associated risks across Suncor’s oil and gas portfolio, and therefore respectfully requests that the CSA reconsider its position on this matter.

Thank you for this opportunity to provide comments on the Proposed Rules. Should you have any questions or comments, please do not hesitate to contact me at (403) 920-8534 or via email at shpoirier@suncor.com.

Sincerely,

“Shawn Poirier”

Shawn P. Poirier

Director Legal Affairs–Corporate

cc. Bart Demosky, Chief Financial Officer
Maureen Cormier, Vice President and Controller
Janice Odegaard, Vice President, Legal–Corporate
John Palmer, Internal Qualified Reserves Evaluator



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Paul A. Smith
Senior Vice-President
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March 19, 2010

Sent electronically to:

*Mr. Blaine Young, Associate Director, Alberta Securities Commission and
Ms. Anne-Marie Beaudoin, Corporate Secretary, Autorité des marchés financiers*

To: British Columbia Securities Commission
Alberta Securities Commission
Saskatchewan Financial Services Commission - Securities Division
Manitoba Securities Commission
Ontario Securities Commission
Autorité des marchés financiers
New Brunswick Securities Commission
Registrar of Securities, Prince Edward Island
Nova Scotia Securities Commission
Newfoundland and Labrador Securities Commission
Registrar of Securities, Northwest Territories
Registrar of Securities, Yukon Territory
Registrar of Securities, Nunavut

Re: Request for Comment on Proposed Amendments to National Instrument 51-101
Standards of disclosure for Oil and Gas Activities

Dear Mr. Young and Ms. Beaudoin:

I am writing, on behalf of Imperial Oil Limited ("Imperial"), in response to your request to comment on the proposed amendments to *Standards of Disclosure for Oil and Gas Activities* ("NI 51-101"), its related forms (the "Forms") and companion policy ("51-101CP"). We appreciate the opportunity to provide comments.

Imperial is a Canadian incorporated company and a large accelerated *Form 10-K* filer with the United States (U.S.) Securities and Exchange Commission (SEC). The company is one of Canada's largest corporations and a leading member of the country's petroleum industry with a market capitalization over \$33 billion. Imperial shares are actively traded on both the Toronto and New York Stock Exchanges.

Notwithstanding the proposed amendments, we are concerned that there remain significant differences between the Canadian and U.S. oil and gas disclosure regimes that the proposed amendments to NI 51-101, the Forms and 51-101CP have not addressed. As a

result, we are concerned with dual reporting for companies, like Imperial, that must report under U.S. oil and gas rules.

Chief among the differences is the U.S. requirement to use 12-month average historical price and existing cost to evaluate proved reserves while the Canadian requirement uses forecast prices and costs. By using historical prices and existing cost, the main objective of the U.S. disclosure requirements is to increase comparability between companies. We believe this is useful for investors. The forecast system used by the Canadian requirement incorporates company-specific assumptions about future market prices and costs. While use of company specific or unique assumptions may be useful for communicating the company's own estimate of its proved reserves, comparability between companies' reserves is lessened which makes it more difficult for investor decisions. We evaluated proved reserves using both the U.S. and Canadian pricing and cost requirements separately, while holding technical assumptions and other factors constant, and noted that proved reserves determined under the two disclosure regimes resulted in significant differences of up to twenty percent. Additionally, we note that year to year changes sometimes go in opposite directions under the two regimes. With variations of such magnitude and movements in different directions year over year, additional record keeping is required and reconciliation between the two reported reserves estimates and other oil and gas disclosures may be inevitable.

In addition to the pricing and cost system, there are other differences between the U.S. and Canadian disclosure regimes on a definitional and disclosure basis. From the definitional perspective, for example, NI 51-101 requires reserves evaluation to be based on a sufficient return on investment to justify the associated capital expenditures. The SEC rules have no such restrictions. This difference could lead to varied reserves estimates due to (i) different development assumptions as economic threshold for new opportunity or development wells are not the same and (ii) different assumptions on economic end of life for the field.

Another example of definitional difference is that the SEC allows the use of reliable technology to establish proved undeveloped reserves at distances greater than development spacing areas, and, while there are no specific guidelines for the area of the reservoir considered as proved under the Canadian rules, the Canadian Oil and Gas Evaluation Handbook (COGEH) does provide examples that confine proved undeveloped reserves to directly adjacent drilling spacing units taking into account continuity of production based on available data. These and other definitional differences could contribute further to variances in reserves estimated and reported under the two disclosure regimes. Any significant reported reserves differences will add complexity in future net revenue disclosure, reconciliation of reserves quantities on a continuity basis and other disclosures. Differences will also create confusion and impair transparency for investors and other users and the marketplace as a whole.

On the disclosure front, there are many content, format and other requirement differences, some of which are significant by themselves (for example, the requirement to report probable reserves under Canadian requirements). Others, while less significant individually (for example, differences in product groupings in the disclosure of reserves; reserves reconciliation table change category differences, etc.), can become significant

when taken collectively. Different disclosure requirements would result in increased granularity in record keeping, many of which are not currently present in our data reporting and consolidation processes.

We wish to emphasize that our views are not in any way based on a belief that the U.S. rules are better than the Canadian rules. This issue is not about, and should not be about, whether one set of rules is better than another or whether Canadian reporting issuers should have to comply with Canadian rules. However, we believe that either Canadian regulators should simply align with U.S. rules to provide a single set of rules across North American capital markets or companies like Imperial, who are required to file our disclosures with the SEC as *U.S. domestic issuers* and would therefore be required to continue to follow SEC filing requirements, should be allowed to file their oil and gas disclosures in U.S. rules in lieu of Canadian rules to eliminate dual reporting.

If you wish further information or would like to discuss our comments, please contact Sean Carleton at (403) 237-3825 or via email at sean.r.carleton@esso.ca.

Yours truly,

Original signed by
Paul A. Smith

March 19, 2010

British Columbia Securities Commission
Alberta Securities Commission
Saskatchewan Financial Services Commission - Securities Division
Manitoba Securities Commission
Ontario Securities Commission
Autorité des marchés financiers
New Brunswick Securities Commission
Registrar of Securities, Prince Edward island
Nova Scotia Securities Commission
Newfoundland and Labrador Securities Commission
Registrar of Securities, Northwest Territories
Registrar of Securities, Yukon Territory
Registrar of Securities, Nunavut

Dear Sirs/Mesdames:

Re: Notice and Request for Comment on Proposed Amendments to NI 51-101

This letter is being written in response to the Request for Comment dated December 18, 2009 of the Canadian Securities Administrators (the "CSA") on proposed amendments to National Instrument 51-101 and its related forms and companion policy. The comments we are providing are those of Macleod Dixon LLP based on our experience with NI 51-101 and are not being made on behalf of any particular client or clients.

Other than as set forth in the comments below, we support the proposed amendments and the objective of the CSA to clarify and streamline the requirements.

1. Disclosure in accordance with U.S. disclosure requirements

The proposed amendments include the addition of a definition for "*US oil and gas disclosure requirements*" and the amendment of items 2.2 and 3.1 of Form 51-101F1. This gives rise to a comment of a general nature relating to the ability of issuers to provide disclosure that is supplemental to the disclosure mandated by NI 51-101 and to some comments of a specific nature relating to the proposed amendments.

- (a) As you know, a number of Canadian reporting issuers are also U.S. registrants and are required or may wish to provide disclosure in accordance with the U.S. rules, which differ from the NI 51-101 requirements, in addition to the annual disclosure required by Part 2 of NI 51-101. Section 5.3 of NI 51-101 requires that disclosure of reserves must apply the reserves terminology and categories set out in the COGE Handbook. Accordingly, on the face of NI 51-101, it is not clear that issuers who comply with the NI 51-101 annual filing requirements may also provide additional disclosure in accordance with the U.S. rules.

We recognize that such disclosure has already been occurring for a number of issuers, usually as "item 18" U.S. GAAP reconciliation of financial statements, but recommend that either NI 51-101 be amended or a commentary to the companion policy be added to clarify that additional disclosure using U.S. definitions and U.S. format is permitted and that disclosures other than the annual filing (i.e. news releases, presentations, etc.) may use the U.S. terminology and categories. The clarification may be as simple as indicating that the CSA is of the view that the reserves terminology and categories set out in the U.S. rules are the same as those set out in the COGE Handbook, so that an issuer providing disclosure based on the U.S. definitions and standards will not be considered to be in violation of Section 5.3.

- (b) The proposed amendment to use the term "*US oil and gas disclosure requirements*" relates to the optional supplemental disclosure contemplated by item 2.2 of Form 51-101F1. By proposing that amendment, it suggests that the CSA's intent as to the effect of item 2.2 is that if an issuer provides optional supplemental disclosure on a constant price basis, it must be done in accordance with item 2.2. We question whether that was the intent. To the extent that the disclosure is optional, and there is no intention to limit the optional disclosure, then perhaps items 2.2 and 3.1 should be deleted in their entirety and a commentary added to the companion policy to indicate that Form 51-101F1 deals only with the minimum required disclosure and that supplemental disclosure calculating reserves on a different basis (but using COGE Handbook standards) is permitted.
- (c) If the intent is to limit the optional additional disclosure, then we suggest that that should be clarified, bearing in mind the comments in (a) above. If the limit only applies in relation to constant price disclosure for NI 51-101 disclosure purposes, we suggest that the proposed definition of "*US oil and gas disclosure requirements*" may need to be clarified or revised. The definition uses the term "requirements", which connotes an obligation. The new SEC rules contain both mandatory and permissive elements. In particular, the rules require disclosure of reserves on a constant price basis, with the method of calculating the constant price being prescribed, but now also permit disclosure of reserves sensitivities (in essence, reserves calculated on a forecast price basis). It is not clear whether the proposed definition was intended to apply only to the requirements, i.e. the mandated basis, or whether the term "requirements" was intended to have a broader meaning to encompass everything that is contemplated within the U.S. rules.

2. *Requirements relating to the most specific category of resources*

While the proposed amendments include the addition of Section 5.16 to prohibit addition across categories as well as amendments to the companion policy, we submit that there may still be some confusion regarding the categories of resources that may be disclosed. We believe that this stems from the broad requirement in Section 5.3 that disclosure of resources must relate to the most specific category of resources in which the resources can be classified and uncertainty as to what the "most specific" categories of resources are. The addition of Section 5.16 may help somewhat, but it is also inconsistent with Section 5.3. We note that Section 5.3 deals with two concepts, the first relating to the terminology and categories required to be used and the second relating to the "most specific" requirement. We suggest that it may be preferable to separate the latter concept from Section 5.3 and move it into a complete separate section containing all of the requirements relating to the categories that must or may be used, including what is sought be covered by Section 5.16. That section should then include provisions which make clear the circumstances in which estimates of total petroleum initially-in-place, discovered petroleum initially-in-place and undiscovered petroleum initially-in-place may be disclosed.

If Section 5.3 is left as is, and Section 5.16 or a variation thereof is included in the final amendments, Section 5.3 should state that it is subject to Section 5.16.

3. *Terminology*

The COGE Handbook terms for in-place volumes (*total petroleum initially-in-place*, *discovered petroleum initially-in-place* and *undiscovered petroleum initially-in-place*) require the use of the term "petroleum". We observe that for issuers whose resources are focused on a particular product type, it may be desirable for the issuers to be able to use terms which refer to the particular product type, e.g. discovered gas initially-in-place or undiscovered bitumen initially-in-place, and suggest that the amendments include provisions to permit the use of that terminology. We note that many issuers have been using terminology of that nature, so the suggested change would simply be making the requirements consistent with current practice.

4. *Proposed Section 5.17*

With regard to the proposed Section 5.17(1), we believe that there may be circumstances in which issuers may wish to disclose proved, probable and possible reserves, and then provide a total. Accordingly, we suggest that the provision to be amended to provide that if a reporting issuer discloses an estimate of "*proved + probable + possible*" reserves, the reporting issuer must also disclose the corresponding estimates of *proved* and either *probable* or *proved + probable* reserves.

5. *Section 3 of Proposed Amendments*

With regard to Section 3 of the proposed amendments, relating to paragraph 3(e) of Section 2.1 of NI 51-101, we submit that the words "on behalf of the board of directors" in subclause (ii) should be deleted, as the report is a report of the corporation, and not the board *per se*, and the section should just specify who is required to sign the report. The analogy to a prospectus, which uses the "on behalf of the board of directors" terminology, is not appropriate in this circumstance, as there is no direct statutory civil liability on board members as there is in the case of a prospectus.


6. *Part 9*

The proposed amendments include the deletion of Section 9.2 of NI 51-101 in its entirety, as it is no longer relevant. We suggest that all of Part 9 could be deleted on that basis.

Thank you for the opportunity to make this submission. We hope that these comments will be of assistance to you and would be happy to discuss the comments with you if you have any questions or require any elaboration.

Yours truly,

MACLEOD DIXON LLP



Kevin E. Johnson

March 26, 2010

British Columbia Securities Commission
Alberta Securities Commission
Saskatchewan Financial Services Commission – Securities Division
Manitoba Securities Commission
Ontario Securities Commission
Autorité des marchés financiers
New Brunswick Securities Commission
Registrar of Securities, Prince Edward Island
Nova Scotia Securities Commission
Newfoundland and Labrador Securities Commission
Registrar of Securities, Northwest Territories
Registrar of Securities, Yukon Territory
Registrar of Securities, Nunavut

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Dear Sirs/Mesdames:

Re : Comments on Proposed Amendments to National Instrument 51-101 Standards of Disclosure for Oil and Gas Activities ("NI 51-101") and NI 51-101 Companion Policy (collectively, the "Proposed Rules")

Cenovus Energy Inc. ("Cenovus") has reviewed the Proposed Rules and is supportive of the streamlining and clarifying intent of most of the amendments. Our comments are limited to concerns regarding the prohibition against addition across resource categories found in the proposed section 5.16 of NI 51-101.

While Cenovus can appreciate the CSA's desire to "prevent misleading disclosure and to provide additional guidance to reporting issuers wishing to make meaningful and understandable disclosure of their oil and gas resources" (CSA Notice and Request for Comment, December 28, 2009), we respectfully submit that the absolute prohibition against summation of two or more resource classifications is not the most

effective way to ensure that disclosure is meaningful and understandable. Further, the prohibition, as drafted, prevents disclosure of information that is in demand by the investment community.

Provided an issuer follows the guidance in the Canadian Oil and Gas Evaluation ("COGE") Handbook and the current CSA Staff Notice 51-327 *Oil and Gas Disclosure: Resources Other Than Reserves Data* ("Notice 51-327"), it is Cenovus's position that a summation of, for example, (i) proved plus probable reserves and (ii) economic best estimate contingent resources, disclosed with accompanying information on each component of the summation, explanatory notes (for example, regarding contingencies, risk adjustment etc.), classification definitions and proximate cautionary statements, provides shareholders, the investing public, stakeholders and analysts with meaningful and understandable disclosure that is made in accordance with the COGE Handbook and relates to the most specific category of resources in which they can be classified (i.e. remaining recoverable economic resources). As you are aware, the summation of resource categories is specifically addressed in the COGE Handbook (volume 1, section 5.2).

Cenovus respectfully requests the CSA reconsider the absolute prohibition against summation of two or more resources classifications as currently draft in the Proposed Rules.

Thank you for your consideration of these comments.

Yours truly,

Cenovus Energy Inc.



Eric Geppert

Vice President, Strategic Planning and Reserves Governance