Corporate Social Responsibility

SECTOR POLICY – OIL SANDS

Structure

Preamble

As part of its commitment to corporate social responsibility, BNP Paribas has developed a consistent policy regarding its financial products and services for the oil sands industry.

Oil sands are a type of unconventional petroleum resource (bitumen) that are deposited within a mixture of sand and clay either close to the surface or buried deeper underground.

Canadian oil sands resources alone are estimated to be in excess of 2 trillion barrels, as much as the remaining technically recoverable conventional oil in the entire world[1]. Resources that are currently economically and technically recoverable are estimated at 170 billion barrels, which places Canada as the second largest country in the world in terms of recoverable oil reserves, behind Saudi Arabia. Other significant reserves can also be found in countries such as Venezuela, Russia and various countries in the Middle East. The magnitude of these reserves, combined with growing global energy and transportation fuel needs, will result in a foreseeable use of such resource[2].

Despite significant efforts to limit its impacts and to improve mitigation measures, oil sands development may take place in areas of ecological significance (such as peatlands) and could have adverse effects on natural landscapes, the fragmentation of habitats and, for certain oil sands projects, the creation of large tailings ponds. It is also a water-intensive industry that cumulatively may have adverse effects on water availability and quality. The presence of aboriginal communities in the oil sands development region is a key social issue to be taken into consideration.

Similarly to other fossil fuels, the majority of the greenhouse gases (GHG) associated with oil sands' life cycle is emitted at combustion stage (in vehicles). However, oil sands differ from conventional crudes in its high energy-intensive bitumen production process. Furthermore, on a global scale the development of a large amount of previously untapped fossil fuel resources may prove to be challenging in the context of international efforts to limit climate change. Key Environmental and Social Issues associated with the oil sands industry are further detailed in the Annex.

Oil sands development also provides economic and social benefits which include revenue generation, employment and energy security. The decision to develop and expand the oil sands industry ultimately belongs to the relevant governments and regulators.

In light of the above, BNP Paribas considers that it is essential that any company developing oil sands projects meets key stringent environmental and social requirements (if necessary going beyond compliance with the applicable host country laws and regulations, dependent on the scope and effectiveness of local regulation). BNP Paribas also strongly encourages oil sands companies to develop and implement the best available technologies and practices in order to reduce their social and environmental footprint.

BNP Paribas may support companies willing to develop oil sands reserves in a balanced and responsible manner, and has therefore defined the present sector policy to select projects and companies that take into account the above-mentioned considerations. This sector policy also contributes to the establishment of consistent rules for BNP Paribas' worldwide activities.

[1] International Energy Agency, *World Energy Outlook 2010*, p.146.
[2] "Unconventional oil is set to play an increasingly important role in world oil supply through to 2035, regardless of what governments do to curb demand." International Energy Agency, *World Energy Outlook 2010*, p.49.

Sector Policy

1. Objective

This policy defines a set of rules and procedures regarding financial products and services provided by BNP Paribas entities. They aim at addressing social and environmental issues of the oil sands industry and at establishing guidelines for conducting business in the most possible responsible manner.

2. Scope

Geography: all BNP Paribas Group entities

BNP Paribas Group entities: this policy applies to all business lines, branches, subsidiaries and joint ventures of which BNP Paribas has the operational control. When BNP Paribas establishes new joint ventures in which it has a minority stake, it strives to include its standards as part of the joint venture agreement.

Oil sands projects: development and production activities, including surface mining and in situ recovery as well as integrated bitumen upgrading. Other oil & gas projects linked but not specific to the oil sands industry such as stand-alone upgrading, refining and transport of synthetic crude oil are not included in this scope.

Oil sands companies: companies or entities operating (or expected to operate) themselves or via a majority-owned subsidiary at least one oil sands project[3] and that are considered either as Producing Oil Sands Companies and/or either as Non-Producing Oil Sands Companies where :

Producing Oil sands companies, are defined as oil sands companies for which:

i) Oil sands production[4] (i.e. bitumen or synthetic crude oil) represents at least 20% of their total daily production[5]); or

ii) Oil sands production exceeds 100 kbbls/day in the last calendar year;

Non-Producing Oil sands companies are defined as oil sands companies for which oil sands reserves represent more than **10%** of their total reserves[6].

Financial products & services: this policy applies to all financing activities provided by BNP Paribas (lending, debt and equity capital markets, guarantees and advisory work, etc.). It covers all new oil sands projects and oil sands companies. For financing agreements with oil sands companies that predate this policy, they will be updated as they are due for review.

Asset management: all BNP Paribas entities managing proprietary assets and third-party assets, with the exception of index-linked products. External asset managers are actively monitored and encouraged to implement similar standards.

[3] As defined by the Government of Alberta, in Alberta Oil Sands Industry : Quarterly update. http://www.albertacanada.com/about-alberta/oil-sands-quarterly.html
[4] Gross production before royalties.
[5] Company's worldwide gross production in barrels of oil equivalent.
[6] Proven and probable reserves (in barrels of oil equivalent)

3. Rules and Standards of the Policy

BNP Paribas expects oil sands projects and companies to comply with existing local laws and with licensing arrangements as well as with international conventions ratified by their host countries.

Besides, this policy sets additional criteria to be respected by oil sands projects or companies, separated in mandatory requirements and evaluation criteria. Mandatory requirements are to be understood as sine qua non: those have to be met without exception before BNP Paribas considers providing financial services to a project or a company. Evaluation criteria may be partially met: those are additional criteria that enable BNP Paribas to evaluate a project or a company as a whole before deciding on whether to fund it or not. Based on the results of such complementary due diligence, BNP Paribas reserves its right to request additional requirements or decline its involvement even if the mandatory requirements are met.

Moreover, BNP Paribas has adopted the Equator Principles (EPs), a financial industry benchmark for determining, assessing and managing environmental and social risks in projects. In addition to mandatory requirements and evaluation criteria set by this Policy, BNP Paribas will thus also apply the EPs to lending and advisory mandates related to oil sands projects, in line with the EPs application scope detailed in the official text[7].

3.1. Oil sands projects

BNP Paribas will ensure that it only provides financial products and services to oil sands projects that meet sufficient technical, social and environmental standards.

The definition of "sufficient technical, social and environmental standards" is dynamic and likely to change over time.

The mandatory requirements and evaluation criteria below apply to all financial products and services dedicated[8] to a new oil sands project or a significant expansion of an existing project.

3.1.1. Host country mandatory requirement

Oil sands are found in large amounts in many countries throughout the world including Venezuela, Russia and various countries in the Middle East. As of the publication date of this policy, only Canada has a large-scale and highly regulated commercial oil sands industry, though rising oil prices are likely to stimulate new developments worldwide in the medium term.

BNP Paribas does not want to be involved in providing financial products and services to oil sands development projects in countries without sufficient governance on oil sands projects and sufficient track records in areas such as human rights, labour conditions and environmental regulations.

BNP Paribas will therefore adopt a cautious approach by ensuring that it does not provide financial products and services to oil sands projects outside Canada.

This mandatory requirement will be revised if another country demonstrates the existence of legal framework regarding environmental and social provisions related to oil sands development at least as stringent as Canada.

[7] Official text is available at the following address: http://www.equator-principles.com/
[8] Including corporate financing where at least 50% of the total debt amount to be raised is dedicated to a specific project in the oil sands industry.

3.1.2. Other mandatory requirements

All oil sands projects:

- The project has set targets to minimize the fresh water intensity of its operations, measured in barrels of fresh water per barrel of bitumen produced or, when the project includes upgrading operations, in barrels of fresh water per barrel of synthetic crude oil (SCO) produced.
- The project has set targets to minimize the GHG intensity of its operations, measured in kilograms of CO_2 equivalent per barrel of bitumen produced or, when the project includes upgrading operations, in kilograms of CO_2 equivalent per barrel of synthetic crude oil (SCO) produced.
- The project is designed to minimize the energy consumption, for instance through the use of cogeneration or heat recovery processes.
- The project is designed to minimize and actively manages the NOx, SOx and volatile organic compounds intensities of its operations (including, when applicable, on-site upgrading).
- The project does not adversely impact UNESCO World Heritage Sites, federally and provincially protected areas (parks and reserves), and Wetlands of International Importance on the Ramsar List.
- The project has put in place measures to limit its adverse impacts on biodiversity (fauna and flora), and on habitats.
- The project does not adversely impact High Conservation Value habitats, in a manner that would result in the irremediable loss of one or more of the six high conservation values. In order to evaluate the project's impact, a preliminary High Conservation Value assessment or equivalent must be carried out.
- The project commits to avoid, or when avoidance is not possible, to minimize, restore and/or compensate for the adverse impacts on aboriginal peoples within its area of influence. It must have a formal public engagement and an aboriginal people consultation process[9].
- The project must demonstrate that the consultation process was properly undertaken, and that the mitigation and compensation measures proposed are commensurate with the nature and degree of the impacts on the relevant aboriginal peoples. BNP Paribas may request the assistance of external experts for the assessment of this requirement.
- The project must have in place a grievance mechanism through which stakeholders' concerns can be raised and addressed.

[9] Consultation process, as detailed in the Glossary

Oil sands surface mining projects:

- The project is designed to use more than 80% of process-affected water (recycled water from tailings ponds) in its extraction process in its steady state of operation.
- The project manages actively and minimizes the mine fleet's NOx emissions intensity.
- The project has a plan to manage actively the tailings ponds (including management of tailings ponds' volume and surface area, reduction of fluid tailings and formation of trafficable deposits). It will provide information on the compliance with existing regulation on tailings management (including ERCB's Directive 074).
- The project commits to manage actively its reclamation activities and provides the following indicators and information[10]:
  - Mine Financial Security Program Liability or Successor Programs;
  - Hectares of permanent land reclamation proposed for completion in the initial Mine Reclamation Plan;
  - Amount of financial security provided.

Oil sands in situ recovery projects:

- The project is designed to recycle[11] at least 90% of the water used in the production process in its steady state of operation.
- The project evaluates and maximizes the use of brackish water, where brackish water is available.

[10] More details on the Mine Financial Security Program and Reclamation in the Glossary.
[11] The recycling rate is calculated as Recycle Rate (%) = (Steam Injected – *Fresh Water*) x 100/Produced Water
where *Fresh Water*=Total Fresh Water In – Other uses
This is defined according to the ERCB Bulletin 2006-11, *Water Recycle, Reporting, and Balancing Information for In Situ Thermal Schemes.* This definition may be adjusted if ERCB publishes new guidelines.

3.1.3. Evaluation criteria

The projects will be evaluated against the following industry best practices applying to:

<u>All oil sands projects</u>:

- The project should invest in strategic initiatives that will directly enhance social infrastructure of communities such as health care, education, and transportation.
- If the project should include an on-site upgrading facility, an evaluation of the project and host country will be carried out to determine whether the criteria defining a "CCS Ready" upgrading facility are met.
- In order to favour actual improvements on oil sands operations, the project is considered as achieving best practice when at least 50 % of its emissions intensity reduction obligation, as required by the Specified Gas Emitters Regulation of Alberta, is planned to be achieved by performance improvements (e.g. technology improvements, changes in maintenance and/or operations, etc.) or emission performance credits submission.
- The project should plan to undertake conservation activities intended to offset the residual, unavoidable damage to biodiversity caused by oil sands development.
- According to best practice, the offset should be designed and implemented to achieve a no net loss – or preferably a net gain – of biodiversity, should be equivalent and permanent, and should create additional conservation outcomes. The offset mechanism should be determined with the participation of relevant stakeholders (particularly aboriginal communities, where applicable). BNP Paribas may request the involvement of external experts for the design of such offset.

<u>Oil sands surface mining projects</u>:

- The project is considered as achieving best practice when the fresh water intensity is less than or equal to 2.5 barrels of fresh water per barrel of synthetic crude oil (SCO).
- The project is considered as achieving best practice when the GHG emissions intensity is less than or equal to 35 kilograms of CO_2 equivalent per barrel of bitumen produced or 80 kg of CO_2 equivalent per barrel of synthetic crude oil (SCO) produced.

<u>Oil sands in situ recovery projects</u>:

- The project is considered as achieving best practice when the fresh water intensity is less than or equal to 0.6 barrels of fresh water per barrel of bitumen produced after one year of steady state of operation.
- The project is considered as achieving best practice when the GHG emissions intensity is less than or equal to 70 kilograms of CO_2 equivalent per barrel of bitumen produced or 115 kg of CO_2 equivalent per barrel of synthetic crude oil (SCO) produced after one year of steady state of operation.

3.2. Oil sands companies

This section does not apply to the parties involved in an oil sands project (such as the shareholders of an oil sands project's operating company). Requirements and criteria applicable to these parties are detailed in the oil sands project section (3.1)

BNP Paribas will ensure that it only provides financial products and services to oil sands companies that meet sufficient technical, social and environmental standards in respect of their oil sands operations.

The definition of "sufficient technical, social and environmental standards" is dynamic and likely to change over time. As of the publication date of this policy, BNP Paribas considers that those cover at least the following:

3.2.1. Mandatory requirements

The following mandatory requirements apply:

- The company is not involved in severe controversies and incidents related to violations of any UN Global Compact Principles[12] relative to its oil sands operations.
- The company has in place environmental and social policies that set forth their standards and/or targets in each of the Key Environmental and Social Issues.
- The company must be involved in research or multi-stakeholders efforts (such as COSIA[13]) to monitor and address the Key Environmental and Social Issues (such as development of full understanding of groundwater hydrology in the oil sands region, tailings ponds management and land reclamation).
- For Producing Oil sands companies, the company discloses or can provide on demand to BNP Paribas:
  - Safety track records (fatalities, total recordable injuries frequency)
  - Environmental performance data of its existing oil sands projects. This data must distinguish between oil sands in situ recovery and surface mining projects, and must cover at least the following:
    - Water usage (fresh water intensity, share of brackish water, share of recycled water)
    - GHG emissions (GHG intensity, *Specified Gas Emitters Regulation* compliance data and, for in situ projects, Cumulative Steam-oil Ratio)
    - Air emissions (NO_x, SO_2 and VOCs intensities)
    - Tailings ponds for oil sands mining projects (surface area of tailings ponds, annual rate of fines captured in dedicated disposal areas)
    - Land use (possibly using the following breakdown: cleared, disturbed, temporary reclaimed, permanently reclaimed, certified, and, for oil sands mining projects, planned and actually reclaimed surfaces).
- The company has in place a formal public engagement and aboriginal consultation process such as detailed in section 3.1.2 of this policy.
- The company has in place a grievance mechanism through which stakeholders' concerns can be raised and addressed.

[12] **http://www.unglobalcompact.org/AboutTheGC/TheTenPrinciples/index.html**
[13] Canada's Oil Sands Innovation Alliance

- The company commits not to adversely impact UNESCO World Heritage Sites, federally and provincially protected areas (parks and reserves), and Wetlands of International Importance on the Ramsar List.
- The company has in place a policy to carry out High Conservation Value assessments or equivalent prior to developing new projects, and commits not to convert HCV habitats into industrial oil sands operations in a manner that would result in the irremediable loss of one or more conservation values.

3.2.2. Evaluation criteria

- The company should have ISO 14001 certification (or equivalent) for all of the environmental management systems in their operating units.
- The company should have the financial strength to ensure long-term operation and assume the long term liability of its projects.
- The company should publicly commit to achieve best industry practice targets and timelines in the following areas:
  - Reduction of water intensity of their operations on a per barrel of bitumen produced basis
  - Recycling share of waste water produced
  - Reduction of GHG intensity of their operations on a per barrel of bitumen produced basis
  - Reduction of surface area of its tailing ponds
  - Management of mature fine tailings
  - Increase of permanent and certified reclaimed land share of total disturbed land
- The company should put in place a plan to offset the residual, unavoidable damage to biodiversity caused by oil sands developments. The offset should result in no net loss of biodiversity, be equivalent and permanent, and create additional conservation outcomes. The offset mechanism should be determined with the participation of relevant stakeholders (particularly aboriginal communities, where applicable).
- The company should disclose or be able to provide on demand to BNP Paribas its annual and cumulative amount of spending in the following areas:
  - Reclamation security
  - Conservation offsets, biodiversity protection (incl. monitoring programs)
  - Research to address the Key Environmental and Social Issues, particularly on tailings management and land reclamation
  - Initiatives in favour of dialogue and economic and social developments of aboriginal communities
- Assess the proportion of mining and in-situ production (or reserves, as applicable) as part of the overall production (or reserves).
- Assess whether the Oil Sands Company has been regularly and repeatedly criticized for its environmental, social and governance performance, and enquire about actions taken to address any underlying material issue.

4. Group-Level Implementation Mechanisms

Results of the evaluation according to the present policy will provide elements for decision making by BNP Paribas. As and when necessary, an ad hoc senior management committee shall examine these results. If required, BNP Paribas may request complementary due diligence before concluding on the acceptability of the transaction.

Operational tools and awareness workshops are rolled out to ensure that Group's staff is able to implement this CSR sector policy.

4.1. Financial Products and Services:

The information related to the above requirements will be obtained from the oil sands clients by BNP Paribas' client relationship managers.

BNP Paribas will review regularly the performance of oil sands companies against the policy. If BNP Paribas becomes aware that a client operates outside the requirements of the policy, a dialogue will be engaged with the client in order to find an acceptable solution to improve the situation in a timely manner. If this dialogue is unfruitful BNP Paribas may decide not to pursue any new business with such client and will place existing business under review taking into account existing contractual agreements.

4.2. Asset Management:

BNP Paribas entities managing third-party assets will progressively implement all the relevant requirements of this policy. A transition is indeed necessary due to the fact that existing and potential investors have to be informed of the existence and implications of this policy

5. Policy disclosure and follow-up

BNP Paribas' stakeholders will be informed of the existence and the content of this policy. Such policy will be posted on BNP Paribas' website. Furthermore a copy will be systematically provided to our clients and potential clients as part of the due diligence process or upon discussion of any financial services to be provided subsequent to the official release date of this policy.

BNP Paribas will review this policy regularly and in the light of the prevailing circumstances it may update it to make sure it is in continued alliance with national and international regulations and best practices.

6. Disclaimers

In order to comply with regulations and to implement the principles defined in its internal procedures and sector policies, BNP Paribas does its best to get information, particularly from oil sands companies, on their sustainability policies and practices. BNP Paribas bases its policy on the information gathered from oil sands companies, governments and other regulatory bodies, and from its partners. However, it is dependent on the quality, accuracy and up-to-datedness of information.

Glossary

The following definitions apply in this policy:

Aboriginal peoples	First Nations and Métis – along with Inuit – are Aboriginal peoples recognized by the Canadian Constitution. These peoples are descendants of the original inhabitants of North America and have unique heritages, languages, cultural practices and spiritual beliefs. First Nations are Indian peoples originating from Canada, whereas Métis are people of mixed First Nation and European ancestry. A large part of these communities lives in reserves or settlements.
Brackish water	Non-potable salty water from deep aquifers, unsuitable for consumption or agricultural use.
CCS Ready[14]	Carbon Capture and Storage (CCS) is a process consisting of the separation of CO_2, transport to a storage location, and long-term isolation from the atmosphere. A CO_2 capture ready power plant is a plant which can include CO_2 capture when the necessary regulatory or economic drivers are in place. A CCS ready facility implies the following measures: ▪ A specific study has been carried out to ensure that the facility is technically capable of being fully retrofitted for CO_2 capture; ▪ It is technically and physically possible to connect retrofitted capture equipment to the existing facility; ▪ There are realistic pipeline or other routes to storage of CO_2; ▪ One or more potential storage areas have been appropriately assessed (safe geological storage of full lifetime volumes and rates of captured CO_2) or potential industrial use for CO_2 captured; ▪ Other known factors (including any additional water requirements) that could prevent installation and operation of CO_2 capture, transport and storage have to be identified and credible ways in which they could be overcome have to be assessed; ▪ Costs of retrofitting capture, transport and storage have been estimated; ▪ There has been public engagement and consideration of health, safety and environmental issues; ▪ "CCS Ready" status is reviewed and reported on periodically
Cogeneration	Cogeneration is the simultaneous production of steam and electricity from a single source (e.g. natural-gas fired boilers). The electricity produced is used for the facility's requirement and excess production is sold back into the electricity grid. This process enhances energy efficiency and reduces region-wide GHG emissions.
Consultation process	The public engagement and aboriginal consultation process must include at least the following: ▪ Identification of the aboriginal communities potentially impacted by the project and of their legitimate representative bodies and organizations; this identification may be pursued in collaboration with local authorities; ▪ Evaluation of the nature and degree of project's potential impacts on the traditional ecological knowledge and traditional use of land[15] of these

[14] Based on the set of criteria published by The Global CCS Institute in their CCS Ready – Issues Brief 2010 n°1.

	communities; ▪ Information provided to these communities on the project and on its potential adverse impacts on them; this information is provided in a plain language and within a reasonable timeframe before the start of construction; ▪ Agreement on the organization, extent and objectives of the consultation process with the legitimate representative bodies and organizations of these peoples; ▪ Consultation of these peoples' representative bodies and organizations on the mitigation and compensation strategies for the potential adverse impacts on them contemplated by the project.
Cumulative Steam-oil Ratio (CSOR)	The amount of steam required per barrel of bitumen produced on average from start of the project up to the calculation date. This metric includes the steam used before the production's start.
Directive 074	The Energy Resources Conservation Board (ERCB) of Alberta issued on February 2009 a directive on *Tailings Performance Criteria and Requirements for Oil Sands Mining Schemes*, also called *Directive 074*. The purpose of this directive is to regulate the reclamation of tailings waste. It requires oil sands mining companies to submit tailings management plans and to divert a minimum portion of fine tailings to dedicated disposal areas.[16]
GHG	Greenhouse Gases
High Conservation Value habitats	The six High Conservation Values (HCVs) below, which include social values as well as ecological values, cover the range of conservation priorities shared by a wide range of stakeholder groups, and therefore need to be protected. A High Conservation Value area is simply the area (e.g. a forest, grassland, watershed, or landscape-level ecosystem) where these values are found, or, more precisely, the area that needs to be appropriately managed in order to maintain or enhance the identified values[17]: ▪ HCV1. Areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g. endemism, endangered species, refugia). ▪ HCV2. Globally, regionally or nationally significant large landscape-level areas where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance. ▪ HCV3. Areas that are in or contain rare, threatened or endangered ecosystems. ▪ HCV4. Areas that provide basic ecosystem services in critical situations (e.g. watershed protection, erosion control). ▪ HCV5. Areas fundamental to meeting basic needs of local communities (e.g. subsistence, health). ▪ HCV6. Areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).
IFC	International Finance Corporation.

[15] Ecological knowledge and traditional use of land describe traditional uses including fishing, hunting, nutritional or medicinal plant harvesting, and cultural use by affected aboriginal peoples.
[16] **http://www.ercb.ca/docs/Documents/directives/Directive074.pdf**
[17] Definition provided by the High Conservation Value Network: **http://www.hcvnetwork.org/about-hcvf**

Mine Financial Security Program	The MFSP allows the province of Alberta to maintain for each project enough financial security to protect the people of Alberta from the costs associated with the liability of oil sands mining project development in the event a company cannot meet its obligations, for future suspension, abandonment, remediation and surface reclamation work. Financial security is distributed among several deposits: the Base Security Deposit with a fixed amount of securities for each project, and three other deposits (Operating Life Deposit, Asset Safety Factor Deposit and Outstanding Reclamation Deposit) for which the amount depends on several indicators[18].
Peatlands	Wetland in which substantial peat accumulation – at least one foot (30 cm) – has taken place[19]. The peatland substrate is an organic structure built by biological activity. Peatlands are valuable for the various and crucial ecosystem services they provide. These functions and values include biodiversity maintenance, carbon and water storage, solute detention and water regulation and quality. ▪ Firstly, undrained peatlands are unique natural resources forming distinct ecosystems of great biodiversity importance for the maintenance of genetic, species and habitat levels. ▪ Peatlands are also water catchments. They modify water quality and quantity, act as sinks for some substances, produce others, and influence the temporal pattern of water supply to rivers and lakes. The role of peatlands in water regulation depends on maintaining the integrity of their unique hydrology that is independent of but linked to that of adjacent wetlands and the wider landscape. ▪ Finally, peatlands have been major global carbon stores for millennia. Peatlands also emit CO_2 and CH4, the amounts being influenced by temperature and water level, both of which are likely to be affected by removal of vegetation, drainage and future climate change. Industrial activities on drained peatlands lead to substantial emissions of carbon dioxide and nitrous oxide (N2O)[20].
Ramsar sites	"Sites containing representative, rare or unique wetland types" and "Sites of international importance for conserving biological diversity" listed in the Convention on Wetlands adopted in Ramsar, Iran in 1971 (Ramsar convention).
Reclamation	The Reclamation process of an oil sands mining project consists of a series of sequential reclamation activities, which are conducted at different times on different parts of the land, once the land is considered ready-to-reclaim. This process is described in the project's Mine Reclamation Plan. This plan is required and approved by the province of Alberta, and is updated every three years; it details on a yearly basis and over a ten-year period the surface areas that are to be reclaimed.

[18] For more details on Alberta's Mine Financial Security Program: **http://environment.alberta.ca/03388.html**
[19] Charman, D. 2002. Peatlands and environmental change. J. Wiley & Sons, London & New York, p. 301
[20] Sources: Assessment on Peatlands, Biodiversity and Climate change, UNEP-GEF 2007, Strategy for responsible peatland management, IPS 2010

Specified Gas Emitters Regulation	This regulation, adopted by the Canadian province of Alberta in 2007, requires all existing facilities in Alberta emitting more over 100,000 tons of CO_2 equivalent per year to reduce their annual emissions intensity (total annual emissions per unit of production) by 12 per cent from their baseline emissions intensity. This obligation can be achieved by performance improvements or other compliance options (emission performance credits, offset credits or purchase of fund credits – i.e. payment of $15 per tonne of CO_2 equivalent to the *Climate Change and Emissions Management Fund*)[21].
VOCs	Volatile Organic Compounds

[21] **http://environment.alberta.ca/01838.html**

Annex: Key Environmental and Social Issues

The following Key Environmental and Social Issues are commonly associated with the oil sands industry:

1. Water use: Both surface mining and in situ recovery methods use significant amounts of water and may raise the potential risk of depleting available natural sources of surface or ground water throughout oil sands areas, and/or creating temporary water scarcity during episodes of low rainfall.
2. GHG emissions: Oil sands crude is one of the most carbon intensive sources of energy with regards to its production process (particularly the in situ recovery method). Emissions mainly result from i) combustion of fossil fuels, such as natural gas, at different stages of the mining, extraction, and upgrading processes ii) forest clearance and peat removal; and iii) release of methane during mining, mine dewatering and ore handling.
3. Waste generation: Although conventional oil production requires the disposal of waste material, the volumes are much greater when it comes to oil sands. Surface mining and the extraction of the bitumen generates a large waste stream, which is stored in large tailings ponds. These ponds are a potential hazard to regional surface and groundwater water quality, wildlife and habitat. There have been concerns over tailings ponds seepage and impacts on downstream water quality.
4. Land Reclamation & Biodiversity: Surface mining is a disruptive method involving the removal of vast quantities of "overburden", i.e. the rock, soil, and vegetation that lie above the oil sands deposits. Impacts of in situ recovery development on biodiversity are also significant, for example due to habitat fragmentation. Land reclamation following oil sands development is a key measure, although it may not be possible to completely restore particular habitats, such as wetlands, into their original, pre-disturbance, state.
5. Aboriginal Communities: The oil sands area lies within the historical homelands of a large number of aboriginal communities (First Nations, Métis), who have been granted reserves and use sites for traditional purposes in the Athabasca, Cold Lake, and Peace River regions, where oil sands development is the most active. Such development has direct and indirect impacts on their traditional activities and livelihoods. In that respect, building effective and transparent relationships with aboriginal communities is essential for oil sands companies to ensure the long term social viability of their operations.

More generally, the oil sands industry also has environmental, social, health and safety issues that can be commonly associated with conventional onshore oil & gas developments, mining activities and petroleum products refining (water, soil and air pollution, pipeline laying, and community or occupational health and safety).

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