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# SUSTAINABLE TIMES

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## CEMA Inaugurated

The Cumulative Environmental Management Association (CEMA) held its inaugural meeting on June 9 of this year in Fort McMurray. This multi-stakeholder group is working closely with regional regulators to implement the Regional Sustainable Development Strategy (RSDS).

At the meeting CEMA members elected a nine-member Operating Committee and four CEMA officers, as follows: President -Mr. Don Klym (Suncor), Vice-President -Mr. Dan Smith (Fort McMurray Environmental Association), Secretary - Mr. Bruce Friesen (Syncrude), and Treasurer - Mr. Tony Punko (Athabasca Chipewyan First Nation).

CEMA has approved the memberships of organisations from a variety of sectors. The new CEMA members are as follows:

Alberta Energy and Utilities Board (EUB)  
Alberta Environment (AENV)  
Alberta Pacific Forest Industries Ltd.  
Albian Sands  
ATCO Electric

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## RSDS Team Wins Bronze

Since 1995, Alberta's Premier has presented the Award of Excellence annually to teams demonstrating outstanding client services and business practices in the Alberta Public Service. Gold, silver and bronze awards are presented to teams excelling in leadership and people focus, client and stakeholder focus and process management. This year a bronze Premier's Award of Excellence was presented to Alberta Environment's design team for the Regional Sustainable Development Strategy for the Athabasca Oil Sands Area. By building relationships with all partners, working proactively, and modifying the RSDS drafts to meet stakeholders' needs, the RSDS design team and its partners developed a strategy that will help resolve upcoming environmental issues. ❖



**The RSDS design team with Premier Klein, at the 2000 Premier's Awards of Excellence ceremony.**

This publication is developed by the Alberta Environment RSDS Team. Articles published in the *Sustainable Times* do not necessarily reflect the opinion of all RSDS participants.

Athabasca Chipewyan First Nation  
Athabasca Tribal Council  
Birch Mountain Resources  
Canadian Association of Petroleum Producers  
Canadian Environmental Assessment Agency  
Canadian Natural Resources Ltd.  
Department of Fisheries and Oceans Canada  
Ducks Unlimited  
Environment Canada  
Evergreen  
Fort McKay First Nations  
Fort McKay Metis Local 122  
Fort McMurray Environmental Association  
Fort McMurray Field Naturalists  
Fort McMurray First Nation #468  
Fort McMurray Metis Local 1935  
Gulf Canada Ltd.  
Health Canada  
Husky Oil  
Japan Canada Oil Sands Ltd.  
Kings University College  
Mikisew Cree First Nation  
Mobil Oil Properties  
Natural Resources Canada  
Northern Lights Regional Health Authority  
Northland Forest Products Ltd.  
OPTI Canada  
PanCanadian Petroleum  
Pembina Institute for Appropriate Development (PIAD)  
Petro-Canada Resources  
Regional Municipality of Wood Buffalo  
Saskatchewan Energy and Resource Management  
Suncor Energy Inc.  
Syncrude Canada Ltd.  
Toxics Watch Society  
TrueNorth Energy Corp.

One of the first tasks taken on by the newly-formed association was the adoption of four working groups (see following article). These working groups will provide recommendations on environmental management systems in the oil sands area. CEMA also struck two committees: Communications, and Traditional Environmental Knowledge. ❖

## CEMA Working Groups

To date, CEMA has four working groups: the NO<sub>x</sub>/SO<sub>2</sub> Management Working Group, the Sustainable Ecosystems Working Group, the Trace Metals and Air Contaminants Working Group and the Water Working Group. Together,

these working groups are tackling many of the RSDS themes.

### NO<sub>x</sub>/SO<sub>2</sub> Management Working Group

In 1998, the oil sand industry, government and regional stakeholders signed a Memorandum of Understanding, committing to the design and implementation of a management system to manage and control regional nitrogen oxide (NO<sub>x</sub>) and sulphur dioxide (SO<sub>2</sub>) emissions associated with the oil sands development. The multi-stakeholder NO<sub>x</sub>/SO<sub>2</sub> Management Working Group (NSMWG) was formed to achieve this undertaking. In the Northeast Boreal Region the two environmental issues of concern related to NO<sub>x</sub> and SO<sub>2</sub> emissions are acidic deposition and the generation of ground-level ozone. The objectives of the NSMWG are to review the relevant science and develop a management system having regard for current and projected emissions levels, receptor sensitivities and appropriate levels of protection (acidification), and to design a management system to address ground-level ozone and its effects on both vegetation and health.

To date, the NSMWG has carefully reviewed the science around acidic deposition and ground-level ozone. The group is beginning an acid deposition sensitivity mapping program and is planning a ground-level ozone research/monitoring program. Contacts: Judy Smith (Albian Sands) 403-691-2113, Kim Eastlick (EUB) 403-297-4325, Tom Marr-Laing (PIAD) 780-542-6272.

### Sustainable Ecosystems Working Group

The Sustainable Ecosystems Working Group (SEWG), which is made up of several subgroups, is managing the work on the first three RSDS themes (Sustainable Ecosystems and Land-Use, Cumulative Impacts on Wildlife, Soil and Plant Species Diversity). SEWG is developing a broad environmental management system for sustainable development and resource use, which includes the components of Landscape, Wildlife and Fish, Biodiversity and renewable and non-renewable resources. Three subgroups have been set up to work on the details of the first three components areas (see below). While SEWG is addressing the amount of acceptable development in the oil sands area, the Reclamation Advisory Committee (RAC) has created a subgroup to address how reclamation will take place. Although RAC and its subgroup are not part of SEWG, they will work with SEWG to determine how best to incorporate reclamation information into the development of

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## WHAT ARE OIL SANDS?

The Athabasca Deposit in Northeast Alberta is the world's largest mineable oil deposit in the world, estimated to contain approximately 800 billion barrels of bitumen. By comparison, one of the largest conventional oil pools in the world, the Prudhoe Bay field, contains approximately 15 billion barrels (Mossop, Science Vol. 207, 1980). The Athabasca Deposit, along with the other three deposits in the area, contain an estimated 1.3 trillion barrels of bitumen. (EUB, 1998 Reserves Report)

While other oil sands deposits exist, Alberta's deposits have a number of properties making them some of the few areas financially attractive to mine. Much of Alberta's oil sands are relatively shallow, and easy to collect with simple surface mining practices. Deeper bitumen reserves are accessible through "in situ" mining, a process involving drilling two pipes deep underground. Hot steam is injected into one pipe, melting the surrounding bitumen which subsequently flows into the second pipe and is drawn to the surface. Another fortunate property of Alberta's oil sands is the wet nature of the sand grains. This means that each grain of sand is surrounded by a thin film of water, and not in direct contact with the oil. If the oil was in direct contact with the grains of sand, as is the case for some oil sands in the United States and elsewhere in the world, the hot water extraction process would not work. The hot water extraction process, developed by K. A. Clark in the 1920's, is a straightforward practice where oil sands are agitated in hot water. The sand grains settle to the bottom of the vat, and the oil froths at the surface. Fine particulate matter neither settle nor froth, and are transferred to tailings ponds, where they settle over a longer period of time.

After the oil is collected from the vats, it is sent to an upgrader where the bitumen is converted to lighter, low-sulphur crude oil that is then sent to a refinery. Refineries convert the crude oil into products such as diesel fuel, jet fuel and gasoline.

Today the oil sands contribute significantly to Canada's oil supply, and is expected to continue doing so in the future.



SEWG management objectives and options. Contact: Judy Smith (Albian Sands) 403-691-2113.

### **Biodiversity**

The Biodiversity subgroup was created to address Theme Three in the RSDS (Soil and Plant Species Diversity). This group's vision is to protect, sustain and restore biodiversity within the oil sands region. To accomplish this, the subgroup has defined a number of tasks: 1) Define the baseline conditions and management units for biodiversity; 2) Recommend management objectives for biodiversity; 3) Recommend management options for biodiversity, which may include research, monitoring and the development of operational guidelines; and 4) Prepare recommendations on biodiversity for management system operation. Contact: Monique Zaloum (AENV) 403-297-7880.

### **Landscape Component**

The goal of the Landscape Component subgroup is to resolve issues from RSDS Theme One (Sustainable Ecosystems and Land Use), concerns regarding the balancing of land uses and the potential cumulative effects of regional development on the terrestrial ecosystems. These goals will be met with the examination of four different landscape areas: vegetation, soils, landforms, and watershed integrity. Contact: Noel St. Jean (AENV) 780-623-5256.

### **Wildlife and Fish**

The Wildlife and Fish subgroup will tackle RSDS Theme Two (Cumulative Impacts on Wildlife) as well as issues relating to fish by defining an approach for developing a wildlife and fish management strategy for the region. This subgroup's goals include reviewing the current status of fish and wildlife and their management, recommending objectives for wildlife and fish management, and improving the understanding of wildlife and fish populations and how they respond to environmental change. Contact: Richard Chabaylo (AENV) 780-427-7050.

### **Trace Metals and Air Contaminants Working Group**

The Trace Metals and Air Contaminants Working Group (TMAC) is developing workplans for RSDS Themes Four and Five. Its purpose is to determine the need for and, as appropriate, recommend components of an environmental management system to protect environmental receptors, particularly humans, from the effects of trace metals and air contaminants in the environment. TMAC has hired a consultant

## CALENDAR OF REGIONAL MEETINGS

### OCTOBER 24, 2000

☞☞☞ Sustainable Ecosystems Working Group Members Meeting, Fort McMurray. Contact Judy Smith (Albian Sands) 403-691-2113.

### OCTOBER 25, 2000

☞☞☞ Regional Aquatics Monitoring Program (RAMP) meeting, Fort McMurray. Contact Terry Van Meer (Syncrude) 780-790-5610.

### NOVEMBER 14, 2000

☞☞☞ Trace Metals and Air Contaminants Working Group Scoping Session, Edmonton. Contact Ron Pauls (Syncrude) 780-790-8382.

### NOVEMBER 20, 2000

☞☞☞ Surface Water and Fish Working Group Meeting, Fort McMurray. Contact Peter Hunt (EUB) 403-297-8845.

### NOVEMBER 21-22, 2000

☞☞☞ NOx/SO<sub>2</sub> Management Working Group Meeting, Fort McMurray. Contact Kim Eastlick (EUB) 403-297-4325.

### NOVEMBER 29, 2000

☞☞☞ Terrestrial Environmental Effects Monitoring Program, Keyano College, Fort McMurray. Contact Bruce Friesen (Syncrude) 780-790-6450

### NOVEMBER 30 – DECEMBER 1, 2000

☞☞☞ Sustainable Ecosystems Working Group Members Meeting, Fort McMurray. Contact Judy Smith (Albian Sands) 403-691-2113.

### DECEMBER 4-5, 2000

☞☞☞ CEMA Member's meeting, Fort McMurray Nomad Inn. Contact Nicole Bourque (CEMA) 780-715-5461.

### DECEMBER 7, 2000

☞☞☞ WBEA Board meeting, Keyano College, Fort McMurray 10:00am to 3:00pm. Contact Bob Scotten (WBEA) 780-799-4420.

### JANUARY 23, 2001

☞☞☞ Sustainable Ecosystems Working Group Members Meeting, Fort McMurray. Contact Judy Smith (Albian Sands) 403-691-2113.

(Dillon Consulting Limited) to review and assess the deposition and potential bio-accumulation of five trace metals (cadmium, nickel, vanadium, mercury and aluminum) in the area. Contact: Ron Pauls (Syncrude) 780-790-8382.

## Water Working Group

Originally CEMA created a number of working groups to address the first five themes in the RSDS. Work on the remaining RSDS themes, including themes pertaining to surface water and fish habitat (Themes 7, 10 and 12), was to begin in the year 2001 or later. The Water Working Group was formed in response to concerns by many stakeholders about the existing conditions of the surface water. Following a late start, this working group has already developed a draft terms of reference and is currently developing a work plan. The group plans to establish environmental criteria and management systems to address instream flow needs of the lower Athabasca River and the watershed integrity of the Muskeg River drainage basin. Contacts: Peter Hunt (EUB) 403-297-8845, Bev Ross (DFO) 204-984-6080. ❖

## CEMA Communications Committee

The CEMA Communications Committee was created to ensure CEMA stakeholders, both internal and external, receive information in a timely, effective manner, as well as to build awareness, understanding and support for CEMA's role in managing cumulative environmental effects in the region. This committee will provide proactive communication planning, as well as advice and assistance to CEMA's executive and CEMA committees and working groups. Currently, the committee has representatives from industry, provincial government (Alberta Environment, Energy and Utilities Board), and environmental non-government organisation. The committee is recruiting representatives from the aboriginal community and forestry sector.

This committee has outlined a number of possible objectives and activities, including a CEMA web site, media releases, and CEMA annual reports. The group also plans to act as an Editorial Board and/or Advisory Group for all communication materials, and implement guidelines for an efficient notification/approval process for public communication. Contact Brenda Erskine (Suncor) at 780-743-6480. ❖

## Traditional Ecological Knowledge

This summer, two groups were created to address Traditional Ecological Knowledge (TEK) in the oil sands region. At its inaugural meeting, CEMA formed a standing committee to provide guidance to the CEMA working groups on how to incorporate TEK into their knowledge base. The Reclamation Advisory Committee (RAC) has also created a sub-group to address TEK. Much of the science and understanding used with respect to reclamation and environmental activities up to this point have been based on Western knowledge. The members of CEMA and RAC are sensitive to the needs and desires of the people indigenous to the Athabasca area, and want to incorporate their knowledge to have a greater understanding of what environmental protection and reclamation should encompass. Traditional Ecological Knowledge includes information from people with an understanding of how past generations lived off of the land. This includes many First Nations people, Metis and historians of local culture. For more information regarding TEK contact Ken Shipley (Ft. McKay IRC) 780-743-8565. ❖

### Did You Know?

WORLD POPULATION	YEAR	ELAPSED YEARS
1 billion	1805	Indefinite
2 billion	1926	121
3 billion	1960	34
4 billion	1974	14
5 billion	1987	13
6 billion	1998	11
7 billion	2010	12
8 billion	2023	13
9 billion	2040	17
10 billion	2070	30

Source: <http://www.swishweb.com/Society/society02.htm>

## WEBSITES OF INTEREST:

ALBERTA ENERGY AND UTILITIES BOARD

<http://www.eub.gov.ab.ca/>

ALBERTA ENVIRONMENT HOME PAGE:

<http://www.gov.ab.ca/env/>

ALBERTA ENVIRONMENT REGIONS PAGE ([DOWNLOAD RSDS HERE](#))

<http://www.gov.ab.ca/env/regions.html>

ALBERTA HEALTH

<http://www.health.gov.ab.ca/>

ALBERTA GOVERNMENT HOME PAGE:

<http://www.gov.ab.ca/index.cfm>

CANADIAN ASSOCIATION OF PETROLEUM PRODUCERS

<http://www.capp.ca/>

CANADIAN COUNCIL OF MINISTERS OF THE ENVIRONMENT

<http://www.mbnet.mb.ca/ccme/>

CLEAN AIR STRATEGIC ALLIANCE

<http://www.casahome.org/>

ENVIRONMENT CANADA GREENLANE:

[http://www.ns.ec.gc.ca/index\\_e.html](http://www.ns.ec.gc.ca/index_e.html)

FORT McMURRAY INDUSTRIAL DIRECTORY

<http://www.mcmurraynews.com/business/industrial.asp>

HISTORY OF THE ATHABASCA OIL SANDS

<http://collections.ic.gc.ca/oil/history.htm>

NATURAL RESOURCES CANADA

<http://www.nrcan-rncan.gc.ca>

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION (WBEA):

<http://www.wbea.org/>

For more information on the newsletter or to submit an article, please contact , Lisa Zaplachinski at 403-297-5937 ([lisa.zaplachinski@gov.ab.ca](mailto:lisa.zaplachinski@gov.ab.ca)), Lisa Sadownik at 780-422-5556 ([lisa.sadownik@gov.ab.ca](mailto:lisa.sadownik@gov.ab.ca)) or Randall Barrett at 780-427-0689 ([randall.barrett@gov.ab.ca](mailto:randall.barrett@gov.ab.ca)).

