

Canada's Oil Sands

Innovation in the Oil Sands Industry

Canadian Association of Petroleum Producers
February 10, 2012

Environment

Resource

Investment

Jobs



- Significant energy demand growth:

- § Population, standards of living

- Need all forms of energy:

- § Increasing role for renewables

- § Continuing reliance on hydrocarbons

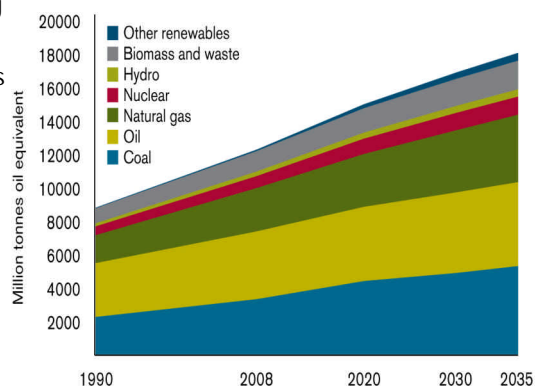
- § Increasing role for non-conventional crude oil & natural gas

- Technology is a key lever for sustainable growth

- § Production

- § Cost competitiveness

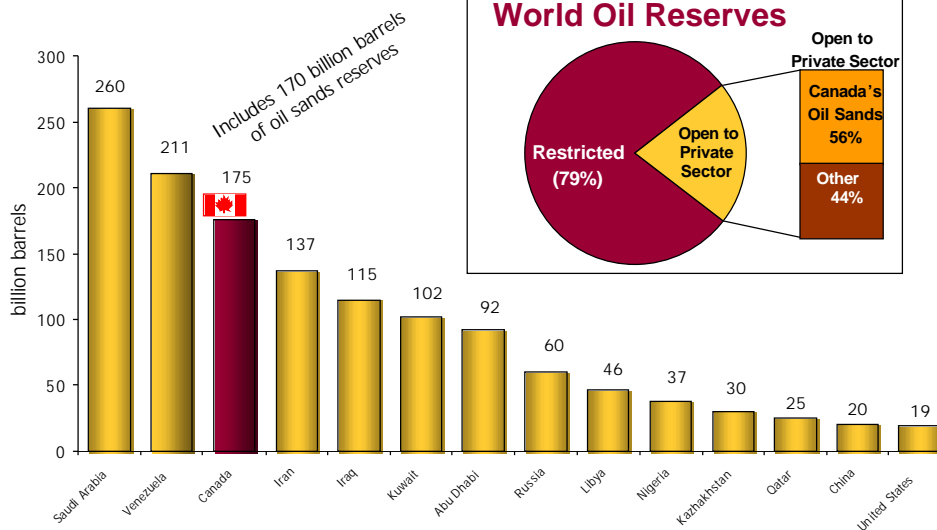
- § Environmental performance



Source: IEA World Energy Outlook 2010

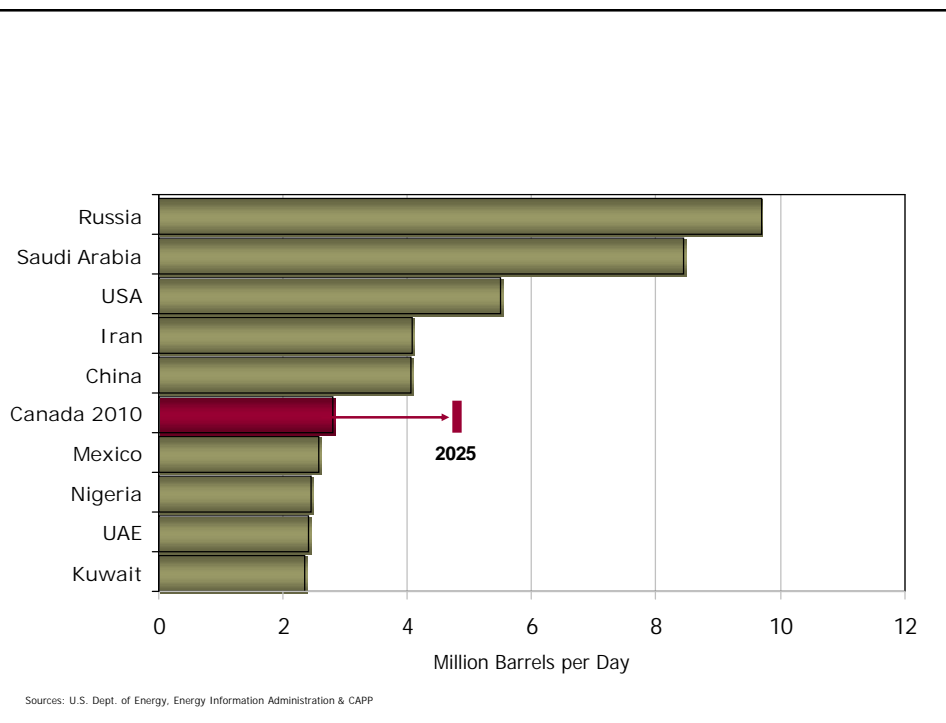
Current Policies Scenario

Global Crude Oil Reserves by Country



Source: Oil & Gas Journal Dec. 2010

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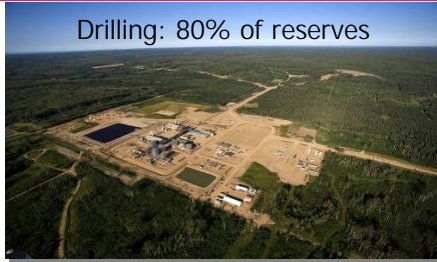
Sources: U.S. Dept. of Energy, Energy Information Administration & CAPP

Two Methods of Oil Sands Recovery

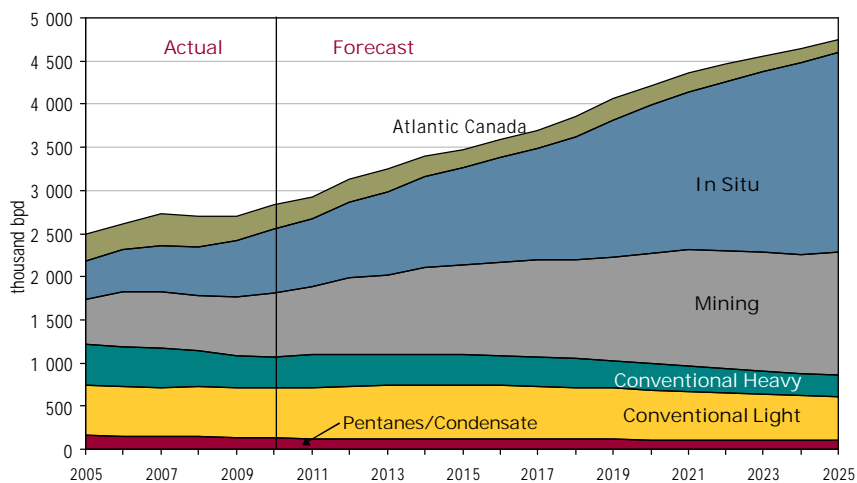
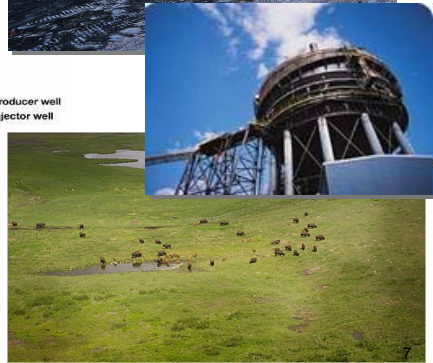
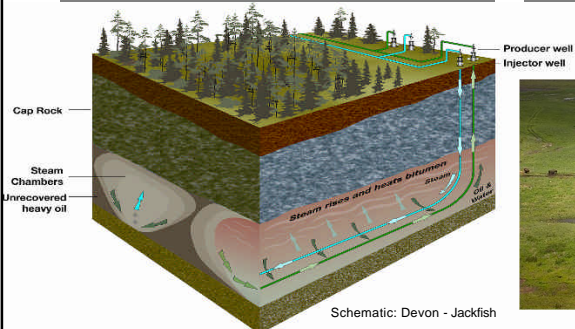


Photo: ConocoPhillips - Surmont

Drilling: 80% of reserves



Mining: 20% of reserves



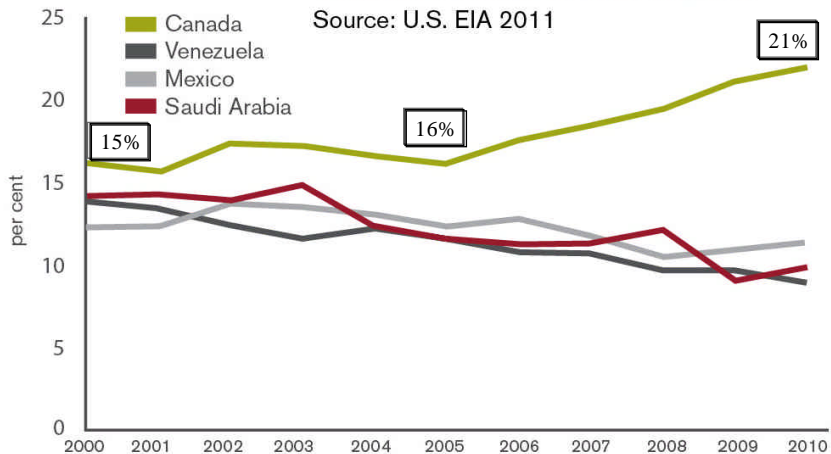
Canadian & U.S. Crude Oil Pipeline Proposals



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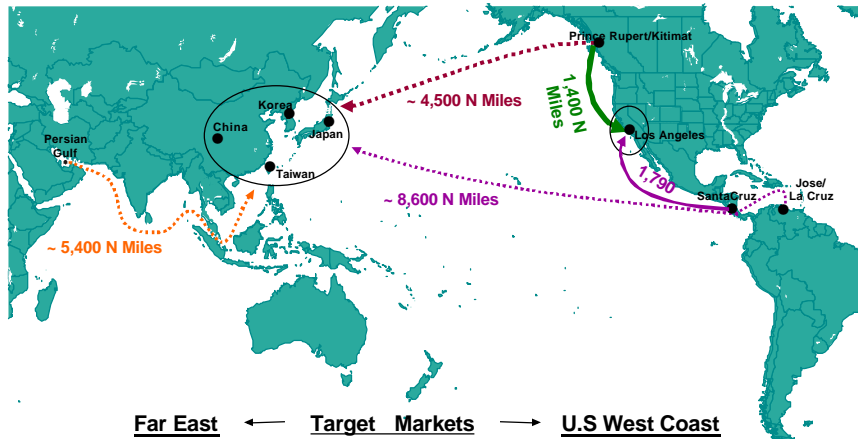
Canada's share of U.S. imports

Source: U.S. EIA 2011



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Potential Tanker Markets for Canadian Oil Sands Production



Competitive travel distances for Canadian supply to both markets

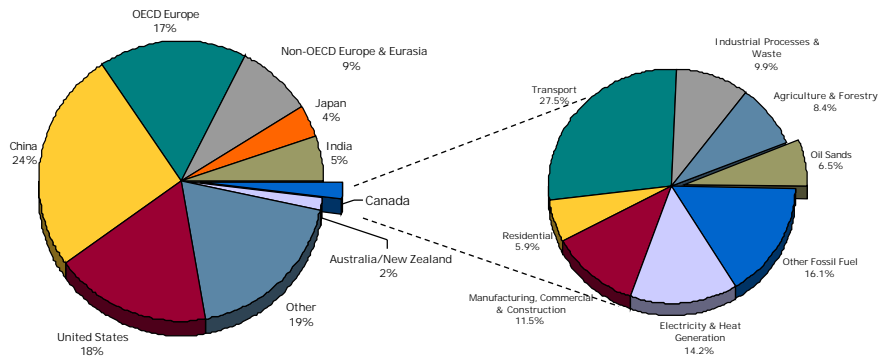
Source: Enbridge Pipelines

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Environmental Performance Improvements

Global Emissions

Canada's 2%

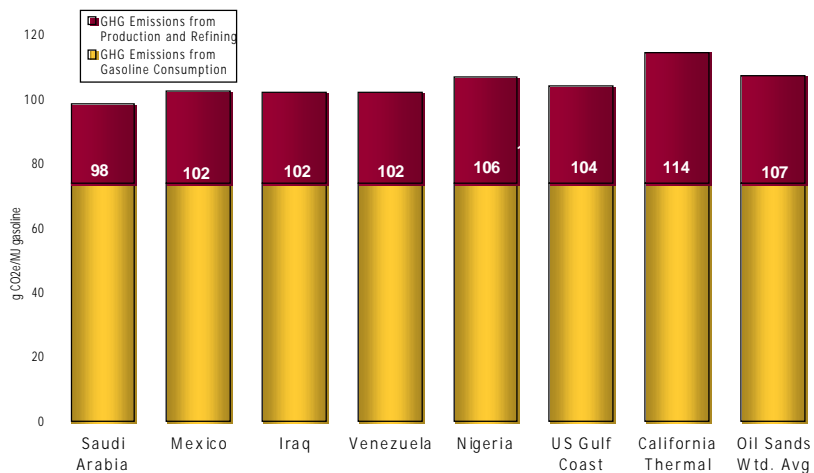


GHG emissions from oil sands:

- \$ just over 1/1000th of global GHG emissions
- \$ 6.5% of Canada's GHG emissions
- \$ 29% reduction in intensity from 1990

Sources:
1. U.S. Dept. of Energy/EIA
2. Environment Canada

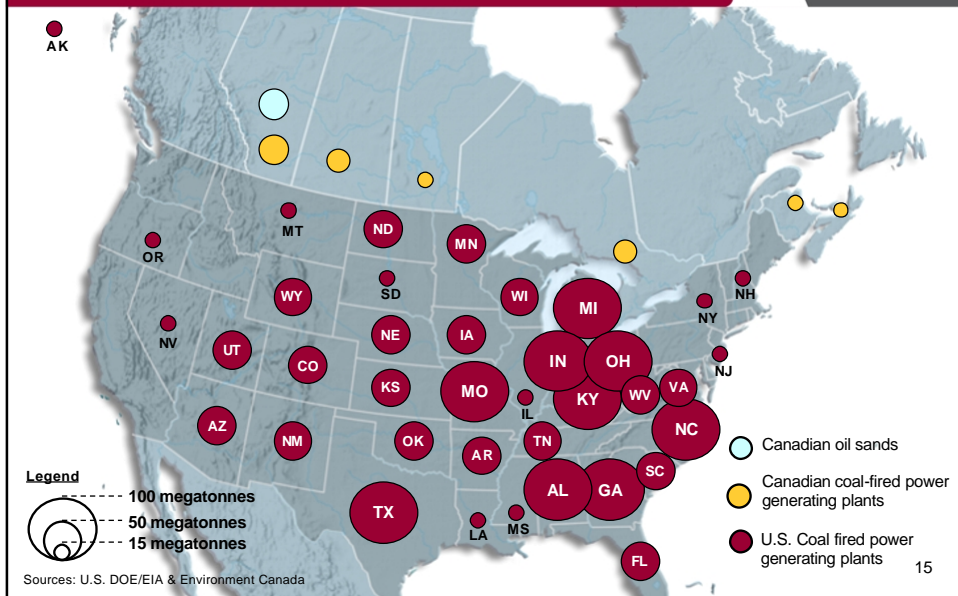
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Source: Jacobs Consultancy, *Life Cycle Assessment Comparison for North America and Imported Crudes*, June 2009

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North American GHG Emissions (2009) for Coal-fired Power and Oil Sands



Energy Efficiency

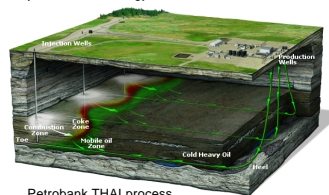
- **Low energy extraction**
 - § 35°C instead of 80°C = 1/3 less energy
 - § Working on lower temperatures
- **Underground combustion rather than steam**
 - § Petrobank Whitesands – THAI process
- **Additives to reduce the need for both water and energy (steam)**
 - § LASER (Imperial), SAP (Cenovus), N-Solv
 - § SC-SAGD (Laricina), SOLVE (Statoil/PTRC)
- **Electricity instead of steam to warm the heavy oil underground**
 - § ET -Energy, Shell

Carbon Capture and Storage

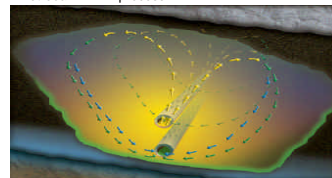
- § Most effective at upgraders/hydrogen plants
- § Shell Quest in development phase



Syncrude Low Energy Extraction – Aurora Mine

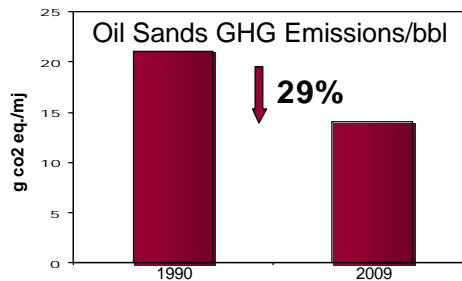


Petrobank THAI process



Solvent/steam processes (Laricina diagram)

- **Reducing GHG Emissions**
 - § Using less energy input
 - § Use energy more efficiently
- **Capturing CO₂**
 - § Governments investing over \$3 billion – partners with industry
- **Water**
 - § Increasing water recycle
 - § Using saline water for steam
- **Land**
 - § New tailings technologies accelerate reclamation
 - § Smaller footprint and faster reclamation



§ Mining

§ 3.1 barrels of fresh water per barrel of oil, with 80-90% recycled (2010 data)

§ Currently use 0.5 per cent of the annual flow of the Athabasca river

• In situ (drillable)

§ 0.4 barrels of fresh water per barrel of oil, with 90-95% recycled (2010 data)

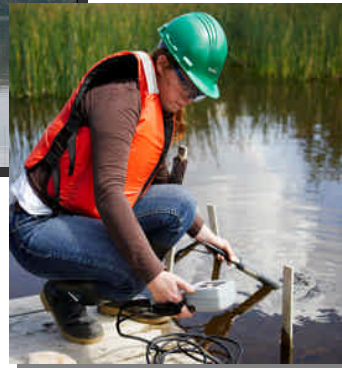
§ No water from Athabasca River

§ Shift to using non-potable (saline) sub-surface aquifers



“Current evidence on water quality impacts on the Athabasca River system suggest that oil sands development activities are not a current threat to aquatic ecosystem viability.”

Source: *The Royal Society of Canada*



Technology Solutions – Greater Recovery and Less Fresh Water



- **Additives to reduce the need for both water and energy (steam)**
 - § LASER (Imperial), SAP (Cenovus), N-Solv
 - § SC-SAGD (Laricina), SOLVE (Statoil/PTRC)
- **Non-aqueous extraction**
 - § ET-Energy, Shell, Petrobank
- **Saline water instead of fresh water**
 - § Devon Energy Jackfish Project
- **Collaboration on tailings research**
 - § Oil Sands Tailings Consortium (OSTC)



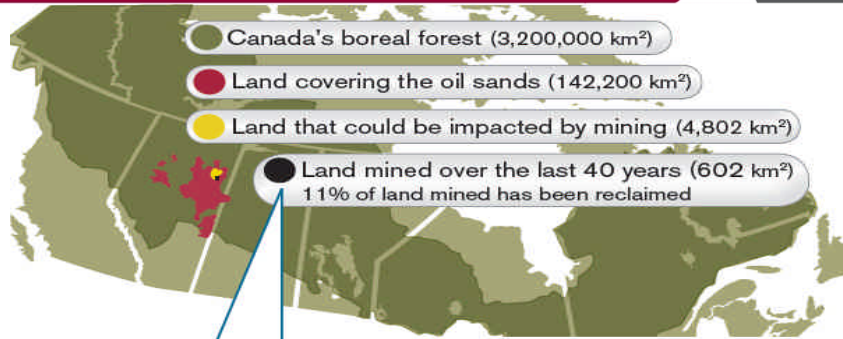
Devon's Jackfish Project



Suncor TRO Tailings Management Process



Land Use and Reclamation

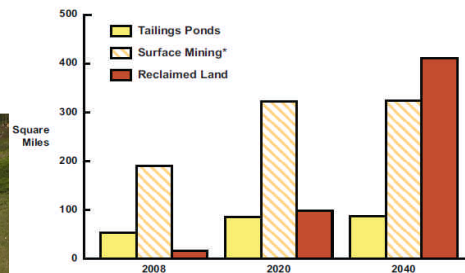


How big is 602 km²?

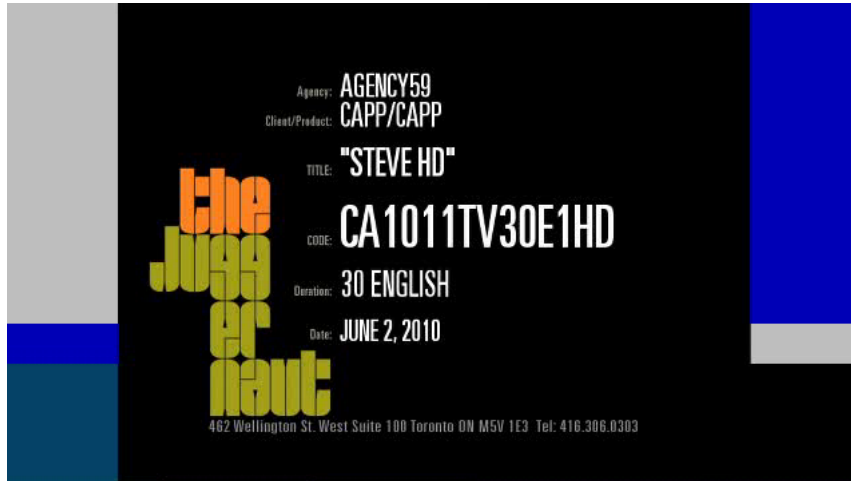
Area (km ²)	City proper	Greater metropolitan
Edmonton, Alberta	684	9,418
Toronto, Ontario	630	7,125
Chicago, Illinois	606	28,164
Oslo, Norway	454	8,900



Oil Sands Mining Footprint and Reclamation Process



Source: Cambridge Energy Research Associates.



- A mixture of water, clay, sands and residual bitumen
 - § Used to settle solids and recycle water - 80%+ recycle ratio
- Research to increase recycle, reduce pond size
 - § Consolidated tailings
 - § CO2 treatment (CNRL)
 - § Thickeners, Paste/Dry tailings
 - § Tailings Reduction (Suncor)
 - § Atmospheric Fines Drying (Shell)
 - § Centrifuge (Syn crude)
 - § Oil Sands Tailing Research Facility – University of Alberta
- First tailings pond (Suncor) surface reclamation in 2010



Suncor Pond 1



Suncor Pond 1 Reclamation – Sept 2010

Tailings Containment and Settling Ponds



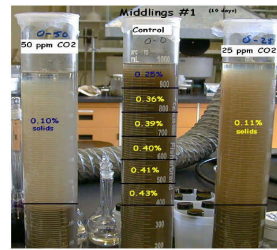
Dry tailings after centrifuge processing



Research on dry and consolidated tailings

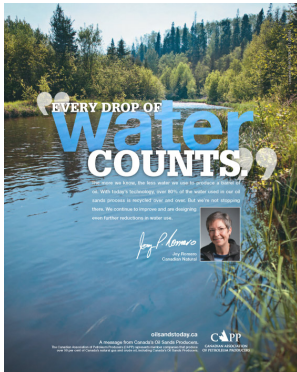


Tailings Reduction Operations - Suncor




CO2 injection into tailings - CNRL Horizon

Improving Environmental Performance



- Oil Sands Report
 - § Principles & Performance
 - § Measurement & Reporting
 - § Transparency











GUIDING PRINCIPLES FOR OIL SANDS DEVELOPMENT

Canada's oil sands industry will provide a secure source of energy, reduce its impact on the environment and provide economic benefits to society while developing this globally significant resource. We will achieve this through continuous improvement, by developing new technology and by committing to these guiding principles:

PEOPLE	<ul style="list-style-type: none"> We will provide a safe environment for our employees, contractors, and the communities where we operate. We will provide employment and business opportunities for regional communities, including Aboriginal peoples. We will consult with directly-affected stakeholders through all stages of our operations.
AIR	<ul style="list-style-type: none"> We will design and operate our facilities to ensure that regional air quality continues to exceed provincial air quality objectives. We will continue to reduce greenhouse gas emissions per barrel of production by improving our energy efficiency and by developing new technologies.
WATER	<ul style="list-style-type: none"> We will continue to reduce the amount of fresh water required per barrel of production by improving water recycle rates, using non-potable water sources where feasible, and by developing new technologies. We will safeguard the quality of regional surface and groundwater resources.
LAND	<ul style="list-style-type: none"> We will mitigate our impact on the land while maintaining regional ecosystems and biodiversity. We will progressively reclaim all lands affected by oil sands operations, returning them to self-sustaining landscapes.

Stabil
ConocoPhillips
Suncor
Enbridge
Talisman



- **Economic impact generated (GDP)**

- \$ \$2.1 trillion across Canada

- **Jobs Created**

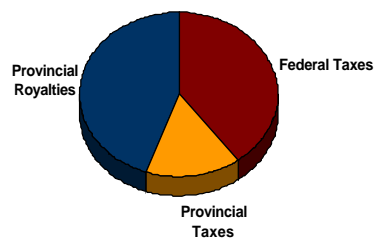
- \$ 75,000 in 2010 growing to 905,000 in 2035
(direct, indirect and industry across Canada)

- **Government Revenues**

- \$ Federal Tax = \$311 billion
 - \$ Provincial Tax = \$ 122 billion
 - \$ Alberta portion \$105 billion (86%)
 - \$ Alberta Royalties = \$350 billion

The oil sands creates jobs, businesses and government revenues across Canada.

Government Revenues by Source
\$783 billion over 25 year period



Economic Benefits & Employment Generated from Oil Sands Outside Alberta 2010 - 2035



Source: CERl May 2011

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Ontario Suppliers to Canadian Oil Sands

November 8, 2011
255 Company Names in Total

Name of Supplier	City	Name of Supplier	City
Aaculade Reaction - Ottawa	Ottawa	Koch-Glitsch Canada LP	Uxbridge
Accountemps	Toronto	Konecranes Inc.	Burlington
AchieveGlobal Canada	Toronto	KPMG LLP - Toronto	Toronto
Aecommetric Corporation	Richmond Hill	KSB Pumps Inc.	Mississauga
Aecon Industrial	Cambridge	Lakes Environmental Software	Waterloo
Airex Inc.	Scarborough	Larg Michener LLP	Toronto
Alfa Laval Inc.	Scarborough & Toronto	Laser Networks Inc. - Oakville	Oakville
Allegis Group Canada Corp.	Toronto	Letlove (Canada) Inc.	Toronto
Amco Systems Inc.	Richmond Hill	Levit-Safety Limited	Oakville
Amcor Pab & Printing Inc.	Richmond Hill	Linnema's Testing Laboratories of Canada	Toronto
Book Div.	Simcoe	Log Books Unlimited	Toronto
Anton Consultants Inc.	Kitchener	Lorinser Environmental Products Ltd.	Oakville
Apple Canada Inc.	Markham	LPS Aviation Inc.	Ottawa
APV Canada Inc.	Concord	Lyroco (Canada) Inc.	Markham
Arkenia Canada Inc.	Oakville	M & L Testing Equipment (1995) Inc.	Dundas
Armstrong Van & Storage	Thunder Bay	Magnetrol Canada	Concord
Arntec Limited Partnership	Georgetown	Manitex & Company	Toronto
ASB Heating Elements Ltd.	Toronto	Marsh Canada Limited	Toronto
Atlas Van Lines (Canada) Ltd.	Oakville	Medgate Inc.	Toronto
ATS Scientific Inc.	Burlington	Medtronic of Canada Ltd.	Mississauga
Avidale Inc.	Toronto	Meuser Limited	Toronto
Baldor Electric Canada Inc.	Toronto	Modis International Co.	Toronto
Barbara Butler & Associates Inc.	Toronto	ModSpace Financial Services Canada Ltd.	Toronto
Bentley Systems, Inc.	Toronto	Mod-Tronic Instruments Limited	Brampton
Black & Veatch Canada Company	Toronto	Monson Hardware Limited	Toronto
Black Box Canada Corporation	Toronto	MSA Canada	Toronto
BlueSky Process Solutions Ltd.	Stoney Creek	Mueller Flow Control Ltd.	Toronto
Bosch Rexroth Canada Corp.	Welland	NAC Constructors Ltd.	Morriston
Brookings Computer Systems Inc.	Mississauga	National Car Rental Canada Inc.	Toronto
Buehler Canada	Whitby	National Research Council of Canada	Ottawa
Burnham Inc.	Toronto	Nay Canada	Ottawa
Business Information Group	Toronto	NEB Overseas Canada Ltd.	Toronto
Cable Talk Systems Inc.	Brampton	Newman Tools Inc.	Ottawa
Cambridge Materials Testing Ltd.	Cambridge	Nexus Solutions Inc.	London
Camerson Instruments Inc.	Georgetown	Nikon Canada Inc.	Mississauga
Canadian Electricity Forum	Pickering	Nu-media Display Systems Inc.	Mississauga
Canadian Safety Equipment Inc.	Mississauga		
Canadian Standards	Toronto		



Quebec Suppliers to Canadian Oil Sands

November 8, 2011
45 Company Names in Total

Name of Supplier	City	Description
Olympus Canada Inc.		
Oracle Canada ULC		
Oshitech Incorporated		
Outotec Canada Ltd.		
Panel and Pipes Inc.		
Pattern Discovery Te		
Palmar Engineering I		
Petro-Canada Inc. - I		
Petro-Viron Inc.		
Pitney Bowes		
Pitney Bowes Leasing		
PitneyWorks		
Precisioning Limit		
Proactive Lube Mana		
Process & Steam Sp		
Process Pipe Suppor		
Prokiment Fluid Corp		
Psyde Schropp McC		
PSI Prolife Inc.		
Pump Tech Inc.		
Receiver General		
Reinforced Earth Co		
Resources Global Pr		
RHI Canada Inc.		
Rison Canada Inc.		
RJPC Associates		
Robert Half Manager		
Rousselle		
Robot Controls (Can		
Safetycare Inc.		
Schneider Electric C		
Secure Mailing Syst		
Senior Flexionics (Ca		
Seton - A Division of		
Identification		
SGS LifeField Reser		
SICK Ltd.		
Siemens Canada Ltd		
SimplexGrinnell		
SKF Canada Limited		
Softchoice Corporati		
Software House Inter		
Surplus Business Print		
3005401 CANADA INC.	MONTREAL	Unclassified
ABB INC.	LACHINE	Electrical
AEROPORTS DE MONTREA	MONTREAL	Components/Accessories/Supplies
ALGOSYS INC.	QUEBEC CITY	Unclassified
ALPHA MACH INC.	MONT-ST-HILAIRE	Unclassified
ALSTOM GRID CANADA	LA PRAIRIE	Components/Accessories/Supplies
ANACHEMIA CANADA INC.	LACHINE	Unclassified
ANTON PAAR CANADA	SAINT LAURENT	Instrumentation & Controls
ATLAS COPCO COMPRESSORS CANADA	MONTREAL	Rotating Equipment & Spare Parts
AWJ TEL-AV INC.	LACHINE	Facility Materials
BBA INC.	MONT-SAIN HILAIRE	Engineering Services & Tech Support
BIRKS AND MAYORS INC.	MONTREAL	Unclassified
BOMBARDIER INC.	MONTREAL	Aviation Services
CANADIAN SALT COMPANY	POINTE-CLAUDE-DORVAL	Unclassified
CIM NATIONAL OFFICE	MONTREAL	Unclassified
COLE-PARMER CANADA INC.	MONTREAL	Unclassified
CONTROL VALVE INC.	BRICSSARD	Instrumentation & Controls
DHL GLOBAL FORWARDING	ST-LAURENT	Freight & Transportation
ENSEIGNES TRANSWORLD CIE	MONTREAL	Marketing & Sales
ENSEIGNES TRANSWORLD CIE	MONTREAL	Unclassified
HEWLETT-PACKARD	GATINEAU	IS / Electronics
HONEYWELL LIMITED	LACHINE	Instrumentation & Controls
INDUSTRIES B RAINVIL	SAINT-JEAN-SUR-RICHIEU	Unclassified
INTERTEK TESTING SERVICES	LACHINE	Support Services & Rentals
INVESTIS SYSTEMS CANADA INC.	MONTREAL	Instrumentation & Controls
INOMATSU INTERNATIONAL	CANDIAC	Industrial Equipment
L'OL - BROUZE PRODUIT	LACHINE	Unclassified
LE GROUPE BRT INC.	MONTREAL	Unclassified
MICHELIN NORTH AMERICA	LAVAL	Mining Equipment
MOLINOR AVIATION	MIRABEL	Aviation Services
NORAMTEC CONSULTANTS	MONTREAL	Unclassified
PRESTON PHIPPS INC.	ST-LAURENT	Instrumentation & Controls
PRODUITS CHIMQUES MAGNUS LTEE	BAIE-D'URFE	Unclassified
FRUITECHNIQUE MAINTENANCE	MONTREAL	Unclassified
QUADRA CHEMICALS LTD	VALDREUIL-DORION	Chemicals, Gases, & Fluids
ROMATEC	MONTREAL	Unclassified
SCHNEIDER ELECTRIC LTD	LA PRAIRIE	Unclassified
SINO LAVALL INC.	MONTREAL	EH&S Services
SFB ORGANIZATIONAL P	LONGUEUIL	Unclassified

2400 American companies provide goods and services directly to the oil sands



919 Company Names Not Reporting
965 Company Names in Total

Name of U.S. Supplier/Business Partner

Logan Computer Solutions,
Process Heating Company,
VIA Chem & Supply Inc.,
Kroll Pacific Co.,
Smith-Ryan, Inc.
ExxonMobil Research Inc.,
Charles Cosh & Associates
Rosemount Inc.
Subar Bingham
Minotek Corp.
Preston Products Co LLC
Northern Environmental Co
Avalon, Inc.
Lab Safety Supply Inc.
Lundberg and Mol LLP
Recovery LLP
Tanner
Ener Minerals Canada
Premier Engineering & Man
Global Pipeline Partners LLC
USA Engineering Systems I
Ducqua International
Pilot Mining Services
Rockwell Automation Inc
Sentry Equipment Corp
Vick Engineering Systems I
Schmidt Engineering and E
Energie Systems Inc.
Ge Oil & Gas Operations, L
Valeksha Bearings Corp
Larus Marine Inc.
Cineco Supply International
Douglas County
Four Star Construction Inc.,
J. Frost Trucking Inc.
Lakeland Construction Inc
Natural Resource Enginee
Green Environmental Solu
Cooper Power Systems
Metco Minerals Industries I
Smith Transformer Compoe
Puls Industries Inc.
Pressure Products Co Inc.
Continuous Learning Group

Name of U.S. Supplier/Business Partner

Schneider Controls, Inc.
Spence Age Laminating and Br
Tethris International Corporat
Tracer Construction Co.
Tutor Engineering Consultants
Tuttle and Hughes Inc.
Tyco Valves & Controls LP
Universal Filter
Universal Field Services, Inc.
Virgo Engineers Inc.
Wilson Supply Company
Shaw Hightech Inc.
Flint Hills Salt Lake City Inc.
Harris Engineering Inc.
Olive USA LLC
Ponrock Industrial Inc.
Safety Technologies USA Inc.
Westech Engineering, Inc.
Harsco, Inc.
Immerative Technologies Inc
Gravim Seed Company
Independent Project Analysis
Integrat Corporation
Nortrop Grumman Informatio
Ge Fanuc Automation America
Fluorose Pump Division
Fluorose US Inc.
Commonwealth Enterprises In
Pharmco Project Associates, L
Cybernetix, Inc.
Ferguson Enterprises Inc.
Hys-Tek, Inc.
Timothy A. Saunders, Inc.
Barrow & Associates LLC
Roper, Corbin & Associates, LLC
Edgen Murray Corporatio
Human Centred Solutions, LLC
Vasanta Inc.
Revere Inc.
Tanco Engineering Inc.
Blatt Dynamics Inc.
Reed Group Ltd
Winnipeg, Inc.
Paragon Decision Technology
Schneider Engineering Labor
ERI Economic Research Instit

Name of U.S. Supplier/Business Partner

First American Title Insurance C
Webex Communications Inc.
Rohlfach Cosasco Systems, Inc
Gint Software Inc.
Ammagret Inc.
Phenomenex, Inc.
American Training Resources I
C and G Construction Inc.
STS Lab, Inc.
Preston Corporation
Ametrol Inc.
Tuttle and Hughes Inc.
Young Engineering & Manufact
Custom Technical Services, LLC
Quest Integrity USA LLC
The Economist
Master Maytag Inc.
Congo Software Pty Ltd
Rover Engineering Inc.
Harsco, Inc.
Michael B. Smith Architecture, I
Patterson & Cooke, Ltd
Precision Pipeline LLC
USA Energy & Construction Inc.
Inco Inc.
Igan Search Software, Inc.
American Millennium Corporat
Golden Software Inc.
Hys-Tek, Inc.
Timothy A. Saunders, Inc.
Barrow & Associates LLC
Roper, Corbin & Associates, LLC
Edgen Murray Corporatio
Human Centred Solutions, LLC
Vasanta Inc.
Revere Inc.
Tanco Engineering Inc.
Blatt Dynamics Inc.
Reed Group Ltd
Winnipeg, Inc.
Paragon Decision Technology
Schneider Engineering Labor
ERI Economic Research Instit

Name of U.S. Supplier/Business Partner

Pig Corporation
The Brits Group, Inc. DBA
Crisoft Inc.
Invenys Systems, Inc.
Polytec Inc.
OF Exume Associates LT
Aria Technologies, Inc.
CCI Fluid Kinetics
Control Components Inc.
M Chemical Company Inc
Main America, Inc.
National Institute Of Stan
PE Energy Systems, Inc.
Lemona Metal Gasket Co
Pipe Pig
ProSource Technologies
Kappa gels-electronics In
Castelle
Sumitral Systems Inc.
Elex Laboratories Inc.
Setarim Inc.
Aris Marchetti Inc.
Inquest Packard
Type Valves & Controls L
Adventer Inc.
Sub-One Technology Inc.
CCI Control Components
Oracle
Pata Hunter Inc.
Industrial Network Contro
Adverse Canada Incorpor
Edgen Murray Corporatio
Feyntron Solutions Corp.
Sumitral Systems Inc.
Tibco Software Inc.
Workshare Technology II
Imagine That, Inc.
Informatica Corporation
Subsea Leak Detectio
Crane Works, Inc.
Systel Software Incorpor
COSCOFT, Inc.
Jr Johanson Inc.

List of U.S. Suppliers to Canadian Oil Sands Companies

In order to gain insight into how Canadian oil sands development increases U.S. economic activity, CAPP requested from oil sands and pipeline companies a list of U.S. suppliers and business partners for major oil sands projects. The following list is an aggregation of U.S. suppliers for Canadian oil sands and pipeline companies from 2000-2010. It is organized alphabetically by state, city, and supplier name. As CAPP receives more information from its member companies, the list will be updated. Please note this document is not meant to be an exhaustive survey of U.S. suppliers. Rather, it serves as a tool to highlight real examples of the commerce and trade relationships between Canadian oil sands producers and U.S. companies.

Name of U.S. Supplier/Business Partner	City	State	Description
CSL Modular Inc.	Anchorage	AK	Parts & Supplies
Birmingham Fastener & Supply Inc.	Birmingham	AL	Parts & Supplies
Metal Samples Corrosion Monitoring System	Birmingham	AL	Inspection Services
Oakstone Publishing LLC	Cheslea	AL	Other
Top Mobile Pivotal Works Inc.	Mobile	AL	Parts & Supplies
Metal Samples Corrosion Monitoring System	Monroeville	AL	Equipment
ChD	Prichard	AL	Equipment
Flux Systems, Inc.	Theodore	AL	Materials
Valcon Inc.	AL	Parts & Supplies	
American Division Of Associated Materials	El Dorado	AR	Materials
Whitson	AR	Materials	
Valley Forge & Bolt Manufacturing	Phoenix	AZ	Parts & Supplies
Phoenix Digital Corporation	Scottsdale	AZ	Parts & Supplies
Western Chemical International	Scottsdale	AZ	Parts & Supplies
Environmental Support Solutions Inc	Tempe	AZ	Engineering Services
Insight Direct Inc. Inc.	Tempe	AZ	Software
Kreier Engineers	Tucson	AZ	Equipment
Mintec, Inc.	Tucson	AZ	Equipment
Flowwell	Tucson	AZ	Equipment
Perforce Software Inc.	Alemeda	CA	Software
PII Production Cable, Inc.	Anaheim	CA	Parts & Supplies
Canada Workflow Solutions Inc	Bakersfield	CA	Equipment
Berkley Forge & Tool Inc.	Berkeley	CA	Materials
Whiter Training Tech subsidiary of Viedia	Brea	CA	Procurement/Construction
ARESI Corporation	Burlingame	CA	Software
Bink Inc.	Claremont	CA	Parts & Supplies
Tedding USA Corporation	Claremont	CA	Procurement/Construction
MGM Transformer Company	Commerce	CA	Materials
Colson EDI	Commerce	CA	Consulting Services
Leadentech Studies Inc.	Escondido	CA	Training
RISA Technologies	Foothill Ranch	CA	Software
Coen Company Inc	Fullerton City	CA	Parts & Supplies
Connex Electronics Corporation	Fremont	CA	Parts & Supplies
Garrettcom Inc.	Fremont	CA	Parts & Supplies

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Name of U.S. Supplier/Business Partner	City	Description
Mc Master-Carr Supply Company	Aurora	Parts & Supplies
NovaVision Inc.	Bowling Green	Materials
Worthington Products Inc.	Canton	Parts & Supplies
Effox Inc.	Cincinnati	Parts & Supplies
Expo Experts, LLC	Cincinnati	Training
Lambda Research	Cincinnati	Software
Sigmatex Systems International LLC	Cincinnati	Procurement/Construction
Thermo Labsystems Inc.	Cincinnati	Parts & Supplies
University Of Cincinnati	Cincinnati	Engineering Services
Avtron Industrial Automation Inc	Cleveland	Procurement/Construction
Clark Reliance Corp National	Cleveland	Parts & Supplies
Hays Cleveland	Cleveland	Equipment
Monarch Electric Service Co (Inc)	Cleveland	Parts & Supplies
Ametek Solidstate Controls	Columbus	Parts & Supplies
Chemineer, Inc.	Columbus	Equipment
Edison Welding Institute	Columbus	Training
National Board of Boiler Pressure Vessel	Columbus	Training
Ashland Inc	Dublin	Procurement/Construction
Euclid	Euclid	Equipment
ICI Networks, LLC	Fairlawn	Equipment
Avtron Industrial Automation Inc	Independence	Procurement/Construction
Modular Security Systems, Inc	Ironton	Software
Mader Dampers	LaGrange	Engineering Services
Shafer Valve Company DB	Mansfield	Materials
Or-Tec Inc.	Maple Heights	Parts & Supplies
Kirk Key Interlock Company	Massillon	Equipment
V.O. Baker Company	Mentor	Materials
The Mack Iron Works Co.	Sandusky	Construction
Equity Engineering Group, Inc., The	Shaker Heights	Engineering Services
Pressure Vessel Research Council Inc	Shaker Heights	Engineering Services
The Equity Engineering Group, Inc.	Shaker Heights	Consulting Services
Analytical Products Group	Westlake	Equipment
Struers, Inc.	Westlake	Equipment
Snap-On Incorporated	Wooster	Parts & Supplies
Corpro Companies Inc.		Materials
Engineering Mechanics Corp.		Consulting Services
Hallmark		Parts & Supplies
Siemens Industrial Automation		Materials

States in PADD II Region	Number of Suppliers
IL	69
IN	10
IA	6
KS	7
KY	3
MI	21
MN	38
MS	3
NE	5
ND	4
SD	2
OH	39
OK	36
TN	8
WI	34
Total	279

Canada's Oil Sands: In the Global Spotlight



Energy Security

- § Currently the largest supplier of crude oil to the U.S. and growing
- § The world sees Canada's oil supply as secure, stable and reliable

Environmental Responsibility

- § Transparency and global scrutiny
- § Improvements through technology

Jobs and Economic Growth

- § Creating jobs
- § Generating economic growth and government revenues

