

As the first step towards reducing Alberta's dependence on fossil fuels as our primary source of income we must embrace our current environmental deficit. We must admit that climate change is real and that man-made contributions to global warming can be reduced.

After 100 years of exploration we must acknowledge that our provinces conventional oil and gas resources have been depleted. Technically speaking our low hanging fruit has been plucked and what is left is 444,000 oil and gas wells, 430,000 km of pipe lines (the distance to the moon is 384,000km), 30,000 oil and gas facilities, 900 km² of oil sands development, 220 km² of tailing ponds, and a 11.2 million ton sulfur pile that dwarfs the great pyramids of Egypt.

Tackling this shameful legacy will be the biggest environmental cleanup project undertaken to date. It will take 1000 rigs 50 years and every willing Canadian to clean up our mess. This change in industry requires a paradigm shift in thinking. Our province no longer see the economic benefit from drilling new conventional oil wells as it once did. The real opportunity for Albertans will come from cleaning up our mess.

No longer can we tackle climate change with taxes and levy's. We need to start making a real reduction in man-made emissions so our future generations have the same opportunities we once did.

What is R.A.F.T?

RAFT is a plan for the unionized abandonment, decommissioning, and reclamation of Alberta's aging and expired fossil fuel infrastructure over the next 50 years...

- **RAFT** is an environmental protection project designed to put Albertans back to work;
- **RAFT** is economic diversification for Alberta;
- **RAFT** is a way to protect current and future generations from the massive environmental and financial liability currently facing Albertans;
- **RAFT** jobs are **GREEN**;
- **RAFT** is a plan to save Alberta.

How does RAFT work?

It's simple; the Government of Alberta has the responsibility and authority to direct the DOE – Department of Energy, and the AER – Alberta Energy Regulator, to manage the LLR liability as a “Super priority” and take whatever steps are required to ensure tax payers do not get stuck with the cleanup bill and to make sure the environmental impact of fossil fuel production is minimized.

Phase 1 Order the Orphan well association to immediately address the current back log of “high priority” wells;

- This puts 1000's of service sector employees back to work tomorrow;

Commission a transparent and comprehensive expert analysis of the liabilities associated with oil and gas and bitumen infrastructure, their affect on Albertans' health and environment, and the cost and a financial mechanism to properly address them.

Phase 2 Develop and implement an action plan based on the results of the comprehensive study.

Who will benefit from RAFT?

- Unemployed Albertans;
- Alberta businesses feeling the negative effect of the low commodity prices;
- Albertan's environment;
- Rural and First Nation communities;
- Alberta land owners;
- Future generations.

Key points:

- **100% industry funded: No provincial or federal taxpayer dollars will be spent on clean up;**
- Service companies already have the equipment and qualified personnel to immediately start repair; abandonments and reclamation;
- Site reclamation takes decades and will spur a whole new environmental sector within Alberta;
- Majority of money spent on reclamation would take the form of wages to Albertans;
- Economic benefits would be immediately felt in all regions, especially rural areas as the legacy wells are scattered through the province;
- No capital spending on infrastructure is required;
- Oil companies are legally required to abandon and reclaim all sites;
- Fixing leaking wells directly reduces the amount of GHG being released into Earth's atmosphere.

UNDERSTANDING THE RECLAMATION PROBLEM:

According to the Petroleum Services Association of Canada (PSAC) as of January 2016, Alberta had more than **75,000 inactive wells** on record requiring downhole wellbore abandonment and surface reclamation, a process called well decommissioning. Assuming the average cost per well for acceptable well decommissioning ranges between \$100,000 and \$300,000, PSAC estimates the investment required could range as high as \$82 billion.

AER currently uses the estimate of liabilities under its Liability Management Program (LMR) as \$30.2 billion.

“Alberta’s Orphan Well Association’s (OWA) workload has quadrupled in the last year from 162 sites to a to-do list of 704. Over the next year the OWA expects to receive 1000’s of new sites from defunct and bankrupt oil and gas producers.”

Current inventory of Alberta’s oil and gas and bitumen liabilities:

- 345,465 active well licenses;
- 100,000 previously decommissioned and abandoned wells;
- 430,000 km of pipelines;
- 30,000 surface facilities;
- 220 km² of oil sands tailing ponds;
- 11.2 million tons of sulphur;
- 900 km² of oil sands mining area;
- Unknown and unreported contamination and liabilities.

	<u>SEPT 2016</u>	<u>Feb 2016</u>	<u>Change</u>
Orphan wells to be abandon as of:	1285	683	+602
Orphan well reclamation sites as of:	657	533	+124
Orphan pipeline segments as of:	1353	821	+532

- In 2014/15, pipeline abandonments were put on a lower priority to well abandonments due to a limited budget.
- **In 18 years the orphan well association has reclaimed 702 sites, at a cost of \$214 million.**
- “The OWA’s workload has quadrupled in the last year from 162 sites to a to-do list of 704. Over the next year, the OWA expects to receive 1000’s of new sites.”

Who does RAFT put back to work?



Service Rig Personnel

NOC code(s): [8412.1](#) [Interest code\(s\): O M d](#)

Oil and gas well service rig personnel perform general labourer duties on service rigs and operate specialized equipment to service, complete and abandon wells.

Also Known As

Driller, Oil and Gas Well Service Rig Personnel, Roughneck



Well Service Equipment Operator

NOC code(s): [8412.2](#) [Interest code\(s\): O M i](#)

Well service equipment crews are called in at different times during the development of oil and gas wells for specialized oil field service operations such as cementing, acidizing, fracturing or nitrogen injection.

Also Known As

Equipment Operator, Gas Well Service Equipment Operator, Oil Well Service Equipment Operator



Snubbing Services Operators and Supervisors

NOC code(s): [8232.1](#) [Interest code\(s\): O D m](#)
[8412.2](#) [O M i](#)

Snubbing services operators and supervisors insert and remove drill pipe, tubing and specialized equipment into and from oil and gas wells when blowout preventers are closed to contain well pressure.



Wireline Operator

NOC code(s): [8232](#)

Wireline operators raise and lower special downhole instruments and tools and collect and process data from wireline operations.

Also Known As

E-line Operations Supervisor



Welder

NOC code(s): [7265.1](#) [Interest code\(s\): O M i](#)
[7265.2](#) [O M i](#)

Welders use a variety of welding processes to join and sever metals. Wire process operators use wire feed welding processes and work primarily in production environments.

Also Known As

Production Welder, Underwater Welder, Wire Process Operator



Drilling and Service Rig Manager

NOC code(s): [8222](#) [Interest code\(s\): D i o](#)

Oil and gas well drilling and service rig managers supervise large crews of specialized workers on drilling and service rigs.

Also Known As

Oil and Gas Well Drilling and Service Rig Manager, Service Rig Manager



Oil and Gas Well Loggers and Testers

NOC code(s): [8232.2](#) [Interest code\(s\): O M i](#)

Oil and gas well loggers and testers operate specialized tools, instruments and equipment to provide services related to oil and gas well drilling, completion and servicing.

Also Known As

Coring Operator, Drill Stem Tester, Field Operator (Well Logging and Testing), Hydrocarbon Data Analyst, Hydrocarbon Mud Logger, Pressure Tester, Slickline Operator, Wireline Operator



Well Testing Services Supervisor

NOC code(s): [8232.2](#) [Interest code\(s\): O M i](#)

Well testing services supervisors oversee oil and gas well data collection to determine reservoir deliverability and identify produced fluids.

Also Known As

Gas Well Testing Services Supervisor, Oil and Gas Well Testing Services Supervisor



Oil and Gas Transportation Services Occupations

NOC code(s): [7411.1](#) [Interest code\(s\): M O d](#)

Oil and gas transportation services occupations include bed truck operators, multi-wheel truck operators, bulk haul truck operators, winch tractor operators and supervisors. They transport the equipment and supplies used in the exploration, development and production of oil and gas resources.



Emergency Medical Personnel

NOC code(s): [3234](#) [Interest code\(s\): I M O](#)

Emergency medical personnel provide pre-hospital emergency medical care to the sick and injured.

Also Known As

Ambulance Attendant, Health Care Technologist, Medical Technologist, Paramedic, Paramedic Practitioner



Hazardous Waste Management Technologist

NOC code(s): 2263 **Interest code(s):** [M I D](#)

Hazardous waste management technologists provide information and advice on the packaging, handling and disposal of toxic wastes; conduct inspections and waste audits; investigate environmental incidents; and monitor and control the clean-up of contaminated land, water and air.

Also Known As

Environmental Technician/Technologist, Laboratory Technician/Technologist, Waste Management Specialist



Environmental Engineer

NOC code(s): 2131 **Interest code(s):** [I O D](#)

Environmental engineers design and evaluate systems, processes and equipment for air, water and soil pollution assessment, prevention and control, solid and hazardous waste management, and remediation of contaminated sites.

Also Known As

Engineer, Hazardous Waste Management Engineer, Professional Engineer, Remediation and Reclamation Specialist, Solid Waste Management Engineer, Water Quality Specialist, Waste Management Specialist



Civil Engineer

NOC code(s): 2131 **Interest code(s):** [I O D](#)

Civil engineers plan, design and supervise the construction, maintenance and decommissioning of a wide variety of public and private structures and facilities.

Also Known As

Construction Engineer, Design Engineer, Engineer, Professional Engineer, Site Designer, Transportation Engineer, Water Source Engineer



Heavy Equipment Operator

NOC code(s): 7421 **Interest code(s):** [O M I](#)

Heavy equipment operators use a variety of mobile machines and attachments to excavate, grade and landscape earth or move workers, materials and equipment.

Also Known As

Backhoe Operator, Bulldozer Operator, Cat Operator, Driver, Equipment Operator, Front-end Loader Operator, Grader Operator, Loader Operator, Paver Operator, Power Shovel Operator, Scraper Operator

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Soil Scientist

NOC code(s): 2115.2 **Interest code(s):** [I O D](#)

Soil scientists study the composition, distribution, development and behaviour of soils, the interaction of soils with organisms, animals and plants, and the management of soil resources for agricultural production and environmental protection.

Also Known As

Biological Scientist, Research Scientist



Reclamation Specialist

NOC code(s): 2131 **Interest code(s):** [I O D](#)

This is an emerging occupation. It may have evolved from an existing occupation or emerged in response to consumer needs or technological advances. In general, reclamation specialists work to return disturbed land to its equivalent land use after it has been impacted by erosion, mining, oil and gas activities, flooding, commercial development or other processes.

Also Known As

Biochemist, Ecotoxicologist, Environmental Engineer, Environmental Scientist, Environmental Technician, Pollution Control Technologist, Reclamation Engineer, Remediation Specialist



Truck Driver

NOC code(s): 7411.1 **Interest code(s):** [M O d](#)

Truck drivers operate gasoline or diesel powered trucks, tractor-trailers and similar vehicles to transport goods and materials over local routes or long distances.

Also Known As

Driver, Multi-Wheel Truck Operator

[Easy Reading Profile](#)

Typical distribution of jobs during abandonment and reclamation:

