



# Oil & Gas Resource Development

Implementation of Yukon government's action plan on the responsible development of oil and gas resources



Fieldwork in the Besa River Formation shales, Whitefish River, Liard basin.

# Responsible Resource Development

In April 2015, the Yukon government responded to and accepted all 21 recommendations of the Select Committee Regarding the Risks and Benefits of Hydraulic Fracturing.

The recommendations advised that additional scientific research and data collection be done and that the information gathered be widely shared.

As a steward, the Yukon government is committed to responsible resource development. Two components of responsible resource development management are to be well informed and to understand the risks and benefits of a development project.

Based on this context and our commitment, we are moving forward with a broad strategy in support of oil and gas development called the Action Plan on Responsible Oil and Gas Development in Yukon. The Action Plan has four pillars: Engagement; First Nations Relations; Technical and Research; and Effective Regulatory Regime.

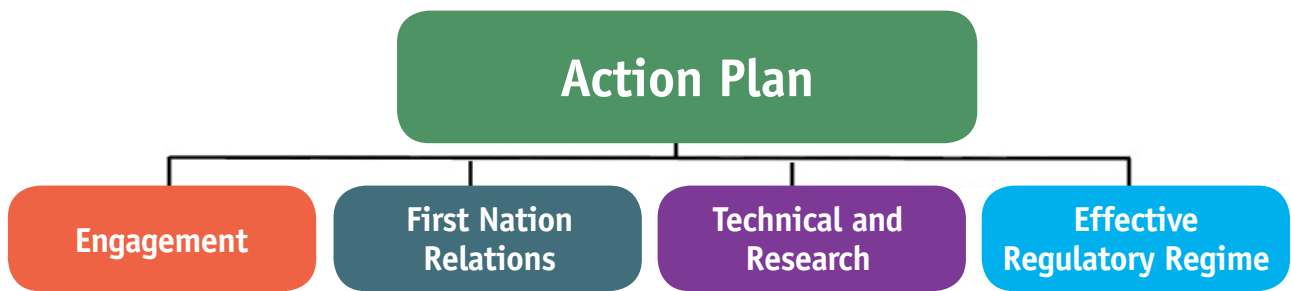
## Engagement

The Yukon government recognizes that oil and gas resource development is a passionate topic and many have questions and concerns. We agree that this is a topic worthy of further exploration.

We are working to build awareness and increase understanding of the Yukon government’s role in regulating oil and gas activities and fostering an understanding of how oil and gas can be responsibly developed in Yukon.

Engagement initiatives reflect the Yukon government’s vision and values around responsible oil and gas development and involve the Yukon public, Yukon First Nations, government regulators and the private sector.

The total budget for this multi-year Action Plan is \$2.5 million over five years.





Seismometer installation used to measure earth movements.

Photo Courtesy Nanometrics

### *First Nation Relations*

We know that we require the involvement and support of affected First Nations prior to proceeding with any potential shale oil and gas development project.

The Yukon government has initiated discussions with affected First Nations on regulatory changes, engagement models, potential partnerships and future agreements.

Within the Action Plan's funding allocation, a total of 24 per cent is dedicated to engagement and First Nation relations.

### *Technical Research*

Going too fast or too big is a concern the Yukon government often hears in relation to oil and gas development.

To date, the territory has seen limited oil and gas exploration, and no development of our shale-based resources. With this in mind, the Yukon government is taking the time necessary to gather important baseline information and conduct research before making any further decisions related to the development of shale oil and gas resources.

We are the only jurisdiction in Canada to invest in baseline data collection and research in advance of shale development. This investment will provide a knowledge base on which to make sound decisions in the future, not just for oil and gas development, but for all activity in the region.

Baseline data collection in Yukon's two most prospective sedimentary basins, Liard and Eagle Plain, will provide a regional picture of the current state of the environment.

### *Surface water quality and quantity, and meteorological data*

We are increasing the number of surface water quality and quantity monitoring stations. Collected weather and water quantity data will be used to model the amount of water available throughout the year for resource development projects.

### *Groundwater quality and quantity data*

We are installing multi-level groundwater wells. We are also participating in water quality research studies conducted by the universities of Calgary and Guelph. These studies will give us a better understanding of existing water components such as dissolved gases, Naturally Occurring Radioactive Materials (NORMs) and isotope 'fingerprinting' in the two basins.

### *Seismic activity data*

Understanding earth movement is important. We are installing new seismic instruments which will add to the data already provided by existing arrays across the territory. This is being done in partnership with other regulators and universities.

### *Landscape changes and permafrost data*

The Yukon Geological Survey is assessing the terrain for landslide hazards and is continuing to collect permafrost data in the Eagle Plain basin using new instruments installed last year.

### *Shale gas resource potential data*

A 2016 study of the Liard basin released by the National Energy Board identified a marketable gas resource of 8 trillion cubic feet in the southeast Yukon, enough to fuel all of Canada for 2.5 years at current consumption rates. This information is being used to do an assessment on the economic benefits and impacts of developing shale oil and gas resources in the Liard basin.



Northern Cross (Yukon) Ltd's base camp just off the Dempster Highway in 2013.

### *Fish and Wildlife*

We are reviewing existing fish and wildlife studies and comparing them to similar studies in other jurisdictions to see what additional information may be of value and provide new insights. This will help government prioritize where more data collection is required.

These various studies and initiatives are attracting academic interest and we have been able to leverage available resources and expertise from outside Yukon. In seeking scientific partnerships with other interested researchers, institutions, and neighboring governments, we have been able to stretch our funding and ensure our results are comprehensive.

Within the Action Plan's funding allocation, 62 per cent is earmarked for technical and research activities.

### *Effective Regulatory Regime*

The development of Yukon's oil and gas resources are subject to strong regulatory requirements and safeguards to protect human health, wildlife, water, land and air.

The Yukon government will continue to review its oil and gas regulations. This will ensure it remains current with respect to environmental and safety components of modern oil and gas operations.

Safety is a cornerstone in regulatory oversight. Through our technical research and data collection, the Yukon government can improve our oil and gas regulations to reflect the latest knowledge and ensure the protection of people, air, water, land, wildlife and overall environment.

Within the Action Plan's funding allocation, 14 per cent of the funding is dedicated to the commitment of continued review and adjustments to our effective regulatory regime.

### *Stewardship*

In Yukon, like the rest of Canada, most natural resources are owned by the public and managed by government to ensure citizens benefit from their development.

Government fulfills various roles in the administration and control of natural resources including resource manager, environmental manager, social steward, economic development stimulator and regulator.

Government's decisions must be respectful of and balance social, cultural, economic and environmental considerations. This is vital to ensuring responsible development, a healthy economy and the trust of its citizens.

### *Contact*

Oil & Gas Resources Branch  
Energy, Mines and Resources  
Government of Yukon  
Phone: 867-393-7042

Toll free: 1-800-661-0408 ext. 7042

Email: [oilandgasconversation@gov.yk.ca](mailto:oilandgasconversation@gov.yk.ca)

Visit [www.yukonoilandgas.com](http://www.yukonoilandgas.com) for updates on the Yukon government's role in the responsible development of oil and gas.

*Cover Photo: A Yukon Geological Survey geologist collects samples of sedimentary rocks for study.*

*All photos Yukon government except where noted*

