



BITUMEN
BEYOND COMBUSTION/ASPHALTENES

***AN INVITATION TO CONSULT ON
ALBERTA'S FUTURE***

June 10, 2021



Bitumen Beyond Combustion/Asphaltenes

What does it mean?

Oil and gas can be used as feedstock for a variety of downstream products that are not gasoline, such as petrochemicals or asphalt. These materials are not typically combusted and, as such have lower downstream emissions. According to Alberta Innovates, 90 per cent of Alberta's oilsands bitumen is used for combustion products.

What is the opportunity?

The opportunity is energy transformation, rather than transition. Demand for oil and gas products like gasoline and diesel is becoming increasingly uncertain; bitumen beyond combustion represents opportunities to protect jobs in collaboration with the oil and gas industry. Ensuring Alberta is a leader in the area of non-combustion bitumen products could provide substantial payoff over the next decade. Alberta Innovates estimates non-combustion products could be an \$84 billion market by 2030, and many of the potential downstream uses are either already or are expected to become billion-dollar industries.

Furthermore, several of the technologies that could help us unlock the value of non-combustion products will help us to get better value for our resources. It is estimated that these partial upgrading technologies could improve the netback per barrel by \$10-\$15 and reduce pipeline space to transport a barrel by 30 per cent. The overall reduction in emissions is estimate at about 17 per cent per barrel.

What are Asphaltenes?

Asphaltenes are a dark compound of crude oil and are particularly common in heavy oils and bitumen. These asphaltenes are often referred to as being at "the bottom of the barrel," and account for 15-20 per cent of the content in a barrel of bitumen.



What did the NDP Government do in this area?

Alberta's NDP Government enabled Alberta innovates to start an applied research program on bitumen beyond combustion. The program still exists but it is unclear if the cuts to Alberta Innovates over the past two years by the UCP Government have impacted pursuit of opportunities in this area.

We also brought forward the partial upgrading program. Partial upgrading is a key technology to extract the heaviest parts of the barrel that have enormous potential for downstream uses and can increase the value per barrel enormously. The program would have helped to build a foundation for these technologies and applications.

Unfortunately, the UCP has canceled this program and has offered no support to bring these technologies online.





Our ideas

- Recognize Asphaltene extraction and other partial upgrading technologies under the Canadian Clean Fuel Standard to create credits.
- Consider making extraction technologies eligible under the Carbon Capture Utilization & Storage tax credit that is being developed.
- Integrate asphaltene extraction, processing and other partial upgrading technologies as a separate stream under the Alberta Petrochemical Incentive Program, or consider a redeveloped partial upgrading program
- Promote products derived from asphaltenes to become a key component in provincial or federal manufacturing strategies
- Provide stable funding for Alberta Innovates so it can continue its leading research of promoting innovation through its bitumen beyond combustion program and enable applied research in agriculture, construction and manufacturing.

Next Steps

We want to engage further with Albertans and hear more about how we can take advantage of the opportunities in extracting asphaltenes and non-combustion products from bitumen and heavy oils.

A consultation date on Bitumen Beyond Combustion will be announced at www.AlbertasFuture.ca in the very near future.

