

Heartland 101: Break it Down – Fractionation in Action

September 2015

Consider milk. While whole milk is useful, it provides maximum value when separated into its components. Further processing then produces fluid milk, butter, ice cream, cheese and more.

The process of *breaking down or separating to increase value* is used every day in Alberta's Industrial Heartland. Fractionation – or separating a mixture into different portions – is a common way to add value to natural gas resources.

Natural Gas Aplenty

With new discoveries of shale gas in Alberta and north eastern British Columbia, there is an abundant supply of natural gas. Not only is the natural gas readily available, it's also at historically low prices.

This has created a surge of new investments in natural gas fractionation. Companies add value to natural gas by separating or fractionating it into its components which can then be used in a number of different and more valuable ways.

C What?

Understanding how fractionation works starts at the natural gas well head. Natural gas is extracted from the ground as a combination of gases including methane (C1), ethane (C2), propane (C3), and butane (C4), where the number indicates how many carbon molecules in each compound.

First, the methane and other materials such as sulphur are extracted. This leaves a mixture of ethane, propane, and butane known as natural gas liquids or NGLs. These liquids are then shipped via pipeline to companies with fractionators in the Heartland and elsewhere.

Fractionation in Action

In the fractionation process, the NGL mixture is separated into streams or fractions. Once separated, the gases are used for further processing in Alberta or prepared for export.

Within the Heartland, major fractionation expansions are underway at Pembina, Plains Midstream, and Keyera Energy. This will prepare for increased volumes of NGLs expected from shale gas. The resulting additional output of products such as ethane and propane may provide new opportunities for existing and new petrochemical operations in the region.

All of these fractionation operations are an important part of the overall energy value chain and a major contributor to the local economy.

For more information: lifeintheheartland.com or follow us on [Facebook](#) and [Twitter](#).

*Heartland 101 is a monthly print and on-air (Mix 107.9 FM) series brought to you by **Life in the Heartland**, a partnership of five local organizations improving access to information, resources, and contacts for communities in and around Alberta's Industrial Heartland.*