



# Ember Resources Reduces CO<sub>2</sub>e with INNIO Waukesha VHP<sup>®</sup> Upgrades

Upgrades funded through Alberta's emissions reduction programs and supported by Waukesha



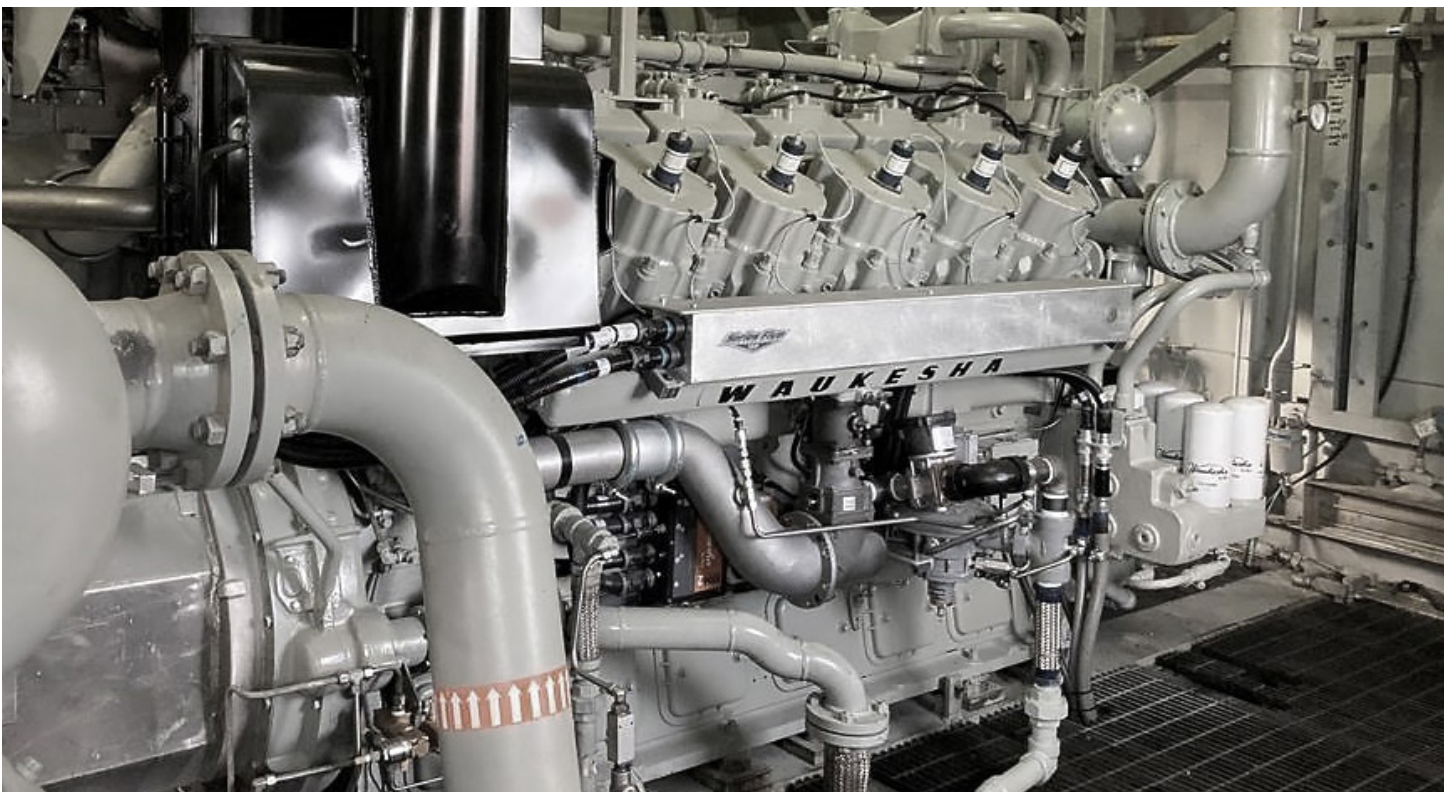
Today, natural gas producers are tasked with a long list of challenges facing the energy industry. Emissions regulations, lasting cuts to commodity prices, shortages in trained workers, and challenging operating conditions are just a few of the issues companies face when beginning a project. For Ember Resources, each project provides an opportunity to increase the bottom line for their investors. However, each project must be carefully considered through a set of specific criteria before it is approved.

Through recent Canadian grant programs providing incentives for station emissions

reductions, Ember and INNIO Waukesha Gas Engines partnered on a project that's had many lasting operational and environmental benefits – and will continue to provide them for years to come.

As the largest coalbed methane (CBM) producer in Alberta, Ember Resources continues to grow its Western Canada footprint. Ember's activity centers around the Horseshoe Canyon region, which holds nearly 180M cubic feet of untapped CBM.

Ember's plans to expand in this region include being good neighbors to the communities impacted by these critical natural resources' extraction. Project design must account for low emissions, noise attenuation, high air quality, and stringent safety recommendations to pass approval. With the clock ticking for project approval and government funding, Ember and Waukesha teamed up to upgrade ten 7044 Series Two GL and GSIs to Series Four<sup>®</sup> and Five specifications. Ember called in Waukesha's team of experts to provide engineering and technical support. Ember's



A POWERFUL FUTURE



Emissions Compliance and Rotating Equipment Specialist, Jay Befus, explains, “Waukesha’s assistance with Government program navigation combined with their technical engineering support provided was nothing less than exceptional. Ember relied on Waukesha to help lay out technical details required throughout Government program application as well as equipment retrofit processes. A challenge that Waukesha’s team knocked out of the park.” By Waukesha’s conservative estimations, the emissions reductions were significant enough to warrant a fast-track approach: 10M tonnes CO2e reduction, plus

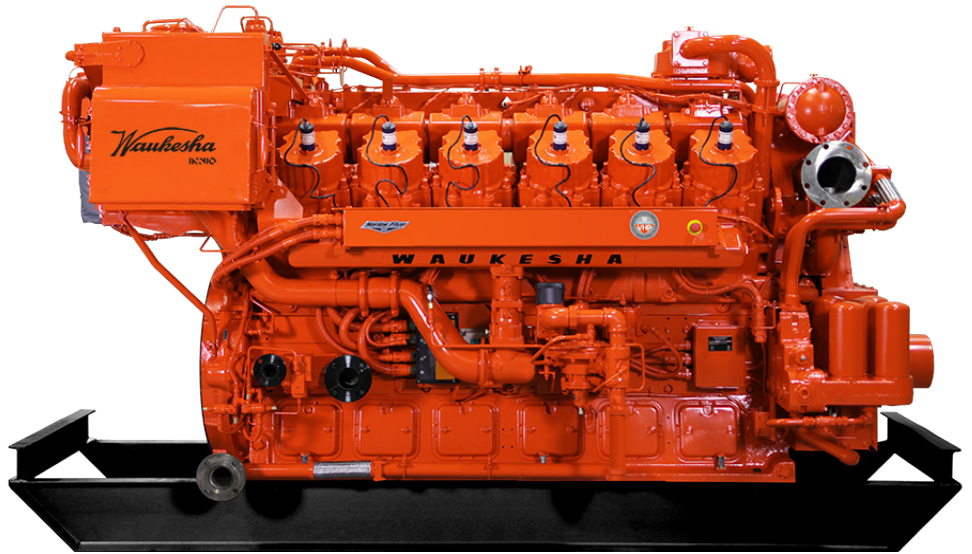
20-25% service interval extensions and savings on fuel and oil consumption. Ember installed the first Series Four® and Five upgrades in Q4 2020 and immediately recognized a difference. “In addition to significant stack emissions reductions the Waukesha VHP engine conversions have proven a decrease in fuel consumption and increased reliability. This has contributed to a realized reduction to both operating and maintenance expenses. The addition of Series Four and Series Five engines to Ember’s fleet have not only had a positive impact to the environment, but to our business as well.”

*“To be able to lower emissions and have Waukesha’s guidance to navigate Alberta’s programs was top-notch support. The operational benefits make the upgrades an all-around win.”*

**Jay Befus**  
Emissions Compliance &  
Rotating Equipment Specialist

### Specifications

Engine	VHP P9394GSI
Power bhp (kWb)	1875 - 2500 hp (1400 - 1865 kWb)
Piston displacement	9388 cu. in. (154 L)
Compression ratio	9.7:1
Bore & stroke	9.375” x 8.5” (238 x 216)
Jacket water system capacity	148 gal. (560 L)
Lube oil capacity	239 gal. (904 L)
<b>Dimensions l x w x h inch (mm)</b>	
168 (4,567) x 78 (1,982) x 101 (2,565)	
<b>Weights lb (kg)</b>	
34,000 (1,542)	



**Waukesha – an INNIO® brand** - INNIO’s Waukesha engines are at the forefront of the energy transition, providing reliable and compliant energy solutions for distributed gas compression and power generation applications. The brand’s rich and lean-burn engines, ranging from 335 hp to 5,000 hp, set an industry standard for low emissions, high reliability, and fuel flexibility.

Waukesha products are continuously upgraded to help operators stay emission-compliant without sacrificing operational excellence. These upgrades include new and remanufactured engines and parts, as well as conversion and modification kits, all of which are backed by OEM warranty and more than 115 years of engine expertise. Additionally, our Waukesha digital solutions include SkidIQ, a collaborative solution with Detection Technologies for gas compression applications and INNIO’s myPlant platform for power generation applications. Both solutions provide customers with enhanced monitoring and optimization capabilities, resulting in improved performance and reduced downtime.

We connect locally with our customers to enable a rapid response to their service needs, providing enhanced support through our broad network of distributors and solution providers with parts, services, and digital offerings.

Waukesha engines are engineered in Waukesha, Wisconsin, U.S., and manufactured in Welland, Ontario, Canada. To learn more about the company’s products and services, please visit INNIO’s website at [www.waukeshaengine.com](http://www.waukeshaengine.com) or follow Waukesha engines on [LinkedIn](#).

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