Seven Generations Energy Ltd. (7G) is a Canadian energy producer dedicated to stakeholder service and responsible energy development that generates strong returns. Located in the Montney formation in northwest Alberta (approximately 80km South of Grande Prairie), 7G's liquids rich Kakwa River Project consists of more than 500,000 net acres of world-class resource. 7G employs pad-based, long-reach horizontal development practices that maximize productivity while minimizing land disturbance. The Alternative Fugitive Emissions Management Program (FEMP) will encompass 7G's full asset base in the Kakwa and is developed specifically for emission-related challenges associated with the production of liquids-rich gas. 7G's Alternative FEMP program will include two technologies (OGI Camera and Gas Mapping LiDAR).

Optical gas imaging (OGI) is a thermal imaging technology that utilizes high-sensitivity infrared (IR) cameras to detect very small fugitive emissions of methane. A trained technician uses the camera to scan all connections with the require facilities. These techniques are well established and will function to provide high-resolution equipment-specific detail to facilitate repairs and controls.

Gas Mapping LiDAR™ (GML) uncovers and quantifies methane leaks and physical changes in 7G's infrastructure. GML uses proprietary laser-based remote sensing technology from an airborne platform to provide 3D LiDAR and sensitive methane concentration maps overlaid on aerial or satellite photography. GML's proprietary analytics provide leak source locations (GPS coordinates), leak rates (flux), real-time alerts for dangerous leaks, and other information. This information will allow 7G to expedite regulatory compliance monitoring, accurately quantify their methane reductions, and minimize costly incidents. GML also offers a distinct advantage with its ability to image the interior of facilities which may otherwise be missed by truck-based imagers on perimeter routes.

In addition to these technologies, 7G will continue its preventative maintenance program based on audio, visual and olfactory detection by facility operators. 7G also continually reviews new technologies to identify opportunities for improved efficiency in emissions reduction.

Performance data collected during program implementation includes emission rates detected on site and/or at equipment/component level, a breakdown of fugitive and vented emissions (based on OGI measurements), the number of sites emitting, as detected by each technology, the number of sites with reoccurring leaks following repair and the number of repairs required. 7G will analyze the program performance by estimated annual emissions reductions, and a comparison to modelled emission reductions, analysis of characteristics of the top 10% of emitting sites, analysis of root cause of emissions, technology performance, including minimum detection limit observed in the field, identification of limitations, and assessment of performance under the conditions in which the technology was operational, mean time between detection of fugitive and repair of leak, cost of alternative program versus anticipated cost in model, analysis to determine discrepancy between modeled results and real outcomes, and identification of trends in emitting site types.

7G used methane emissions equivalency modeling on its facilities, utilizing a third party's methane emissions and repair simulation to estimate annual methane emission reductions attributed to various leak detection and repair (LDAR) programs. The modelling includes multiple LDAR programs involving various technology types, measurement frequencies, and follow-up criteria, with an objective to develop a custom FEMP with similar or greater emission reductions than the default regulatory LDAR

approach. Historic LDAR data collected at 7G's sites were used to populate input parameters to the model where possible. The proposed alternative program is estimated to result in approximately 114,200 m3 / year (-5.49%) of fewer fugitive emissions compared to the default regulatory approach in.

As 7G continues its LDAR programs, large amounts of data will be available to refine model parameters, ensuring the FEMP is meeting expected outcomes.