

ORGANIC RANKINE CYCLE Strathcona Resources | Orion, AB

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- Regulatory application support
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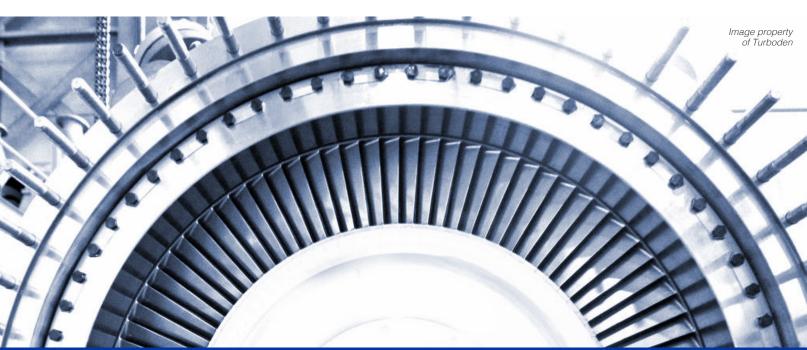
Federation's knowledge, creativity and support has enabled Strathcona to develop an economically viable opportunity at Orion with the goal of maximizing energy efficiency, offsetting grid power supply requirements through self-generation and reducing the operation's overall greenhouse gas (GHG) impact. It is a project that Strathcona is extremely proud of, and an opportunity we were able to leverage thanks in large part to the hard work of the Federation team.



- Michael Stobart, P.Eng, PMP Project Manager, Strathcona Resources



2019, Federation framed opportunity for Strathcona to recover waste heat from the Orion SAGD process and self-generate approximately 80% of the electrical power required to operate the facility through the addition of Organic Rankine Cycle (ORC) technology. The ORC process converts waste thermal energy into electric energy in a closed-loop thermodynamic cycle with zero emissions. Turboden S.p.A., a global leader in the design, manufacture, and maintenance of ORC systems, was selected as the technology provider. Since 2020, Strathcona and Federation jointly progressed engineering regulatory development for the project in order to refine the scope in preparation for full funding. Full funding was approved in 2023, followed by detailed engineering, procurement and fabrication with construction completion in 2025.





ORGANIC RANKINE CYCLE Waste Heat Recovery Power Plant Design







