WHY USE RF XL

Oil Isn't Over:

We believe that fossil fuels can and should be developed cleanly and economically. 'Heavy oil' doesn't equate to 'dirty oil.'

RF XL is Transformative:

Acceleware believes that RF XL could essentially modernize heavy oil and oil sands production. Rather than incremental changes that deliver moderate improvements, transformative innovations could revitalize the industry.

RF XL is Low-Cost AND Low-Carbon:

Minimum expectations are that RF XL deployments will lower CAPEX and OPEX costs by 40%. If that isn't enough, GHGs will be cut 25% - 100%, land use will be greatly minimized, external water needs are eliminated and no solvents are required. Did we mention it can even be re-deployed site to site?

RF XL is Flexible:

It can easily integrate with SAGD, or be deployed in 'bite-sized' pieces for greenfield development.

RF XL Supports Industry Longevity:

Today, we need to be very deliberate in how we produce heavy oil. As an innovation that creates big and positive change, RF XL can help ensure the continued success and longevity of our industry.

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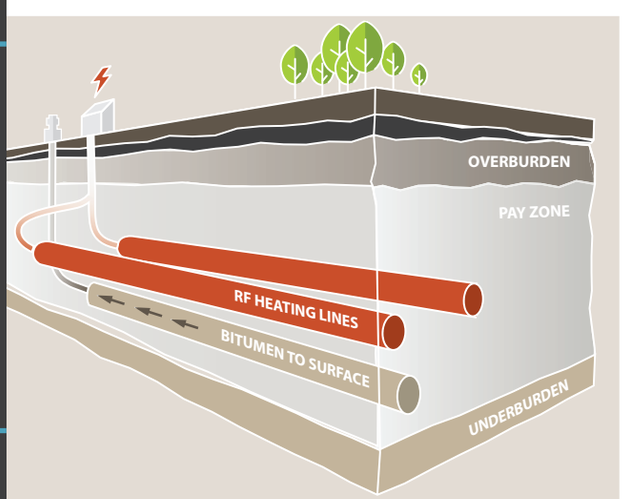
THAT'S INNOVATION. THAT'S ACCELEWARE

RF XL IS RADIO FREQUENCY HEATING THAT WORKS.

For years, companies have seen great value potential in harnessing radio frequency (RF) heating to produce oil sands and heavy oil. Past technological limitations, however, prevented RF heating from being successfully developed and commercialized.

Things have certainly changed.



RF XL is a transformative RF heating technology that uses Silicon Carbide (SiC) generators, requires no dipole antennae, and has been proven in our 1/20 scale field test. In fact, Acceleware believes that we can now produce heavy oil and oil sands much more effectively and at much lower cost than SAGD.

This doesn't mean that SAGD should no longer be used. It just means there is a newer, modern-day option that now exists.

Transistor innovations in recent years have made the application of very high power both possible and efficient, and the successful generation of RF heat practicable. New software advancements and patented RF XL designs that preclude the need for complex and failure-prone downhole components further ensure success.

RF XL

OPEX **40%** LESS

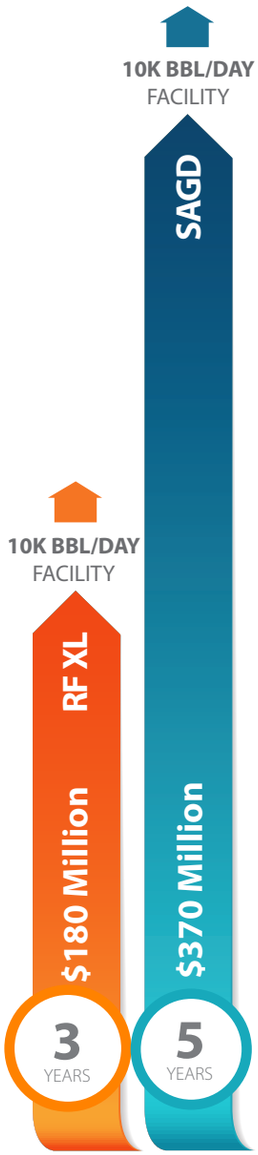
CAPEX **40%** LESS

25% – 100% LESS CARBON

FASTER. EASIER. FLEXIBLE. SCALABLE.

RF XL VS SAGD

CAPITAL COST AND TIME TO FIRST OIL



ENERGY INTENSITY

Effective SOR

RF XL 0.8–1.8

SAGD 3–4

RF XL simulations predict similar production levels to SAGD while using only half the energy.

GREEN HOUSE GAS (GHG) EMISSIONS

Kg/bbl

RF XL 0–37

SAGD 76

RF XL is as clean as the power it uses, meaning zero emissions from renewable power sources or over 50% lower carbon emissions using Alberta grid power in 2030.

OPERATING EXPENSES

$/bbl

RF XL $12–14

SAGD $19–21

Operating cost reductions from RF XL are driven primarily by lower non-fuel operating costs due to the smaller and simpler facilities required to support the technology.

INTERNAL RATE OF RETURN (IRR)

IRR

SAGD 19%

RF XL >50%

Lower capital cost per flowing barrel, lower operating cost, and shorter development and construction time all contribute to a substantially higher rate of return for RF XL vs. SAGD.

QUESTIONS WE OFTEN HEAR

How does it work?

RF XL acts as an underground, inside out microwave that heats the water already in the formation.

Can RF XL mobilize as much oil as SAGD?

Our simulations backed by field test results show that RF XL can operate with the same well spacing as SAGD and can mobilize the same volume of oil with lower emissions and lower cost.

How do we know it will work over time?

Materials and components of RF XL have been chosen specifically for their proven ability to withstand the operating conditions of an oil sand or heavy oil reservoir.

Will you be able to successfully drill and complete wells?

Yes. Our designs rely on a number of proven oil industry techniques to drill and complete multi-lateral horizontal wells.

Why should we change things when SAGD already works?

Time and money. RF XL saves both time and money while reducing emissions, land use, and eliminating the need for fresh water. Please refer to the IRR comparison at the bottom of the page for more clarity.

Won't adopting a new technology mean big initial investment?

No. Capital costs for RF XL are low and allow for bite-sized growth. RF XL is well suited to deployment as a SAGD expansion technology, offering cost savings for existing operations as well as greenfield developments.

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