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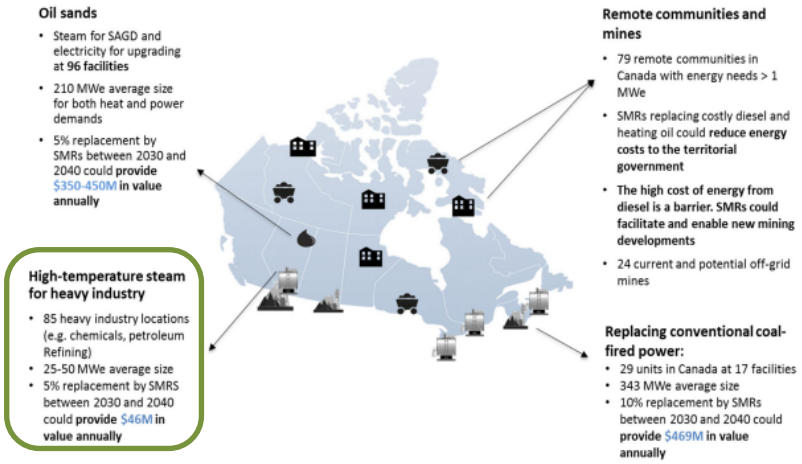
Alberta's Industrial Heartland Association (AIHA) Small Modular Nuclear Reactor (SMnR) Best Fit Study

Alberta's Industrial Heartland (AIH) is Canada's largest hydrocarbon processing centre. With over $40 billion worth of heavy industrial assets on the ground and a further $30 billion expected in the next 10 years, Small Modular Nuclear Reactors (SMnR) offer a potential solution in providing a zero-emission power and steam at scale. This opportunity supports decarbonization which is a key priority for the industrial players that are present in AIH today and those who are assessing future investments in the region. AIHA, with support from Alberta Innovates and Prairies Economic Development Canada (PrairiesCan), has commissioned Fluor Canada Ltd. to undertake a study to determine if SMnRs are a viable and economic solution in the near future.



Source: A Call to Action: A Canadian Roadmap for Small Modular Reactors

FUNDING DETAILS

RECIPIENT:
Fluor Canada Ltd.

PARTNERS:
AIHA
PrairiesCan

TOTAL BUDGET:
$76,755

AI FUNDING:
$19,627

PROJECT DATES:
SEP 2022 – DEC 2022

PROJECT TRL:
N/A

APPLICATION

SMnRs have potential to play a role in supplying reliable, zero emissions power and steam to industry. Identifying the current and future constituents, Fluor will be developing eleven unique use cases for deploying SMnRs in the defined region, known as Alberta's Industrial Heartland. Through the assessment, Fluor will be providing the base analysis on how SMnRs could be deployed feasibly in the jurisdiction and which types of technologies are best fit.

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PROJECT GOALS

- Characterize the unique power and steam requirements of heavy industrial applications in the AIH.
- Identify known SMnR technologies that would be able to fill the requirements for inputs and determine best fit.
- Evaluate the economics of applying an SMnR solution vs. traditional renewables to achieve similar emission reduction targets.
- Identify opportunities for district application of SMnRs in the industrial area.

BENEFITS TO ALBERTA

- Supports a pathway towards decarbonizing heavy industry in Alberta.
- Access to clean energy will be a valuable asset to attract future investments into the province.
- Potential to support and leverage Canada's SMnR market.
- Helps to reduce risk of electricity shortages, extreme price fluctuations and power outages, and associated social impacts on Albertans, and economic impacts on industry.

CURRENT STATUS

APR 2023

The study is complete. The project Executive Summary is available in the Clean Resources Project Library.