

## Summary of Saamis Solar Valuation Proposition

March 1, 2025

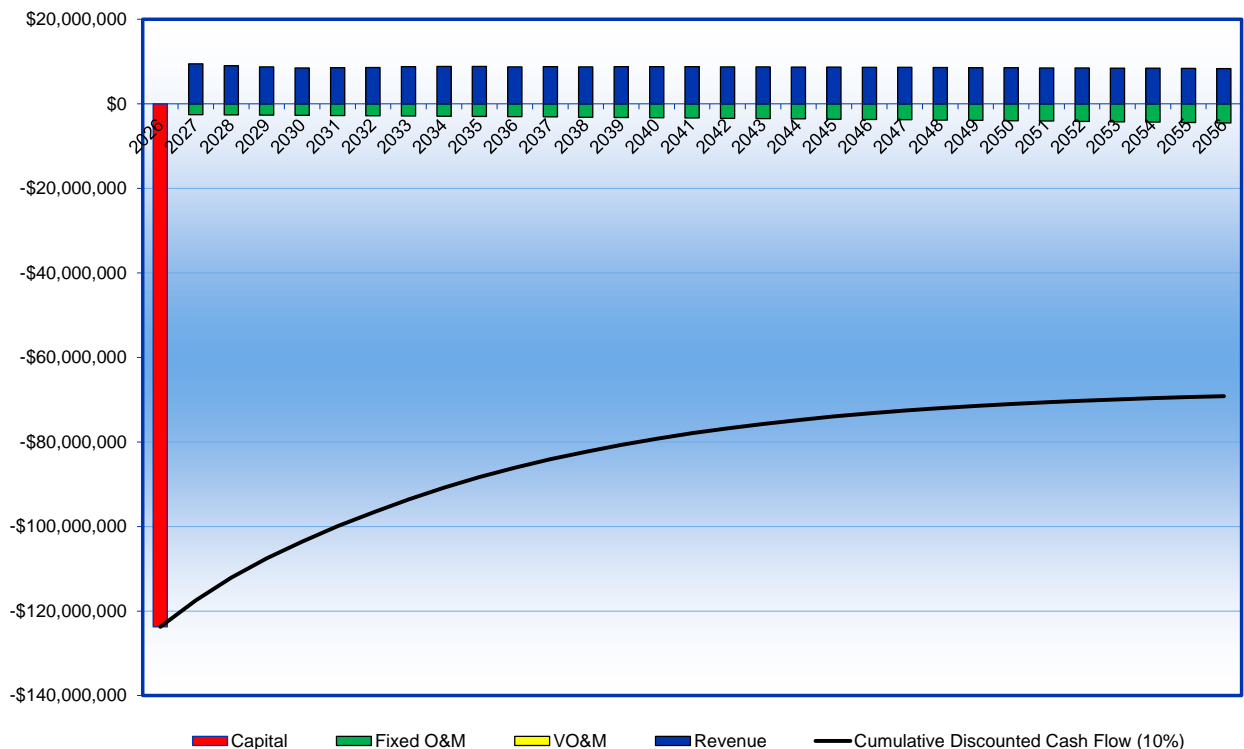
The Medicine Hat Utilities Ratepayers Association contracted EDC Associates Ltd. (“EDCA”) to provide some commentary around the value proposition of the Saamis Solar Project (“Saamis”) that the City of Medicine Hat (“CMH”) recently acquired. EDCA has been from providing this type of quantitative analysis to Alberta electricity market participants since 1992.

EDCA estimates that constructing the first phase (75 MW) of Saamis will cost ratepayers roughly \$125 million, as compared to CMH’s estimate of \$120 million recently quoted in some news articles. This estimate does not include the potential impacts of a pending tariff war with the US, which could result in costs becoming substantially higher.

The second phase (225 MW) would be expected to cost somewhere between \$370 million and \$600 million. The reason for the wide range is because of the uncertainty of pending changes to the cost of development projects as the AESO’s Transmission Reinforcement Payment (“TRP”) comes into effect.

With respect to the first phase of Saamis, it is expected to lose the CMH ratepayers substantial money.

**Figure 1 – Annual Revenue/Cost Components of Saamis & Cumulative Discounted Cash Flow (10%)**





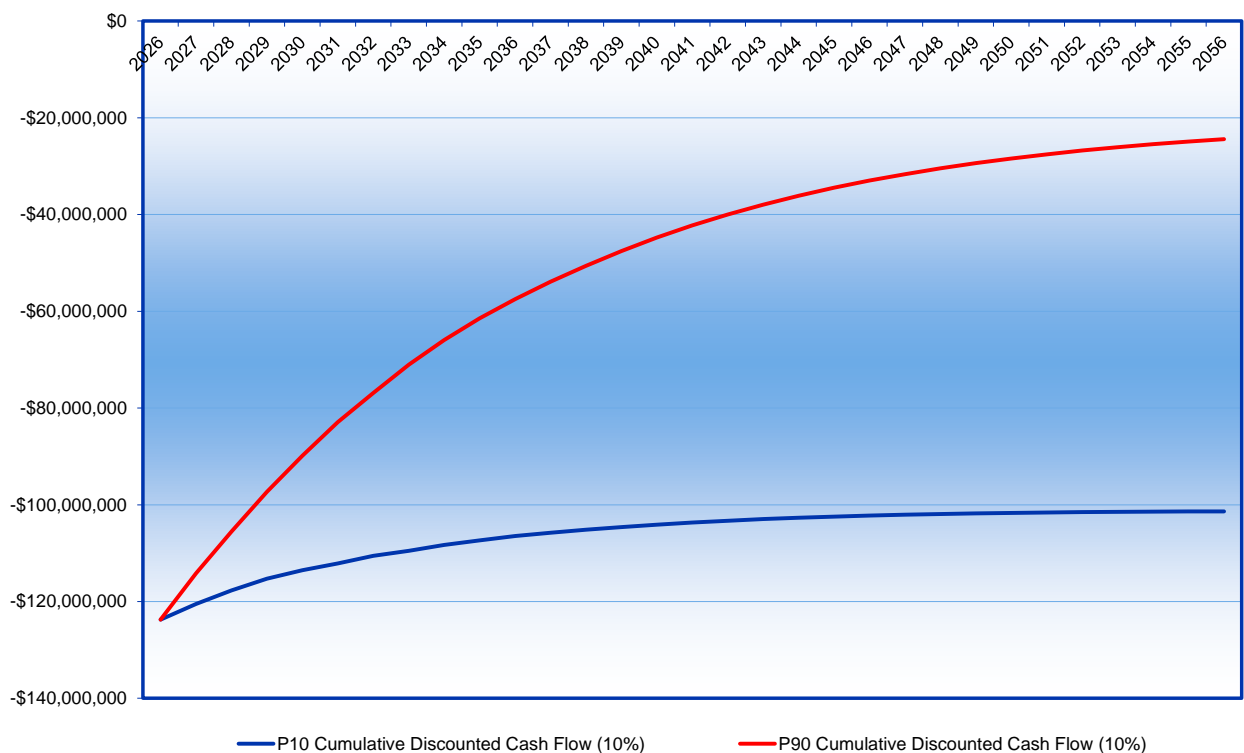
The bars in Figure 1 above illustrate a forecast of the upfront capital spend, and then the annual value proposition (energy and carbon attributes) as well as the annual operating costs (primarily operations & maintenance costs). The solid black line is the cumulative cash flow forecast (i.e., upfront capital + revenues – costs), discounted back at 10% in order to reflect the time value of money (i.e., a dollar today is more valuable than a dollar in ten years because of inflation).

The black line does not reach the \$0-axis, meaning that the investment does not recover its initial capital, let alone earn an adequate return.

Figure 1 illustrated the base case analysis – i.e., if all market variables unfolded as forecast. Figure 2 then applies a fulsome Monte Carlo simulation process to the base model in order to create an 80% confidence interval (P10/P90) around the base case. As can be seen from the graph, the P90 (upside – solid red line) does not clear the \$0-axis, meaning the project is cash flow negative.

As such, we would conclude that there is at least an 80% constructing Saamis will lose ratepayers substantial money.

**Figure 2 – Stochastic Risk Distribution of Saamis Cumulative Discounted Cash Flow (10%)**



There are three reasons why Saamis is a low value proposition.

1. It is not cheap to construct!
2. Solar has a poor energy capture value; for example, in 2024 the all-hours average pool price was \$63/MWh, compared to solar capturing \$51/MWh (18% discount).
  - a. Solar is highly correlated, so when one farm has strong output all solar farms have strong output. Conversely, when one solar farm has weak output they all have weak output. Alberta's utility-scale solar fleet is over-saturated with solar and so this means prices will trend towards being higher during periods of low solar output, such as during the winter.



While it is true that during a summer blowout solar can capture high energy value, one has to look across the entire 12 months of the year, not just 1 or 2 days of the year.

- b. Large incumbents with gas-fired generation can time how they offer into the market and so wait for periods of low solar and wind output in order to spike the price to capture more revenue for themselves and make up for lower revenues during periods of strong solar and wind output.
3. The province's carbon market has become grossly over-supplied, and is expected to stay as such as carbon capture activities slowly begin to get spun up. This means environmental attributes can be bought very cheaply (or alternatively, sold for pennies on the dollar when viewed from the monetization perspective).

Beyond the quantitative analysis presented above, there is a qualitative aspect to consider.

The provincial UCP government is re-designing the rules of Alberta's power market to be hostile towards renewable power generation as it wants developers to focus on dispatchable (gas) capacity, not intermittent (renewable) capacity. The proposed changes are so drastic that there is the real potential that existing renewable projects could become insolvent, with their investors' already-spent capital being stranded.

Although the final re-design of Alberta's power market has yet to be revealed, one has to wonder why CMH would actively spend ratepayers money on an asset class that is going to be at an express, and substantial, handicap in the re-designed market.

One catch with the above commentary is that it views Saamis as a stand-alone project. CMH operates a very integrated portfolio – i.e., gas units, gas PPA, wind PPA, import/exports from Alberta's grid. As such, without substantial confidential information, we would not be able to pin down the exact financial cost of Saamis to ratepayers.

However, that said, layering an underperforming asset class into a portfolio is not going to change the duration or magnitude of results whether viewed as a stand-alone asset or inside of a portfolio, and so we would say, based on what we know today, there is a strong likelihood Saamis will cost CMH ratepayers substantial money and represent a net investment loss if constructed.

Alex Markowski  
Chief Operating Officer