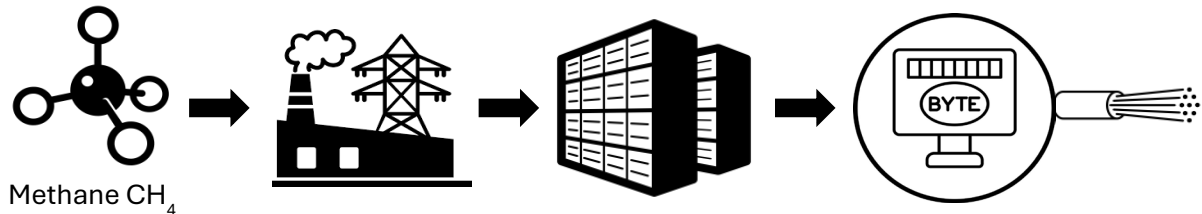


# Alberta Data Centres: Boom or Bust?



**“Molecules to Mega-Bytes”** might save the day, but success is still dependent on policy certainty.



**\$300 billion** of capital investment to support data centre development in Alberta needs to overcome five key business decision-making risks before we see the floodgates open. These are:

1. **Revenue** – Certainty for users on costs of operations is crucial, but there's high variability due to opex flow-through risks and costs, leading to protracted negotiations and slow deal-making.
2. **Labour costs & technical capability in capital estimates** – Moderate risk of uncertainty in the short term.
3. **Schedule delays in project completion** – Moderate risk of uncertainty in the short term.
4. **Electricity cost** – High risk of pricing uncertainty and a wide range of cost input variability.
5. **Gas costs** – Moderate to low risk, although supply shortages might drive pricing on an international basis with knock-on impacts locally.

With the restriction of large load access to **1.2GW** by the AESO, the remaining majority **11.8GW** will be looking for a behind-the-fence solution. A traditional independent development model of commercially de-risking the data centre as the focus will be challenged to lock in commercial certainty while dealing with multiple counterparties, each facing their own decision-making pressures. Back-to-back commercial contracts work well where counterparties have control of their outcomes; however, in the current Albertan context, too much uncertainty exists due to Federal and Provincial policy changes. This is particularly relevant to the electricity supply. Generation infrastructure will look to the debt markets for funding, which in turn will seek long-term off-take commitments from the single user. To secure the financing, long-term (15-20 year)



tenancies by the compute users will be required, which are not current common market practices.

Entities that will find success are those with key infrastructure who can integrate data centres into their existing systems, rather than typical cash-lite developers aiming to contractually enable all the infrastructure to the data centre. This is particularly true for electricity generation and interconnection with the Alberta Grid. Control of the end-to-end project is key to enabling it at pace. Opportunities to co-locate with existing and/or revived energy centres will enable capital and GHG control on a bilateral basis, ensuring contractual close and capital cost certainty. Although the complexity of the integrated project should not be underplayed, it requires cross-industrial skills to manage the multiple moving parts of these mega-scale projects.

Electricity capacity in this space is still limited but is a solution that can be scaled with time while waiting for grid capacity to become available. Energy producers who are data centre friendly and vertically integrated are more likely to be able to control the full project cost and schedules and thus are going to be more capable of offering certainty on cost outcomes, both capital and pass-through opex, provided they either partner with the tech infrastructure development experts or hire them into the development teams to ensure complexity is managed.

A key hurdle that will be faced is boardroom support for the investment decision-making. Integrated energy companies enjoy high operating profit margins and have focused in recent years on driving up that profitability. Will investment hurdle rates in this sector be too rich in Alberta to pass through to the compute users given their geographic alternatives, or does the long-term source of stable revenues appeal enough to them to say yes?

So, to the original question, can data centres deliver an infrastructure boom for Alberta? Yes, they could. But it is unlikely to be as big as it could be. The politico-economic enabling environment does not encourage a grab-it-all approach and thus the opportunity of our decade will likely be squandered.

If, however, a paradigm shift of thinking on what a data centre is were to take place in the Oil and Gas industry, there might be an avenue to success. Instead of thinking of data centres as commercial real estate, what if they were considered as midstream assets? **Molecules to Mega-Bytes** – instead of transporting natural gas or oil through long pipelines, the commodity is converted into a byte, closer to the source, via electricity and then piped by light to the global market. There are still policy challenges, but trans provincial fiber-optic cables are far less political than pipelines and still gets to responsibly use the naturally endowed resources of the western provinces.