Rule 024 and micro-generation application processes questionnaire

Questions:

1-5 No response provided.

6. Please identify, and provide justification and details for, any other high priority micro-generation issues that should be addressed to ensure the effective and efficient functioning of the micro-generation landscape

Response:

I recognize that the existing micro-generation framework—particularly the rule limiting annual generation to annual consumption—may be intended to solve multiple objectives, such as avoiding the creation of taxable income for micro-generators, or preventing technical issues like overloading local feeders. However, these goals are not explicitly stated, and from the outside, it's difficult to determine which problems the current structure is intended to solve.

If the primary concern is to **avoid income taxation or net revenue from electricity exports**, there are simpler and more transparent ways to achieve this through crediting structures. And if the concern is **grid reliability**, then annual energy limits do little to address the real operational challenges, which are typically **instantaneous and seasonal in nature—not annual and cumulative**.

1. Addressing the Accounting Issue Separately

If the primary reason for limiting micro-generation to a customer's annual consumption is to avoid the **tax implications** of customers being paid for excess generation (i.e., to ensure micro-generation is not treated as a source of taxable income), then this is **fundamentally an accounting issue**.

A simpler, lower-burden solution is to implement a **rolling 12-month credit system** where:

- Customers can earn credits for exported electricity,
- But the **value of those credits cannot exceed their total billed consumption** over the same 12-month period,
- Any excess generation beyond this limit is either discarded.

This preserves the intended **non-commercial, non-taxable nature of micro-generation**, while removing the need for upfront consumption estimates, post-approval monitoring, and rigid sizing constraints. It also better accommodates households planning to electrify heating, adopt electric vehicles, or expand their usage in the future.

2. Applying Credits More Broadly (Optional but Beneficial)

To further improve the viability of solar investment, consider allowing these credits to offset **not only the energy component** of the bill but also **transmission, distribution, and administration charges**, up to the total bill amount. This would:

- Still ensure net-zero income (avoiding taxation),
- Improve the financial return for customers,
- Support adoption without increasing program costs or creating income.

This approach maintains fairness while enabling more meaningful progress toward energy transition goals.

3. Operational Grid Issues Should Be Handled Operationally

Managing grid stability and overproduction is, by contrast, **an operational issue**, not an annual accounting one. I recognize this is not my area of technical expertise, but my understanding is that the following tools are already being used or considered in jurisdictions with higher solar penetration:

- **Smart inverter functions** (e.g., volt/VAR, volt/watt) that respond to voltage conditions without fully shutting down systems,
- **Export limiting** on a real-time or feeder-specific basis to reduce stress during local peaks,
- **Voltage monitoring** by utilities to identify and mitigate localized overvoltage conditions, possibly with curtailment triggers,
- **Storage incentives or time-of-use pricing** to encourage customers to shift self-consumption to high-load periods,

These tools target the real physical constraints of the system, rather than relying on annualized caps that may limit solar production even in cases where no grid stress exists and not provide real physical constraints when they are needed.

In Summary

The **12-month credit cap** is a simple and effective way to **address tax-related and fairness concerns**. Meanwhile, **operational issues like overvoltage and feeder congestion should be managed using operational tools**, not annual generation limits. This separation of concerns would result in a more efficient, flexible, and equitable framework for micro-generation in Alberta.