SOL INVICTUS
ENERGY SERVICES

EXPERTS IN RESIDENTIAL ENERGY

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AUC Consultation – Rule 024: Rules Respecting Micro-Generation

About Sol Invictus Energy Services

At Sol Invictus, we provide energy consulting services for high-performance residential buildings across Alberta and Western Canada. Our work focuses on energy modeling, envelope and mechanical design guidance, and retrofit strategies that improve energy efficiency, comfort, and durability while reducing emissions. We work closely with builders, developers, and homeowners to help projects meet or exceed code requirements, qualify for incentive programs, and move toward Net Zero performance.

Solar is central to this. As building codes evolve toward Net Zero Ready construction by 2030, particularly with Tier 3 and Tier 4 performance targets under the national model code, full electrification of homes (including heat pumps, EV charging, and electric domestic hot water) is becoming the norm. However, it is rarely economically feasible without solar. Rooftop PV helps offset high operational costs, especially in cold-climate regions like Alberta where electricity loads are significant.

We support our clients through system sizing, energy modeling, and regulatory navigation, ensuring their investments in electrification and solar are aligned with long-term cost savings and compliance. Our work also involves guiding clients through rebate and financing programs such as the Canada Greener Homes Initiative, CEIP, and Solar Club structures, which further support solar viability in Alberta's market.

Our Response

The proposed changes to Alberta's micro-generation rules, outlined in the AUC Rule 024 Questionnaire, would have major implications for how we operate within the province's solar and energy consulting landscape. Below is a breakdown of how these changes could affect our work, our clients, and the overall viability of rooftop solar in Alberta.

1. System Sizing Limits and Consumption Ties - Requiring solar PV systems to be sized strictly to annual consumption could prevent homeowners from installing larger, more cost-effective systems. This reduces the incentive to electrify heating and domestic hot water, since future energy needs won't be accounted for up front. Instead of designing systems based on rooftop potential or anticipated loads like EVs or heat pumps, we'd be forced to size to current usage, which complicates modeling, reduces ROI, and undermines Net Zero goals. Any future electrification would require a costly system expansion, which many homeowners may simply forgo.

   This runs counter to the direction of national and provincial policy. Canada's building codes are moving toward Net Zero Ready performance by 2030, with Tier 3 and 4 targets already being adopted in some jurisdictions. Deep energy retrofits are also being actively promoted through federal and municipal programs. These pathways assume, and in many cases

require, full electrification paired with solar generation to manage operational costs and carbon targets. Artificial caps on system sizing directly conflict with this trajectory and risk making future code compliance more expensive or unattainable

2. Post-Approval Compliance Monitoring - New rules could introduce ongoing checks to ensure that a system doesn't exceed the customer's annual consumption, potentially requiring inverter de-rating or even the removal of panels if it does. This creates long-term uncertainty and risk for homeowners, who may face penalties for changes in usage that are out of their control. It also places an ongoing burden on energy consulting & service providers like us, who would be expected to justify design choices, support clients through audits, or retrofit systems post-installation.

   This approach undermines client confidence in the process and could discourage participation altogether. It also calls into question the reliability of energy modeling, which is inherently based on assumptions, including climate data, typical occupancy patterns, and projected loads. Occupant behaviour and weather variability are impossible to fully predict, meaning any deviation from expected consumption could result in perceived non-compliance. This not only erodes trust in the modeling process but makes offering these services a professional liability if systems are judged against projections we cannot fully control.

3. Standardized Proof for Future Loads - Clients would need to provide specific documentation (e.g. proof of EV purchase) to justify larger system sizes. This could add another layer of paperwork and explanation during the design phase, and reduces flexibility in planning for future electrification.

4. Threat to Seasonal Rate Plans (Solar Club) - If regulatory changes interfere with seasonal rate-switching or eliminate the one-to-one billing structure, the economics of solar shift dramatically. Without these mechanisms, it becomes much harder to justify electrification upgrades like heat pumps, electric water heaters, or EV charging. When payback periods stretch out and incentives disappear, homeowners are less likely to invest - especially in a volatile energy market.

   This doesn't just impact the solar sector, it affects the broader construction industry as we prepare for higher performance tiers and full electrification under the national building code. Builders, designers, and consultants are already being asked to future-proof homes. But without solar as a reliable tool to offset operating costs, the business case for deep energy retrofits and Tier 3 or 4 designs weakens.

   The Solar Club model is a critical part of making these systems work. It helps customers maximize return on investment, supports appropriately sized solar arrays, and aligns with the seasonal generation-export pattern of most homes in Alberta. Undermining this structure risks stalling momentum not just for solar adoption, but for the broader energy transition in residential construction.

1. Solar as a Pathway to GHG Reductions and Funding Eligibility - Alberta's carbon-intensive grid makes it particularly challenging for new construction and retrofits to meet greenhouse gas reduction targets as future codes begin to account for operational carbon. This challenge is already evident in multi-unit developments seeking funding through programs like CMHC's MLI Select, which require a 25 to 40 percent reduction in GHG emissions over code to qualify for the highest level of mortgage insurance incentives. In practice, meeting these thresholds is extremely difficult, if not impossible, without integrating solar PV, even in projects with highly efficient building envelopes.

While MLI Select may eventually align with the NBC 2020's tiered framework, operational carbon targets are expected to remain a key part of funding criteria. For many projects that fall short of Tier 3 or Tier 4 energy performance, solar still offers a viable path to securing financial incentives by reducing emissions enough to qualify.

If system sizing limits or rate structures are modified in ways that discourage or restrict solar adoption, developers could lose access to programs like MLI Select. That has broader consequences for housing affordability, energy-efficient construction, and emissions reductions across Alberta's multi-family sector.

These proposed changes threaten the simplicity, scalability, and overall viability of Alberta's rooftop solar model. As an energy consultant, my role would shift away from strategic design toward regulatory compliance and managing client expectations around new limitations. If implemented as proposed, these changes could reduce project volume, drive up soft costs, and ultimately slow progress toward Net Zero and full electrification across the province.

I appreciate the opportunity to provide feedback and urge the AUC to preserve the flexibility and financial viability of micro-generation in Alberta as we move toward a more electrified and resilient built environment.

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