



## Self-Supply and Export: Stakeholder Workbook

**Opening Date: December 8, 2020**

**Please submit responses online:**

**<https://extranet.gov.ab.ca/opinio6//s?s=51807>**

**Closing Date: January 15, 2021 at 12:00PM**

### **Instructions**

- This workbook contains both policy context and a set of questions. Please review and circulate this document within your organization to develop fulsome responses to each question.
- Energy uses Opinio software to collect each organization's responses in a consistent format.
- Opinio allows users to move back and forth between questions and save responses prior to submission.
- If you have any questions or problems with Opinio's functioning, please contact [electricity@gov.ab.ca](mailto:electricity@gov.ab.ca)

# Part A – Overview

## Background Context

Alberta's electricity system is undergoing an increase in the two-way flow of electricity, driven by the emergence of new technologies and evolving consumer behaviours. The recent build-out in Alberta's transmission infrastructure has put upward pressure on transmission costs, increasing the attractiveness of onsite generation for large industrial and commercial consumers. The result has been a corresponding increase in the number of projects seeking to self-supply and export electricity onto the province's grid.

Several recent rulings at the Alberta Utilities Commission (AUC) have established that self-supply and export projects are currently only enabled in Alberta through the small set of specific exemptions conveyed in legislation and regulation. Some stakeholders have expressed that they would like to see policy clarity and the enablement unlimited self-supply and export.

The AUC has interpreted Section 2(b) of the *Electric Utilities Act* such that the exemption applies only if all the energy produced on-site is consumed on that site. This enables a person that intends to generate, transmit or distribute electricity on that person's property for that person's own use to do so without the approval of the AUC. Section 2(b) of the *Electric Utilities Act* states:

- The Act does not apply to electric energy produced on property of which a person is the owner or a tenant, and consumed solely by that person and solely on that property.

However, Alberta's existing policy framework for generation, transmission and distribution of electricity also establishes two requirements that effectively prohibit the practice of self-supply and export unless one of the four existing exemptions are approved by the AUC. These requirements are:

- Electric energy entering or leaving the interconnected system is to be exchanged through the wholesale market.
- Persons wishing to receive electricity must take service from the distribution system or directly from the transmission system.

## Existing Exemptions

The current exemptions for self-supply and export are:

- Industrial System Designation (ISD) for large integrated industrial facilities – enabled under the *Hydro and Electric Energy Act*.
- Renewable and alternative generation that is less than five megawatts in size – enabled under the *Micro-generation Regulation* and the *Electric Utilities Act*.
- Allowing municipally owned generating units to exchange electricity on the grid only if the electricity is consumed within the boundaries of the municipality – enabled under the *Municipal Own-use Generation Regulation* and the *Electric Utilities Act*.
- Electricity generation from gas that would otherwise be flared or vented so long as the electricity was used by an oil and gas operation in the same electricity distribution service area – enabled under the *Flare Gas Generation Regulation* and the *Electric Utilities Act*.

## Related Initiatives

The topic of self-supply and export affects both the transmission and distribution system. There are three related initiatives in Alberta's electricity sector.

### Bulk and Regional Tariff Design

- The Alberta Electric System Operator (AESO) is currently engaging with the electricity sector on transmission tariff design. Discussions focused on granular tariff design issues should remain out-of-scope. Instead, stakeholders are encouraged to discuss tariff-related issues or solutions only as they relate to high-level policy concepts.

### Distribution System Inquiry

- The AUC is currently undertaking an inquiry that is evaluating the evolving nature of generation, consumption, and storage in Alberta's distribution system. Discussions focused on distribution policy issues should remain out-of-scope for these targeted discussions.

### AUC Discussion Paper on Self-supply and Export

- In the summer of 2020, the AUC published its summary of sector feedback in a [discussion paper on self-supply and export](#), which explored the opportunity for on-site generators to export excess power to the grid. The AUC recommended that the statutory scheme be amended to clarify government's position on self-supply and export.

## Targeted Discussion with the Government of Alberta

These discussions will contribute to the development of a clear and comprehensive policy and a regulatory framework for the self-supply and export of electricity. Government aims to build on the findings of the AUC's Discussion Paper by inviting a wide variety of organizations together to provide a forum for divergent viewpoints, and to encourage the province's electricity sector to help government identify potential policy solutions and legislative changes for Alberta's self-supply and export policy.

The purpose of these targeted discussions is to gather detailed and diverse perspectives on potential changes to the self-supply and export policy, as government works to ensure that the policy supports the principles of the electricity system. The overarching principles of Alberta's electricity system include:

- a safe and reliable system;
- fair, efficient, and openly competitive electricity markets;
- affordable electricity (reasonable costs for electricity consumers);
- system and regulatory efficiency (red tape reduction); and
- supporting economic growth and job creation.

Government has heard the electricity sector's request for policy clarity on this topic and understands a concern exists that the current policy environment stifles investment and technological innovation. Any policy changes will consider how to provide clarity while also ensuring that system costs are shared in a just and reasonable manner. Focus areas for discussion will include:

- Advantages and disadvantages of enabling unlimited self-supply and export, both for each stakeholder's organization and for the wider electricity system, including other system users.
- Advantages and disadvantages of creating a new category of exemption to enable increased self-supply and export both for each stakeholder's organization and for the wider electricity system, including other system users.
- Consideration of the potential impacts to costs (avoidance and/or cost shifting) that could be caused by unlimited or increased self-supply and export.
- Implementation issues including possible language that may be effective in achieving the desired outcomes through legislation or regulation.

## Out-of-Scope

The following topics are out-of-scope for the purpose of this policy review, but information may be collected during these discussions, to inform work with partners across the energy and electricity system:

- Tariff design (transmission and distribution);
- Transmission rights and TFO or DFO incumbent rights;
- Distribution policy;
- Energy storage policy;
- Indigenous investment opportunities;
- Any government subsidies; and
- Past or ongoing AUC decisions and proceedings.

This policy review does not intend to overhaul the province's existing foundational electricity policies.

# Part B – Stakeholder Workbook

## Questions Related to the Participant’s Organization

The Government of Alberta is seeking input on a number of issues pertaining to Alberta’s electricity self-supply and export policy. If you have any technical difficulties in providing your responses, please contact [electricity@gov.ab.ca](mailto:electricity@gov.ab.ca).

### Collection Statement

1. Feedback provided to the Government of Alberta as part of this document will be used to gather opinions and insights on how the Government of Alberta can clarify its policy on the self-supply and export of electricity. These opinions and comments are collected under the authority of Section 33(c) of the *Freedom of Information and Protection of Privacy Act*. If you have any questions regarding the collection of opinions and comments through this survey, please contact [electricity@gov.ab.ca](mailto:electricity@gov.ab.ca).
- I agree that any document or documents I am providing to the Government of Alberta, and any personal information within these documents, is public information that may be posted by the government, at its discretion, on its web pages.

### Contact Information

2. Name \_\_\_\_\_
3. Organization \_\_\_\_\_
4. Phone Number \_\_\_\_\_
5. E-mail Address \_\_\_\_\_

6. What type of organization do you represent or belong to (check all that apply)?

- |  |   |
|--|---|
| <input type="checkbox"/> Transmission facility owner (TFO) | <input type="checkbox"/> REA or Municipality  |
| <input type="checkbox"/> Distribution facility owner (DFO) | <input type="checkbox"/> Government or Agency |
| <input type="checkbox"/> Generator                         | <input type="checkbox"/> Indigenous group     |
| <input type="checkbox"/> Consumer organization             | <input type="checkbox"/> Other:<br>_____      |
| <input type="checkbox"/> Industry organization             |   |

## Questions Related to an Unlimited Self-supply and Export Policy

### Policy Context

Within the context of these targeted discussions with the Government of Alberta, a policy that would enable unlimited self-supply and export means:

- The development of on-site generation, which both meets the electricity needs of the site and is capable of exporting excess electricity to the grid, will no longer require that the owner obtain one of the four existing exemptions that is currently needed to both self-supply and export electricity.
- All other current regulatory requirements (e.g. AUC Rule 007) will still be required to be met by the owner.

### Policy Directives that Support the Energy-only Market

The AUC has interpreted Section 2(b) of the *Electric Utilities Act* such that the exemption applies only if all the energy produced on-site is consumed on that site. This enables a person that intends to generate, transmit or distribute electricity on that person's property for that person's own use to do so without the approval of the AUC. Section 2(b) of the *Electric Utilities Act* states:

- The Act does not apply to electric energy produced on property of which a person is the owner or a tenant, and consumed solely by that person and solely on that property.

However, Alberta's existing policy framework for generation, transmission and distribution of electricity also establishes two requirements that effectively prohibit the practice of self-supply and export unless one of the four existing exemptions are approved by the AUC. These requirements are:

- Electric energy entering or leaving the interconnected system is to be exchanged through the wholesale market.
- Persons wishing to receive electricity must take service from the distribution system or directly from the transmission system.

In 2019, the Government of Alberta confirmed the province's commitment to its energy-only market structure through the 90-day review of the capacity market and the subsequent cancellation of that market transition. These two requirements are fundamental policy directives that support the current energy-only market design. The Government of Alberta is not considering altering the current policy scheme as it applies to TFO and DFO incumbent rights and the preservation of fair, efficient and openly competitive electricity markets.

- 7. How could an unlimited self-supply and export policy be implemented in legislation and regulation without affecting or altering the two requirements described above? Are there any other legislative challenges of which Government should be aware?**  
(3000 characters)

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## Benefits Contemplated in the Existing Exemptions

Four current exemptions exist to the requirements discussed in the previous question one. These exemptions are part of a broader policy framework and only apply to specific types of generating units. Under current policy and the ISO tariff framework, owners who qualify for these exemptions enjoy unique tariff treatment in exchange for providing other benefits to the electricity system and society.

These exemptions are not all equal. For example, the ISD exemption requires the owner meet criteria that are more stringent and demonstrate a larger system and societal benefit than any of the other three exemptions. Accordingly, the ISD exemption also provides the most benefit to the owner when compared to the other three exemptions. The industrial system designation is by far the most widely used exemption, capable of enabling the broadest scope of projects among the four exemptions.

Industrial System Designation (ISD) Exemption (~4200 MW of current capacity) – Criteria for this exemption are the most stringent as they support the development of integrated industrial processes that utilise cogeneration to produce the most efficient and economical electricity while also discouraging the uneconomic bypass of system costs. This exemption provides the additional benefits of reducing our electricity systems carbon footprint, enhancing large industrial projects that have significant positive impacts on the province's economy, and ensuring that the electricity produced is both efficient and economic by requiring a high degree of integration and the use of cogeneration.

Microgeneration Exemption (~68 MW of current capacity) – Criteria for this exemption support projects exclusively utilizing renewable and alternative energy sources that are appropriately sized for the site's consumption needs. This exemption conveys the additional benefit of reducing our electricity system's carbon footprint in a manner that prioritises own-use while paying wires costs associated with that load.

Municipal Own-use Exemption (~9 MW of current capacity) – Criteria for this exemption support municipalities developing efficient local generation to serve their communities. This exemption conveys the additional benefit of accommodating the practical interests of municipal electricity supply. However, it also requires the approval of the Market Surveillance Administrator, safeguarding against the municipality unfairly capitalizing on this exemption in the market.

Flare Gas Generation Exemption (~0 MW of current capacity) – Criteria for this exemption support the efficient and environmentally friendly development of energy resources. This exemption conveys the additional benefit of providing an incentive to reduce the amount of solution gas that would otherwise be flared, incinerated, or vented.

In question two and question three, the two requirements referred to are:

- Electric energy entering or leaving the interconnected system is to be exchanged through the wholesale market.
- Persons wishing to receive electricity must take service from the distribution system or directly from the transmission system.

**8. Should self-supply and export projects, enabled under an unlimited policy, be expected to provide additional benefits to the system and society while receiving exemption from the two requirements outlined above? (3000 characters)**

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Building on your answer to question two, please provide further explanation in question three.

**9. If you answered yes to question 2, what benefits could be provided and how would these benefits be recognized and/or demonstrated?**

**If you answered no to question 2, what has changed in the sector that has minimized these benefits or altered the need for self-supply and exporters to provide these benefits? (3000 characters)**

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## Unlimited Self-supply and Export and System Costs

The *Electric Utilities Act* and the Transmission Regulation both contemplate assigning system costs to certain types of system users, such as owners of electric distribution systems, customers who are industrial systems, and persons who have made arrangements under section 101 of the *Electric Utilities Act* to connect directly to the transmission system.

Under an unlimited self-supply and export policy no specific approval may be needed, other than the approvals required under AUC Rule 007, to exempt projects from the *Electric Utility Act* requirements that prohibit self-supply and export. This could mean that a broad variety of projects with varying amounts of on-site generation and export capability may be enabled. The only factor that prospective self-supply and exporters are sure to have in common under an unlimited policy, is that the generation of electricity for export to the grid will be secondary to the project's primary line of business.

- 10. Should unlimited self-supply and exporters be charged system costs in a uniform manner or are there key differences that should be considered? Please explain your position. (3000 characters)**

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In their report, the AUC stated that it had observed an increase in "non-traditional" ISD application (smaller scale projects not involving cogeneration), and that it has perceived an increase in self-supply and export projects that do not meet the criteria for an ISD. Based on responses to the two rounds of discussion hosted by the AUC, the motivation for this change appears to be a combination of high transmission costs and lower on-site generation costs. The majority of responses expressed support for expanding access to self-supply and export beyond ISDs by permitting unlimited self-supply and export subject to appropriate tariffs.

Currently, policy allows the AUC to make the owner of an ISD responsible for paying a "just and reasonable share of costs associated with the interconnected electric system". At the same time the policy specifically cautions against the use of this exemption for the uneconomic bypass of system costs. However, the AUC has never directed the owner of an ISD to pay a "just and reasonable share of costs associated with the interconnected electric system," under the current policy of limited exemptions. Under a new policy for unlimited self-supply and export, it may be prudent to revisit the idea that self-supply and export projects be required to pay some portion of system costs.

- 11. If enabled, how can policy better define a "just and reasonable share of system costs" that should be allocated to new unlimited self-supply and export projects? What legislative or regulatory language could be used to give clarity on these costs? (3000 characters)**

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**12. How, if at all, does your answer to question 5 impact the treatment of existing self-supply and export exemptions (those projects that currently have an exemption) with respect to system costs?**

**How, if at all, does your answer to question 5 impact the treatment of new projects seeking a traditional self-supply and export exemption (e.g. ISD) with respect to system costs? (3000 words)**

Please submit your organization's final response through Opinio.  
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Allowing for unlimited self-supply and export, may result in those projects receiving all the benefits of access to the interconnected electric system without fairly contributing to the costs associated with that service. Such an outcome implies that some degree of cost shifting would take place, whereby the sunk system costs avoided by the unlimited self-supply and exporters, must be paid by other load customers who may not be able to avoid them.

**13. If enabled, with well-defined policy guidance, what additional wording would be needed in legislation to mitigate the potential for cost shifting? Please explain your position. (3000 characters)**

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The Microgeneration Regulation, which enables the microgeneration exemption, requires that the proponent must pay for the extraordinary portion of the costs associated with connecting their project to the electricity system. Extraordinary costs are the portion of connection costs related to system upgrades, caused by the project in question seeking to connect to the grid.

**14. Should the same stipulation hold for unlimited self-supply and export projects where proponents are solely responsible for system upgrade costs? Please explain your position. (3000 characters)**

Please submit your organization's final response through Opinio.  
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## Unlimited Self-supply and Export and FEOC Markets

It may be prudent to consider if additional policy direction is required to ensure unlimited self-supply and exports participate in electricity market in a fair, efficient, and openly competitive manner. Policy direction on this is provided in s.6 of the *Electric Utilities Act* and in the Fair, Efficient, and Open Competition Regulation.

There are some cases in current policy where additional direction is provided to certain non-traditional generators regarding what behaviour is allowable for them in the market. One example of this is the Small Scale Generation Regulation, which requires that eligible generating units must offer electricity into the wholesale market at zero dollars per megawatt hour.

During the AUC's discussions on self-supply and export, several stakeholders suggested that the impacts of unlimited self-supply and export on the fair, efficient, and openly competitive nature of the province's wholesale and ancillary service electricity markets could be minimized with appropriate requirements, such as tariffs, to ensure these projects pay their fair share of system costs.

- 15. Is any additional clarifying language required to ensure that market participants who are unlimited self-supply and exporters, participate in Alberta's electricity markets in a fair, efficient, and openly competitive manner? Please explain your position.**  
(3000 characters)

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## Questions Related to an Increased Self-supply and Export Policy (New Exemption Category)

### Policy Context

Within the context of these targeted discussions with the Government of Alberta, a policy that enables increased self-supply and export through a new exemption category means:

- The creation of a new exemption category or categories to enable the development self-supply and export projects which may not meet the criteria required by the four existing exemptions.
- This would mean broadening existing policy whereas enabling unlimited self-supply and export represents a significant change in policy direction.

### Benefits Contemplated in a New Exemption

As discussed earlier, under current policy and ISO tariff treatment, the existing set of self-supply and export exemptions convey unique tariff treatment in exchange for the project providing other benefits to the electricity system and society.

In question 10, the two requirements referred to are:

- Electric energy entering or leaving the interconnected system is to be exchanged through the wholesale market.
- Persons wishing to receive electricity must take service from the distribution system or directly from the transmission system.

**16. Should a new exemption category of self-supply and export projects be expected to provide additional benefits to the system and society while receiving exemption from the two requirements outlined above? What benefits and why? (3000 characters)**

Please submit your organization's final response through Opinio.  
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### Defining the Criteria for a New Exemption Category

As discussed earlier, Alberta's self-supply and export policy is currently built around a set of four existing exemptions. High-level descriptions of the criteria required for each exemption category are below for reference.

Industrial System Designation Exemption (~4200 MW of current capacity) – Requires that the AUC have regard for the following principles when considering approval:

- The designation must be consistent with the objective of giving appropriate economic signals so that integrated industrial processes can develop their own internal supply of electricity where that is the most economical source of generation.

- The designation must support:
  - the development of the economical supply of generation to meet the requirements of integrated industrial processes,
  - the efficient exchange, with the interconnected electric system, of electric energy that is in excess of the industrial system's own requirements, and
  - the making of decisions respecting the location of generation and consumption facilities so that the efficiency of the interconnected electric system is improved, including improved voltage stability and reduction of losses and congestion on transmission lines.
- The designation must not facilitate the development of independent electric systems that attempt to avoid the costs associated with the interconnected electric system, and uneconomical by-pass of the interconnected electric system.
- Duplication of the interconnected electric system must be avoided where it is more economical to use the transmission facilities or electric distribution systems owned by persons in whose service area the industrial system is or will be located.

A successful ISD requires the AUC be satisfied that the project meets all criteria for this exemption:

- There is a high degree of integration of the electric system with one or more industrial operations that the electric system forms part of and serves, and there is a high degree of integration of the components of the industrial operations.
- The industrial operations process a feedstock, produce a primary product or manufacture a product.
- There is a common ownership of all of the components of the industrial operations.
- The whole output of each component within the industrial operation is used by that operation and is necessary to constitute its final products.
- There is a high degree of integration in the management of the components and processes of the industrial operations.
- Demonstrates significant investment in the expansion or extension of the industrial operations processes and the development of the electricity supply.
- Where an industrial operation extends beyond contiguous property. The owner of the industrial operation satisfies the Commission that the overall cost of providing the owner's own distribution or transmission facilities to interconnect the integral parts of the industrial operation is equal to or less than the tariffs applicable for distribution or transmission in the service area where the industrial operation is located.

Grey Industrial System Designation Exemption – Where the AUC is not satisfied that all of the ISD criteria have been met. The AUC may be satisfied that all the ISD criteria have been substantially met, and there is a significant and sustained increase in efficiency in a process of the industrial operation or in the production and consumption of electric energy by the industrial operations.

Microgeneration Exemption (~68 MW of current capacity) – Requires that the generating unit be sized to meet the consumer's own demand, must exclusively utilise renewable or alternative energy sources, and is subject to stringent greenhouse gas emissions restrictions.

Municipal Own-use Exemption (~9 MW of current capacity) – Requires a detailed compliance plan which is approved by the MSA, to ensure that all the electricity produced by the generating unit is purchased by the municipality for use within the boundaries of the municipality.

Flare Gas Generation Exemption (~0 MW of current capacity) – Requires that the generating unit must be fuelled by solution gas that would otherwise be flared or vented, and the electricity be used solely by an eligible oil and gas operator working in the same service area as the generating unit.

There may be an opportunity to establish a new exemption category or categories in legislation and/or regulation to enable the development of projects that do not fit well within the existing exemptions. A range of possible criteria could be established to set the boundaries. Possible criteria may include connection point; project location; purpose of the project (e.g. sector specific); and technology type (e.g. dispatchable or non-dispatchable).

**17. If an additional exemption category or categories were to be created in legislation or regulation, what specific criteria and enabling language should be considered by the AUC for inclusion? Why? (3000 characters)**

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### **A New Exemption Category and System Costs**

As discussed earlier, the current legislative scheme contemplates assigning system costs to certain types of system users, such as; owners of electric distribution systems, customers who are industrial systems, and persons who have made arrangements under section 101 of the *Electric Utilities Act* to connect directly to the transmission system. The legislative scheme also contemplates assigning a "just and reasonable share of system costs" to existing ISD projects.

**18. If enabled, how can policy better define a "just and reasonable share of system costs" that should be allocated to a new exemption category of self-supply and export projects? What legislative or regulatory language could be used to give clarity on these costs? (3000 characters)**

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## A New Exemption Category and FEOC Markets

As discussed earlier, policy direction on this is provided in s.6 of the *Electric Utilities Act* and in the Fair, Efficient, and Open Competition Regulation. It may be prudent to consider if additional policy direction is required to ensure that a new category of self-supply and export projects participate in electricity markets in a fair, efficient, and openly competitive manner. (e.g., a maximum portion of the province's electricity supply that could be included in a new self-supply and export category).

There are some cases in current policy where additional direction is provided to certain non-traditional generators regarding what behaviour is allowable for them in the market. One example of this is the Small Scale Generation Regulation, which requires that eligible generating units must offer electricity into the wholesale market at zero dollars per megawatt hour.

During the AUC's discussions on self-supply and export, several stakeholders suggested that the impacts of unlimited self-supply and export on the fair, efficient, and openly competitive nature of the province's wholesale and ancillary service electricity markets could be minimized with appropriate requirements, such as tariffs, to ensure these projects pay their fair share of system costs.

- 19. Is any additional clarifying language required to ensure that market participants, under this new category of exemption, participate in electricity markets in a fair, efficient, and openly competitive manner? Please explain your position. (3000 characters)**

Please submit your organization's final response through Opinio.  
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## Closing

Thank you for taking the time to share your perspectives and insights on self-supply and export with the Government of Alberta. Your input provides a valuable contribution to the continual evolution of the legislative and regulatory framework governing Alberta's electricity system.

For further information about this process, please contact: [electricity@gov.ab.ca](mailto:electricity@gov.ab.ca)