

# Yukon Independent Power Production Program Review

## *Final Report*

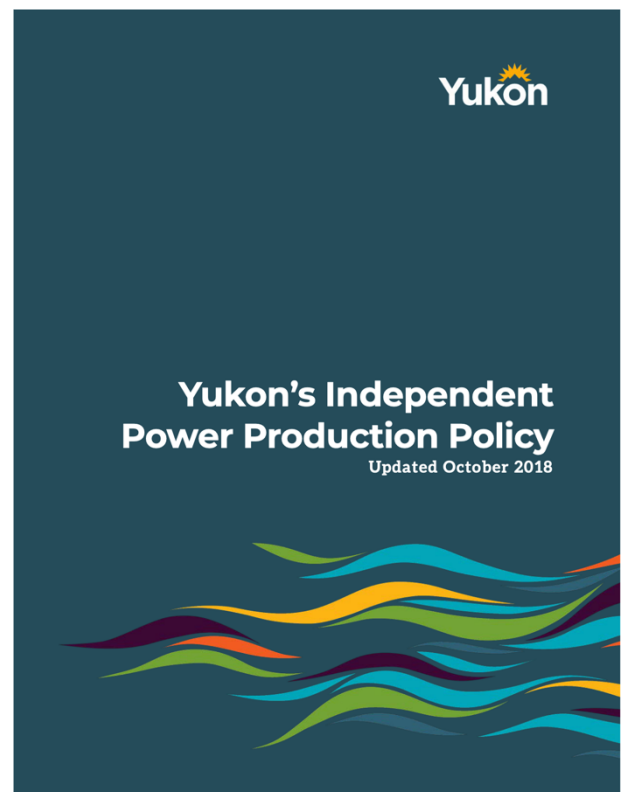
Submitted to

Government of Yukon  
Energy Branch

by



**GROUNDSWELL**  
PLANNING



July 2022

# TABLE OF CONTENTS

<b>1.0</b>	<b>Introduction</b>	<b>1</b>
1.1	<i>Policy Overview</i>	1
1.2	<i>Program Overview</i>	1
1.3	<i>Scope of Review</i>	2
1.4	<i>Methodology</i>	2
<b>2.0</b>	<b>What I Heard - Proponents</b>	<b>4</b>
2.1	<i>Proponent Motivation</i>	4
2.2	<i>What's Working Well</i>	4
2.3	<i>What's Not Working Well - Process</i>	5
2.4	<i>What's Not Working Well - General</i>	7
2.5	<i>Achievement of Policy Objectives</i>	9
2.6	<i>Proponent Recommendations</i>	10
<b>3.0</b>	<b>What I Heard – Internal Partners</b>	<b>12</b>
3.1	<i>Initial Impressions</i>	12
3.2	<i>Response to Proponent Concerns - Process</i>	12
3.3	<i>Response to Proponent Concerns - General</i>	15
3.4	<i>Other Issues and Opportunities</i>	18
<b>4.0</b>	<b>Initial Findings</b>	<b>21</b>
<b>5.0</b>	<b>Developers' Workshop</b>	<b>23</b>
5.1	<i>Overview</i>	24
5.2	<i>Questions and Answers</i>	25
5.3	<i>Participant Input During Workshop</i>	25
5.4	<i>Participant Input Post-Workshop</i>	26
<b>6.0</b>	<b>Final Advice</b>	<b>26</b>
	<b>APPENDIX A. INTERVIEWS</b>	<b>27</b>
	<b>APPENDIX B. LIST OF INTERVIEWEES</b>	<b>31</b>
	<b>APPENDIX C. DEVELOPERS WORKSHOP Q&amp;A</b>	<b>34</b>

# 1.0 Introduction

## 1.1 Policy Overview

The Government of Yukon’s (YG) Independent Power Production (IPP) Policy was adopted in 2015, following several years of public consultation and policy development. IPP was viewed as a key strategy in maximizing renewable electricity supply as Yukon’s population and electricity demand from residential, commercial and industrial sectors continues to grow.

The policy applies to any IPPs who wish to generate electricity from eligible sources, except for any producers covered under YG’s Micro-generation Policy.

The policy’s stated objectives are to:

1. Increase electrical supply to meet future energy needs;
2. Strengthen energy security and affordability of Yukon’s electrical system;
3. Develop local electricity resources which are renewable and/or cleaner than diesel;
4. Encourage new, local economic opportunities;
5. Provide Yukon First Nations with opportunities to participate in the Yukon economy, obtain economic benefits and develop economic self-reliance; and
6. Facilitate collaboration between public utilities and IPPs, in the development of new clean energy supply projects, which best serve the long-term interests of Yukon consumers.

The policy establishes two aspirational targets for IPP contribution to Yukon’s electrical grids:

1. 10 per cent of new electrical demand to be met by IPP; and
2. At least 50 per cent of IPP projects to have a Yukon First Nation ownership component.

## 1.2 Program Overview

The policy establishes three distinct approaches through which proponents may develop IPP projects. These are briefly outlined below.

<b>Standing Offer Program</b>	<ul style="list-style-type: none"><li>• Encourages development of new, small and renewable projects in any community except Old Crow, Beaver Creek and Destruction Bay/Burwash Landing</li><li>• Project nameplate capacity between 30 and 2000 kW</li><li>• System-wide generation limits of 40,000 MW/hrs/yr (Yukon Integrated System); 2100 MW/hrs/yr in Watson Lake</li></ul>
<b>Call for Power</b>	<ul style="list-style-type: none"><li>• Applies to projects larger than SOP system-wide limits</li><li>• Initiated by Yukon Energy Corporation</li></ul>
<b>Unsolicited Proposal</b>	<ul style="list-style-type: none"><li>• Can be submitted to utilities or YG for projects larger than SOP system-wide limits or any systems installed in Old Crow, Beaver Creek and Destruction Bay/Burwash Landing</li></ul>

To date, participation in the three IPP streams is as follows:

- **Eleven** proponents have initiated and/or completed projects through the Standing Offer Program (SOP);
- **Three** have initiated and/or completed IPP projects through the Unsolicited Proposal stream; and,
- **No** Calls for Power have been issued by Yukon Energy Corporation (YEC).

### 1.3 Scope of Review

Groundswell Planning was retained by YG Energy Branch in November 2021 to:

1. Gather feedback on the Standing Offer Program and Unsolicited Proposal streams of the IPP policy from developers/stakeholders;
2. Share participant feedback with YG Energy Branch, YEC, Yukon Development Corporation (YDC) and ATCO Electric Yukon (AEY); and
3. Work with YG Energy Branch, YEC, Yukon Development Corporation (YDC) and AEY Electric Yukon (AEY) to identify potential actions to address input and develop a plan to implement them; and,
4. Convene developers/stakeholders to share learnings, present proposed government/utility action plans, and provide a final opportunity to comment.

The following interim report captures the results of the first task: interviews with participants/project proponents in the SOP and Unsolicited Proposal streams. A final report will be prepared at the end of the project upon conclusion of the remaining tasks.

### 1.4 Methodology

#### 1.4.1 Proponent Interviews

Between early December and early February 2022, Groundswell Principal Jane Koepke conducted a series of 30 to 90-minute telephone interviews with project proponents. A semi-structured interview format was developed, with questions sent to developers and stakeholders in advance (please see Appendix A). 14 people representing a range of organizations were interviewed as follows:

Category	# of Interviewees
Private sector companies pursuing their own IPP projects	7 (2)
Private sector companies providing expertise/services to other IPP projects	3 (2)
First Nation development corporations	2
First Nation governments	2
Non-profit organizations	1
Renewable power advocate	1

(x) represents the number of interviewees who fell under two categories

Responses were subsequently analyzed and grouped by key and/or recurring themes. For clarity, the following terms were used to assign a semi-quantitative value to Groundswell's reporting:

<b>A few</b>	2-3	<b>Most</b>	More than half	<b>Some</b>	At least 3
<b>Several</b>	2-3	<b>Many</b>	More than half		

#### 1.4.2 Government and Utility Interviews

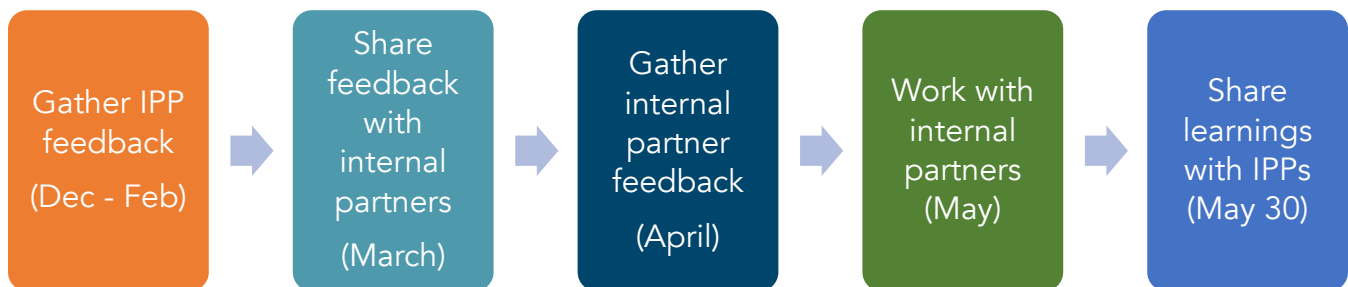
In late April 2022, Groundswell Principal Jane Koepke conducted a series of virtual meetings with YG Energy Branch, YDC, and YEC. YG and YDC had a joint meeting. YEC and ATCO had separate meetings with time in between for a joint discussion around IPP proponent issues and concerns relevant to their roles and jurisdiction.

The objective of the internal partner interviews were to:

- Provide an opportunity for them to respond to and share their perspective on the issues and concerns raised by IPP proponents;
- As relevant, respond to IPP proponent recommendations for improvements; and
- Identify other operational and/or policy issues and opportunities impacting their roles and/or responsibilities in the IPP context.

Similar to the IPP proponent discussion, responses were subsequently analyzed and grouped by key and/or recurring themes.

**Figure 1. Review Timelines**



## 2.0 What I Heard - Proponents

### 2.1 Proponent Motivation

Virtually every proponent interviewee shared that they, or their organization, had been motivated to explore IPP for both environmental and economic reasons. The social aspect of triple bottom line benefits was further mentioned by development corporations and organizations. Several interviewees noted having monitored policy and program development on the Yukon IPP front for years prior to initiating their project. Many project proponents already had a background in the electrical trade or electrical engineering and saw an opportunity to apply their knowledge.

### 2.2 What's Working Well

- **Pre-Application Process**

Most of the SOP participants spoke positively about the pre-application part of the process. Interviewees said that it was straight-forward (a few used the term "easy") and that YG staff were very helpful. One interviewee commented that the pre-application step is very beneficial in its function as a neutral "first filter" in the process that helps proponents look at their projects realistically. Another described this step as "excellent" and said that the process has sufficient information, steps and "trip-wires" to identify non-viable projects.

- **Funding**

Six interviewees identified the availability of funding as an enabling, positive factor for IPP projects right now. One commented that federal funding is responsive to small community challenges and application processes aren't too onerous. Yukon Development Corporation's Innovative Renewable Energy Initiative (IREI) program Innovation was very positively viewed; one interviewee called it the "guardian angel" of private sector projects and felt that it would be almost impossible for smaller private sector players to succeed without it. A few interviewees noted that funding was more difficult to obtain in the earlier phases of their projects but that the funding environment had improved considerably.

- **Government of Yukon Support**

Numerous interviewees credited staff at YG Energy Branch with providing excellent guidance and advice throughout their projects. One proponent singled out YG Lands as being helpful and expedient when a land lease term needed to be changed to align with EPA and lending terms. Several interviewees spoke in positive terms about Yukon Development Corporation (YDC) staff administering the IREI fund.

- **Unsolicited Proposal Stream**

Interviewees who had participated in the Unsolicited Proposal stream shared similar, generally positive experiences. The precedent-setting nature of these projects posed challenges for all parties (utility, government, proponent) in the early stages. Initially there were misunderstandings about what each party needed but those were resolved in time as relationships were formed and trust grew.

AEY Electric Yukon (AEY) was felt to be initially hesitant in the earlier projects but became a positive, supportive and instrumental partner over time. AEY's engineer was identified as critical to success, although his availability/capacity was conversely identified as a limiting factor.

- **Wind Projects**

Program participants developing wind projects through the SOP spoke quite positively about their experiences. In fact, much of what they reported stood in stark contrast to the experiences of developers of solar projects. Of note, YEC was described as a very interested and solicitous party, reaching out often to offer support and assistance.

A differential treatment of wind and solar projects was mentioned by several interviewees. One questioned whether YEC had adequately planned and prepared to optimize solar generation (via installing battery storage), while several others felt that the IPP policy (especially pricing) should be revised to align with winter generation more transparently if this is in fact YEC's and/or the government's priority.

### 2.3 What's Not Working Well - Process

Numerous SOP participants expressed high levels of frustration with the administration of the program. Five expressed that they would have backed out of the process, or not entered it at all, had it not been for an external factor. Several described the process as very stressful. The following is an overview of the challenges they shared:

- **Lack of Communication**

Many SOP participants raised concerns about a lack of communication from YEC. One interviewee said that he had been "left in dark" a full year without any communication. Three others shared that they had to be very proactive (the words "harass" and "hound" were used) to receive needed updates, responses, or information.

- **Lack of Process Clarity**

Two interviewees indicated that their application had been "lost" between YG Energy Branch and YEC. Reportedly, several proponents have had to submit their applications numerous times. The application step was identified by a few developers as being somewhat confusing; for example, one noted that a grid impact study could be submitted without filling out the application paperwork. They felt that it was impossible to list the program in terms of clear steps and that proponents can't predict anything – particularly timelines.

(Note: While the Unsolicited Proposal stream was felt to be generally working well, one interviewee suggested that future proponents could benefit from a more formalized (yet still flexible) process that could be based on learnings to date.)

- **Delayed Timelines**

Almost every SOP participant spoke to timelines being longer than anticipated; in many cases, much more than anticipated. This was a key source of frustration for interviewees and linked to other overarching concerns around financial risk and accountability.

Timeline issues applied across the four stages of the SOP. At the application stage, several interviewees talked about not receiving an initial response from YEC for several months. Timelines for the system impact and interconnection studies were felt to be similarly long. A few interviewees said that they waited four-to-six-months for system impact studies, and just as long (if not longer) for interconnection studies, to be completed.

- **Lack of Adequate Resourcing and Point Person**

Some interviewees commented that they had lacked a constant point person at YEC and had instead been “passed around” from person to person. Chronic staffing shortages at YEC were mentioned as a likely cause for timing delays and poor communication by a few. Proponents felt that some YEC project managers created unnecessary hurdles, focused too much on inconsequential details, and lacked the capacity to keep up with the workload.

Several interviewees questioned the need for YEC to select and hire all the contractors and engineers; one pointed out that proponents can retain their own consultants in the Northwest Territories. One suggested that YEC and AEY could pre-approve IPPs’ consultants in advance.

- **Lack of Transparency**

Numerous SOP participants shared concerns about transparency in both specific and general terms. The specific concerns related to the costs being incurred at all stages of the process. Two interviewees described the accounting of engineering study costs as “very opaque” and “murky”, while a third described the experience of paying for more detailed engineering studies as “cutting cheques blind”.

One interviewee shared a frustration that invoices and cost estimates are not broken out to allow for a more fulsome understanding of how proponent dollars are being used. This was felt to be particularly important at the interconnection stage, when a breakdown could help identify cost savings, or at a minimum - build more confidence that proponents’ money is being used efficiently and effectively. A few interviewees noted that such cost breakdowns are common practice with private sector engineering consultants.

This issue of transparency was closely related to questions (or doubts) about efficient administration of the SOP. Several interviewees wondered if they were being charged for both YEC’s internal consultant as well as the training of new staff members. More broadly, transparency connected to a lack of trust that YEC is committed to the program and is dealing fairly with proponents.

- **High Costs and Inflexible Standards**

Numerous SOP participants raised concerns about high costs posing a serious barrier to participation in the program and ultimately, project viability.

On the participation side, there were numerous mentions of the \$25,000 deposits for both impact and interconnection studies. Several interviewees had gone through the process prior to this requirement; in their cases, impact studies cost significantly less. Both commented that this new requirement would pose a real barrier to smaller projects and producers and questioned the dramatic increase. Others questioned the value being received for that amount; for example, one noted that an invoice for the system impact study had roughly equivalent costs for the actual engineering work and miscellaneous project management.



Concerns about high costs extended to other stages of the SOP. Several developers noted that engineering costs were very high. Three noted that the interconnection costs were also significantly higher than anticipated, in one instance double what a qualified engineering firm working with them had projected. One commented that their project viability hung on the hope that the 30% contingency would not be needed. Other miscellaneous costs – such as legal fees - were also noted as being disproportionately high.

Several interviewees attributed these high costs to unnecessarily stringent standards, or a perceived desire by the utilities to “gold plate” everything with redundant and/or high-cost features. Questions were raised about the legitimacy of high costs and whether proponents’ money was directly or indirectly funding other projects or YEC’s non-IPP operations. For example, one questioned why a new system impact study would be required for their project when another one had recently been undertaken for another nearby project. Overall, the utilities (YEC in particular) were felt by some interviewees to be unwilling to consider project innovation or lower cost approaches.

- **Lack of System Understanding**

Five SOP participants shared examples of unexpected project changes or mistakes that they felt were avoidable had the utilities better understood their own systems. While these changes or associated project implications covered a wide cost range, they were felt to have a negative impact on project viability or proponent risk.

Several commented that YEC and AEY should have a clearer idea of their systems (capacity, thresholds, loading, etc.) in advance of proponents engaging with them. Similarly, a few interviewees felt that the utilities apply standards in a manner that doesn’t account for project complexity and relative impacts on the grid. One interviewee stressed the need for clarity around system capacity thresholds, and project priority, where multiple projects are vying for the same limited capacity.

Such information would help proponents avoid allocating resources (financial and otherwise) on projects that are clearly unviable. It may also avoid stressful “11<sup>th</sup> hour” changes or unanticipated costs, which in some cases consumed considerable proponent and utility time and/or were ultimately deemed unnecessary. Ideally information would be available for proponents in the pre-application stage, particularly if other major financial decisions (such as land acquisition) are contingent on them.

## 2.4 What’s Not Working Well - General

- **High Proponent Risk**

The issue of risk was raised repeatedly by SOP participants, and for the most part was associated with both timing delays and high costs. Five interviewees shared that timing delays had jeopardized their ability to secure either government funding and/or financing for their project. One expressed frustration at more potential timing delays that could cost tens of thousands of dollars weekly if the project carried over an additional year before going online. Timing delays in the latter phases – once financing is secured and materials are on order – were mentioned by a few as being particularly problematic. Several interviewees commented that it’s very difficult for a private sector business to deal with protracted uncertainty.

A few interviewees also singled out the EPA for creating an inequitable distribution of risk between the utility and proponent. One felt that the EPA wording provides a license for the utility to back out for virtually any reason and noted that the only real certainty it provides is on the financing side. Another commented that the

Yukon's EPA was modeled after BC Hydro but that YEC had amended it to off-load additional risk onto the proponent, including in areas that are outside of the proponent's ability to manage. Several interviewees commented more broadly that YEC seems to have little understanding of, or sympathy for, the risks and financial pressures being borne by developers.

- **Compromised Financial Viability**

Numerous interviewees shared ideas and concerns around the financial viability of projects.

Some interviewees felt that pricing for winter (or wind) generation needs to be reconsidered. The annual blended fuel cost for thermal generation was felt to be artificially low and not reflective of the greater proportion of diesel generation in winter, additional direct costs of thermal generation, and carbon pricing. One interviewee suggested that a \$0.03-\$0.06 per kWh rate increase would be more appropriate.

Several interviewees also pointed to environmental attributes as a missed opportunity for producers. Utilities retain ownership of attributes, but apparently do not use or monetize them. Producers were viewed as having more incentive and capability to monetize these attributes; the transfer of ownership to them could help offset the high costs of bringing projects online.

Proponents of both wind and solar projects also felt that the current 2 MW cap on projects was too small to achieve economies of scale on many projects.

- **Outdated Policy Framework**

Three other interviewees spoke to the need for government to be forward-thinking in its policy development to allow renewable projects to achieve greater grid penetration in isolated communities (i.e., AEY providing backup power only) and larger proponents to retain more ownership and control over energy infrastructure. They suggested that government needs to consider policy and legislative instruments that align Yukon's energy production and distribution system with its broader climate goals and the Final Agreements; at present, these are felt to be narrowly focused on the interests of AEY and Alberta-based shareholders. The resale of renewable energy for EV charging stations is another specific area in which government needs to proactively develop policy.

- **Regulatory Impediments**

Numerous interviewees shared that their EPAs had not yet been signed due to the pending Yukon Utilities Board's (YUB) decision on rates. One interviewee felt that it was problematic for the IPP policy and/or SOP to tie itself to YUB, due to the slow pace of regulatory decisions and the cascading delays it creates for millions of dollars in renewable energy investment. They suggested that the government decouple the process from YUB by becoming a direct purchaser of renewable energy (1000 MW/year was provided as a hypothetical target). In this scenario, the utility would in turn purchase the same power from YG based on the blended thermal rate and effectively pay the "mark-up". This approach would give YG more control over the levers influencing IPP and provide more incentives for producers.

- **Scarcity of Land**

The issue of land was raised by several interviewees. One shared that it took two years to find and secure a suitable land parcel for their project. Part of the delay related to uncertainty over whether the parcel would be suitable for connection to the grid. Once the site was purchased, there was additional confusion over zoning and the need to rezone for energy production. This proponent noted that lack of land will be a real barrier to any private sector IPPs who are not already based in the territory and have land. Another interviewee noted that the choice of suitable land parcels from which to base renewable energy installations is quite limited in the communities. As a result, projects aren't always sited optimally.

## 2.5 Achievement of Policy Objectives

Five interviewees were asked to rate and/or comment on how well they felt the SOP was achieving the IPP Policy's overarching objectives (combined for brevity) as follows:

1. *Strengthen energy security and affordability* - Interviewees assigned low to high ratings to this objective. One questioned the affordability aspect, while another said that it was difficult to assess without knowing whether IPPs are contributing to the grid where they are needed most. A lower rating was given based on the program posing too many hurdles and technical difficulties to facilitate more uptake. One interviewee felt that the biggest value had been in forcing a cultural shift at YEC. The low rating was based on how few projects have been completed.
2. *Developing local electricity resources* - Again, interviewees assigned low to high ratings on this count. One pointed to local success stories as proof of progress that wouldn't have occurred otherwise. Another commented that any renewable inputs are a benefit to Yukon, while another felt that the diversification of projects into wind was a positive development. The low rating was based on how few projects have been completed.
3. *Encourage new local economic opportunities* - This objective received high ratings from interviewees. One noted that their rural project was creating some small local contracts but supporting the growth of a territorial renewable energy industry. Another spoke to hiring local contractors for every component of their project.
4. *Provide Yukon First Nations with opportunities to participate in the Yukon economy, obtain economic benefits and develop economic self-reliance* – Several interviewees scored this objective highly, crediting a supportive funding environment. A low score was also assigned owing to the low number of First Nations bringing their projects to completion.
5. *Facilitate collaboration between public utilities and IPPs, in the development of new clean energy supply projects, which best serve the long-term interests of Yukon consumers* – Interviewees assigned the lowest score to this objective, citing the high costs of studies and program administration as barriers to collaboration. Several commented that YEC is not genuinely committed to collaboration or the success of the IPP policy.

## 2.6 Proponent Recommendations

Interviewees were asked to share suggestions for program and/or policy improvements for consideration by YG and/or utilities. Those recommendations were further consolidated by Groundswell and are listed below:

### Program Administration

1. *Set timelines and build in accountability* – proponents are looking for commitments to maximum timeframes for stages in the process, along with accountability for meeting timelines. Project complexity may be helpful to consider; for example, hydro projects may require significantly more time.
2. *Assign a point person and/or “champion”* – proponents prefer having a project manager assigned to their file for ease of communication. Some envisioned this person being a project “champion” who is working with proponents to help projects succeed.
3. *Involve a neutral third party* – whether this role is combined with the point person/project champion, proponents requested that a neutral third party ensure that the interests of both utilities and producers are represented throughout the process. Ideally, this third-party function would include both technical expertise as well as conflict resolution.
4. *Standardize the process* – ensure that program steps and associated inputs and outputs are clearly and consistently applied, in conjunction with Recommendation #5.
5. *Improve program materials* – this would include a clear visual representation of program steps, responsibilities/roles, timelines, and funding, as well as a simplified, plain language version of the Program Rules. Ideally, ballpark costs for each step (based on experience to date) would be included.
6. *Increase transparency around proponent expenses* – YEC and AEY should provide more detail to support invoicing and cost estimates, including itemized costing, accounting of staff and consultant hours, etc.
7. *Provide more comprehensive information to inform feasibility* – envisioned as a pre-impact study feasibility “check”, the utilities could furnish information that provides some insight into system capacity and needs so that prospective producers can better assess (at a high level) project viability. This could be accomplished in concert with Recommendation #4.
8. *Revise the EPA document to reduce proponent risk* – particular attention should be paid to areas that fall outside of producers’ sphere of control.
9. *Allow proponents to retain their own consultants* – this could reduce administrative burden on the utilities, as well as keep proponent costs down. Utilities could pre-approve the consultants for quality assurance.

## Policy Issues

10. *Increase the program caps* – per project nameplate capacity thresholds should be increased (4-6 MW was suggested), with a potential focus on renewable projects with higher capital costs (i.e., wind, hydro, winter solar generation, etc.)
11. *Increase winter/dark hour rates* – preferred winter pricing may better reflect the actual avoided cost of thermal generation and facilitate a more diverse field of renewable projects.
12. *Transfer ownership of environmental attributes to producers* – revising this aspect of the EPA could improve project economics.
13. *Develop policy to address the issue of limited capacity and multiple proponents* – this will help proponents better evaluate risk where multiple projects are “competing” for limited system capacity. This also connects closely to Recommendation #7.
14. *Consider policy or program mechanisms to support battery storage* – expanding the allowed scope of projects to include battery storage could optimize the climate benefits of solar projects and connect to progress on Recommendation #12.
15. *Decouple IPP pricing from Yukon Utilities Board* – developing policy or mechanisms to allow Government of Yukon to bypass YUB restrictions around pricing.
16. *Develop “future-ready” policy (or legislation) to support energy sovereignty and zero emissions* – government should consider alternative models to utility-controlled power and develop the policy and legislative tools to help renewable projects achieve maximum penetration and other players (communities, First Nations, etc.) achieve energy sovereignty. Policy should also clarify how power for EV charging stations can be priced.

## Other

17. *Create a flexible but clear process for the Unsolicited Proposal stream* – it would be helpful to create some structure to inform future proponents about the typical steps, players, and timelines involved.
18. *Reduce the tax burden on high capital cost projects* – this will require work with municipalities and YG’s Property Assessment Branch.
19. *Ensure sufficient land is available for IPP projects* – allocating or reserving Crown land was suggested as one approach. Municipalities may also have a role to play with respect to flexible, supportive zoning.

## 3.0 What I Heard – Internal Partners

The sessions with internal IPP partners – specifically, YG Energy Branch, YDC and AEY - were an opportunity to hear their responses to proponent feedback and identify challenges and opportunities from their perspective.

### 3.1 Initial Impressions

YG and YDC staff commented that they weren't surprised by the feedback Groundswell heard from proponents and, for the most part, it reflected concerns and complaints previously received by them. One interviewee felt that capturing them in one document is a helpful step towards addressing the issues more systematically.

YEC staff similarly commented that they had heard many of the process concerns before. However, there was some surprise at the concerns regarding lack of transparency and communication.

### 3.2 Response to Proponent Concerns - Process

YG, YDC and utilities were asked to comment on proponents' concerns in terms of significance, validity, and contributing factors. These responses are organized as per the previous report section. Note that where a response from only one of the partners is mentioned, the topic was most likely not addressed by others (whether due to insufficient time for discussion and/or relevance).

- **Lack of Communication**

YEC felt that this concern was reflective of an earlier stage in program evolution and that communication was quite frequent now; for example, YEC hosts regular bi-weekly or monthly calls with proponents, and YEC and proponent technical teams have regular communication. Staff acknowledged that longer-than-anticipated timelines during the study stages could be contributing to a feeling of inadequate communication. In this context, YEC may have nothing new to report while a study is underway, but a proponent may view this as a lack of communication.

YEC reported having added a new step – a kick-off meeting - for the two most recent proponents entering the process. The meeting involved bringing proponents in to meet with the vice presidents of Engineering and Business Development and YEC's IPP Project Manager and receive an orientation to timelines, process, and high-level costs. YEC staff felt that this was an important first step in relationship building and intend to continue with the practice. Staff also mentioned that proponents are referred right away to the IPP SOP interconnection guide to better understand the process, requirements at each stage of the process, and what the end goal looks like.

- **Lack of Process Clarity**

YG and YDC felt that this concern was a valid one and shared that they encounter similar confusion in trying to communicate the process steps to proponents in the pre-application and funding phases they manage. They emphasized the importance of managing expectations about the costs and timeframes early on. Further, they felt government had a key role to play in ensuring good information was available.

YDC staff emphasized the value of better coordination between YG, YDC and the utilities and suggested that the three entities could be more intentional on this front. For example, the Advisory Group on Energy Supply (AGES) could be a forum for enhancing IPP management. Partners could share what's in the "pipeline" and work more collaboratively.

YEC acknowledged that process clarity has been an ongoing challenge. Staff commented that proponents aren't always submitting what is needed by YEC to advance projects, signalling a need to provide better information up front and during each stage of the connection process. YEC is in the early stage of developing a technical process flowchart that will specify the different steps and their respective entry and exit points, duration, and submission requirements. A simple checklist outlining the different documents required at each step may also be developed.

In addition to better articulating the process to proponents, YEC is interested in streamlining the process where possible. Combining the system impact and system interconnection studies and preliminary engineering work into one project step is one option under consideration.

- **Delayed Timelines**

All internal partners regarded timelines as a valid concern, although clarity – as opposed to the timelines themselves - was felt to be the issue to address. YEC staff shared their view that unrealistic expectations, underpinned by a lack of proponent understanding and/or technical knowledge, was a key contributing factor.

YEC commented that proponents sometimes delayed timelines by bringing only partially conceived projects or incomplete technical submissions forward or asking to explore different design options, adding to project complexity and review time. Staff also noted that YEC's procurement efforts have to meet public sector procedure requirements than the private sector may not be accustomed to; however, the additional time required for a competitive process ultimately saves proponents money.

YEC noted that timelines could be hard to predict and felt it was realistic to set targets but that many factors contribute to whether those timelines can be met (e.g., maturity of project information submitted, availability of materials and resources, etc.)

As part of the aforementioned process flowchart, YEC is working to define timelines for the various steps of the process and seeking input from AEY on the timelines required for each step.

- **Lack of Adequate Resourcing and Point Person**

YEC felt that these concerns reflected an earlier stage in program evolution, versus the current situation. A designated staff person at YEC is dedicated to working with proponents and a member of the senior management team is dedicated to overseeing the SOP. YEC shared that it has tried to address capacity by bringing in consultants as necessary and may develop standing service agreements to address needs more expediently.

YEC staff also noted that its capacity may be challenged in part due to inadequate resourcing or scoping on the part of proponents that are not providing the information YEC needs for its due diligence. YEC staff reported having provided technical expertise and undertaken work that should have been completed by proponents.

Lastly, YEC staff commented that they can't resource the SOP to the detriment of other programs, projects and rate payers. The somewhat transient nature of the program and the fact that it is at (or nearing) its capacity creates additional risk in assigning more staff resources to it.

- **Lack of Transparency**

Proponents' concerns around a lack of financial transparency were a source of confusion for the utilities. They reported that they currently provide a detailed quote to proponents for studies and further noted that proponent questions were always welcome.

YEC explained that after the proponent has reviewed its quote and agrees to it, an invoice is issued. YEC IPP program staff provide supplementary notes to the standard YEC invoice in PDF format. YEC acknowledged that invoices have lacked detail in a few past instances but felt that they had adequately addressed the issue. They noted that consultant proposals are proprietary information and could not be shared.

AEY shared that their quoting and invoicing are virtually identical and is provided in the same format as any other customer for interconnection projects.

- **High Costs and Inflexible Standards**

The YG/YDC discussion echoed the concerns and questions that proponents had raised about the high costs of system impact studies for more minor, straightforward projects, as well as the need for system impact studies for projects in geographic locations that have been previously (and recently) studied.

YEC staff shared that its requirements are driven by its mandate of reliable, sustainable, and affordable power and that it has no latitude to take risks that might compromise its ability to deliver on that mandate. Staff explained that each IPP project, regardless of size, must be assessed to ensure that it does not negatively impact the safety and reliability of Yukon's power grid should it be connected. The System Impact Study (SIS) does examine the impact of the IPP project, along with the addition of other IPPs that may be on the same distribution or transmission feeders and/or other utility projects that are being developed in the same area. As more projects are connected, the nature of the impact changes, necessitating additional study even if it is proximal to previously studied projects.

To illustrate the point, YEC shared a hypothetical scenario of an IPP project (IPP #1) adding 1 MW of solar to distribution line ABC. IPP #1's SIS would have looked at the impact of 1 MW of solar on the power quality (and other variables) on line ABC. If a second project (IPP #2) wants to supply 2 MW of solar a year later on the same or nearby distribution line, a new SIS is required to understand how the addition of that 2 MW will impact power quality and reliability, not only given the original state of line ABC - but also with the IPP #1's 1 MW, IPP #2's 2 MW, and any additional power sources or load that have entered into the picture since the first SIS was completed.

While YEC charges a standard deposit upfront regardless of project size and complexity, staff emphasized that proponents are ultimately charged for actual costs incurred (i.e., consultant costs with the addition of some project management and engineering time). YEC did not support proponents hiring their own consultants, saying that the work requires such intimate knowledge of the system that it wouldn't be suitable or practical. Further, YEC utilizes a competitive procurement process that factors in pricing.



AEY had a similar response to YEC. Staff explained that they can't exercise flexibility around standards that are in place to provide reliable and high-quality electricity using infrastructure designed to last in a highly variable climate. Like YEC staff, AEY staff noted that they bear primary responsibility for providing safe and reliable power to Yukoners and are the frontline for unhappy customers, unlike proponents. They too expressed discomfort with proponent consultants being entrusted with making recommendations on a system they may not thoroughly understand.

- **Lack of System Understanding**

The YG/YDC discussion revealed some alignment with proponents who had expressed a desire for general system capacity or needs information being available to help identify opportunities at, or even prior to, the pre-application stage. Staff noted that such an overview could better equip them to determine what projects might be more strategic at the initial funding and pre-application stages.

YEC indicated that the idea (which one staff framed as a system-wide study of "interconnect-ability") had been discussed internally but did not proceed further due to the practical challenges it posed. Scoping is the first challenge. The scale of investigation would have to be determined: for example, would it be every single ATCO feeder, or every single potential interconnection point? The second challenge relates to study assumptions: for example, how many projects should the utilities assume will be connected? The third challenge relates to keeping such a study's findings current with new projects coming online. YEC predicted such a study could cost hundreds of thousands of dollars and questioned which party would pay. However, YEC staff felt there may be potential to provide more proponent guidance around the increased costs that come with connecting to a high-voltage system.

YEC staff shared that they have observed proponents lacking an understanding of interconnection design and this posing challenges in the preceding steps. For this reason, they are directing proponents to the interconnection guide at the very beginning.

YEC staff acknowledged a system knowledge gap but characterized it as an overarching one. YEC is still determining what the cumulative impact of the IPPs on grid stability and reliability is. They explained that when the full queue of 40 GWh of IPP projects is connected to the grid, IPP-based energy will constitute about 40% of all energy being supplied and used by Yukoners during the summer. According to YEC, there is no other jurisdiction in North America with this degree of intermittent renewables on the grid. YEC staff don't have complete answers and flagged that there could be tough decisions ahead that none of the partners can fully predict or anticipate right now.

### **3.3 Response to Proponent Concerns - General**

- **High Proponent Risk**

YG staff took a broad and historic perspective in responding to proponents' concerns about the high levels of they feel their projects face. According to them, the IPP was intended to share some of the risk typically borne solely by utilities with the private sector, which is accustomed to some degree of business risk. However, the intent of the IPP and SOP was to provide a relatively low risk process for small projects, while other processes (i.e., Call for Power and Unsolicited Proposal) could cater to higher risk (and higher benefit) projects.

According to YG staff, as the policy was being implemented, YEC didn't show much interest in the Call for Power and Unsolicited Proposal streams. The result was that larger projects influenced the development of a more complex, higher burden administrative approach than smaller projects alone would have necessitated. YG and YDC staff expressed interest in finding ways for smaller projects to assume less risk, including revisiting the EPA document itself if necessary.

YEC shared a different perspective on risk. Staff questioned the premise that the utilities – and by extension, rate payers - should be directly or indirectly responsible for an IPP project's financial viability. YDC staff noted that government is putting a lot of funding into renewable projects to reduce, or virtually eliminate (in the case of First Nation projects that are 100% funded), financial risk. There seemed to be agreement from both government and utilities that the question of who should be responsible for carrying the risk of these projects is a fundamental one for all parties to discuss and better understand.

The utilities indicated that they have little to no flexibility around design or other issues that pose a potential safety or reliability issue for their infrastructure. However, there was a willingness to look at some other "fixes" to the program to help address marginal economics. YEC staff noted that the EPA document was modeled after the BC Hydro SOP template, which provided the utility with considerable power to cancel a project without cause. YEC intentionally did not adopt the same degree of risk transference as its neighbouring utility.

- **Compromised Financial Viability**

YG and YDC staff expressed interest in exploring the question of a seasonal rate structure to incentivize winter generation projects and send a clear message to the market about government and utility priorities. They noted that addressing the seasonal rate issue could indirectly address inter-related challenges such as storage and project or program caps. YDC staff noted that previous conversations between YG Energy Branch and YEC had revealed support for using seasonal rates as a gateway to increase the number of IPPs that are aligned with Yukon's energy context. Reportedly, YEC had indicated support for increasing the program cap beyond 40 gigawatt hours if they had the ability to implement seasonal rates. This overall program cap increase could then theoretically inform any cap increases for individual projects.

YEC staff confirmed YG and YDC staff assumptions. They clarified that a radical change to the pricing model would be one of two potential pre-conditions to program cap expansion. Under this model, YEC would not pay for energy supplied during summer months when there is existing surplus on the system, in effect mirroring the energy pricing model under the EPA recently signed with Tlingit Homeland Energy LP for the purchase of hydro power from Atlin. Further, YEC could also pay for dependable capacity supplied by IPPs during the winter (i.e., from solar and wind projects that included storage to firm up supply).

There was skepticism from all partners about the transfer of environmental attributes (EAs) to IPPs. YDC staff explained that the IPP policy and programs are driven by territorial goals for renewable energy and greenhouse gas (GHG) reductions. In this context, the value of EAs is broader than monetary. YEC staff echoed these sentiments, emphasizing the importance of IPP-based renewable energy being counted towards YG's GHG reduction objectives and YEC's Renewable Portfolio Standard. They also shared two key reasons for not paying IPP for their carbon credits:

- 1) Due to the fixed price YEC pays for renewable electricity from IPPs (based on the last cost approved by YUB for YEC's thermal generation); and

- 2) YEC being exempted from a carbon tax for the fuel it burns, in effect increasing the price YEC would pay for renewable electricity – and by extension, putting upward pressure on rates - if it paid IPPs for credits.

YG indicated that it had concerns with the transfer of attributes but would continue to consider the idea and run due diligence. AEY noted that it allowed proponents in the Unsolicited Proposal stream to retain EAs but these could not be transferred out of the territory.

All parties agreed that the issue of high municipal tax burden should be addressed, and YEC indicated having already submitted letters to the City of Whitehorse to explore the potential reduction of the mill rate for renewable energy projects built within City limits. YG staff noted that it has come up in the drafting of the new clean energy legislation and the challenge relates to the *Municipal Tax Act*; the solution is felt to be a legislative one, and not quickly implemented. Still, they felt that government can't continue to put this issue aside indefinitely.

- **Outdated Policy Framework**

YG, YDC and the utilities were asked to comment on some of the policy suggestions that had been brought forward by IPP proponents.

YG staff noted that some proponent ideas are reflected in commitments made under *Our Clean Future* – specifically, allowing the private sector to charge for the use of EV charging stations and a review of the *Public Utilities Act*. Addressing how capacity is “locked up” between projects was seen an operational, or queue management, challenge for YEC.

All internal partners felt that energy sovereignty or community ownership of energy assets was a larger policy question than the IPP itself. YG staff noted that this issue may be partially addressed during the development of Yukon's new clean energy act. Generally speaking, the partners felt that it was premature to tackle these bigger questions in a meaningful way. Further, AEY staff advised caution around the idea of decentralizing energy and power infrastructure, saying that jurisdictions elsewhere had faced the undesirable result of the original infrastructure having fewer and fewer rate payers to support it, raising prices for those left behind.

There was support among all internal partners for policy development to support battery storage, with YEC noting that such an effort would be contingent on an expanded program. YG staff noted that this had been the original intent of the IPP but the area had not advanced any further. YEC staff predicted that considerable study would be required, while YG staff noted that expanding into this area would encourage larger projects, in turn necessitating a reconsideration of project caps under the SOP or use of a different program/process.

- **Regulatory Impediments**

Utilities responded to the suggestion of some proponents that the IPP pricing should be decoupled from the Yukon Utilities Board regulatory framework. YEC emphasized that it can't negotiate variable rates and must base pricing around the displaced cost of thermal generation. AEY questioned the practicality of paying for power outside of the YUB structure. A holistic, utility-controlled approach is felt to be a necessary precursor to effective utilization of battery storage, as one example.

- **Scarcity of Land**

YG staff flagged this issue but framed it slightly differently than proponents had. They reported having tried to create an information piece to help proponents understand all the steps and players involved with land tenure and concluded that it's a very challenging system to navigate. The process is so complex and challenging that they even questioned how proponents without access to land already can stay motivated to develop projects.

- **Formalizing the Unsolicited Proposal**

AEY expressed skepticism that there was value in formalizing the Unsolicited Proposal stream since projects are already underway in the four eligible communities and there is low likelihood that new parties (aside from the First Nation entities AEY is working with) will become involved in the future.

### 3.4 Other Issues and Opportunities

- **Divergence of Incentives and Interests Between Producers and Utilities**

YEC staff shared concerns about a divergence of incentives around IPP between utilities and IPP proponents. The utility's incentive is to deliver the program and meets its mandate for reliable, sustainable and affordable power. The utility considers itself the customer in the IPP context, with the IPP being the vendor; however, they shared their perception that IPPs might take an opposing view of roles. They framed this issue as dovetailing with questions about risk and who should be assuming them in the IPP context and suggested this topic deserves attention in discussions with proponents.

- **Supply-Demand and Project-Program Mismatch**

IPP supply-demand mismatch also came up repeatedly during partner discussions and was closely tied to the program cap question. YDC noted the inherent contradiction of funding a project that isn't appropriate to Yukon's energy context (e.g., solar or summer generation projects). They can't currently deny projects but hope that this issue could be managed through better coordination and discussion with utilities in the early stages.

A YDC staff person characterized the challenge as the internal partners being caught in limbo between the former status quo and where they hope to be and struggling with growing pains and renewable capacity. YEC staff noted that government had expressed the intention to implement two 20-gigawatt program tranches for solar and non-solar projects and felt that any potential expansion was contingent on this delineation.

YG staff noted that the default use of the SOP could be unnecessarily limiting projects that could be scaled larger than the 2 MW cap. They commented that the administrative and regulatory burden is comparable.

- **Future of Program and Capacity**

All internal partners noted that the SOP is nearing and/or possibly exceeding the overall cap of 40 gigawatt hours. This fact came up repeatedly during the interviews, with partners generally viewing decisions around program expansion as the precursor to decisions around program and process improvements.

YG and YDC staff supported revisiting program cap and described the program cap as creating a quasi-limbo environment for incoming applications. YG staff noted that the IPP website has been changed to say that

applications will be put in the queue but may not be connected unless the program cap is increased or there is attribution with existing projects. YEC staff stressed the importance of YG managing proponent expectations and cautioning new proponents upfront that there is real risk their project may not make it under the 40-gigawatt threshold by the time it is completed.

YEC staff expressed opposition to the prospect of expanding the program above 40 gigawatt hours until there is better visibility on the likelihood of and timeline for a seasonal storage solution (i.e., pumped storage) to store summer energy purchased from solar IPPs for use in the winter. The viability of the Moon Lake project is still in question, posing uncertainty in this regard. (The other pre-condition to expansion for YEC is the aforementioned shoulder and winter season pricing model). Staff also have technical concerns about projects expanding beyond 2 MW in size.

- **Queue Management**

Internal partners discussed queue management as it related to project risk, program caps, and supply-demand matching – these separate elements posing a “chicken and egg” dilemma for decision-making. YG and YDC indicated a desire for greater clarity around how projects currently in the queue could potentially be moved out, particularly to make room for more strategic winter generation projects.

YEC shared that it has considered different ways to manage the queue, including registering a project early on and having its place in the queue secured (they noted that BC Hydro has adopted this approach). This was felt to be problematic by YEC due to the fluidity of individual project circumstances and the unpredictable pace at which they can advance (or conversely, stall out). YEC decided to register a project only once the EPA is signed, in effect creating a competitive environment until that milestone is reached.

YEC further noted that a queue policy that allowed projects which entered the queue earlier to be impacted by latter projects that are viewed as more advantageous could pose fairness issues and increase proponent risk. YEC staff felt that this issue was best managed not through additional operational procedures or policies but through improved process clarity and expectation setting in the initial phase.

- **SOP in Watson Lake**

AEY staff expressed a preference that the current SOP opportunity in Watson Lake be formally withdrawn. The Unsolicited Proposal project under development is a 3 MW solar installation, effectively maximizing the available capacity of the system. Even though a new SOP project is hypothetical, AEY prefers that this problematic scenario is avoided altogether.

- **Recognition of “Hidden” Costs of IPP**

The utilities spoke to the significant workload, staff time and learning curve inherent to taking government policy direction and figuring out how to operationalize it with little to no guidance. They shared that it has taken years and multiple projects to build knowledge and experience specific to IPPs, and utilities have borne much of this without charging that time back to specific projects and/or government. While there was no expectation that this be retroactively addressed, this reality was felt to be important to consider as government considers further changes and/or expansion to the program.

One YEC staff person expressed a concern around the long-term implications of operations and maintenance for IPP project infrastructure.

- **Program Successes**

YG and YDC staff's input on IPP successes largely mirrored input received from proponents. YG staff noted that, despite the time and expense of bringing renewable energy projects online exceeding initial expectations, Yukon is seen as a renewable energy leader by other jurisdictions in North America. Motivated proponents were viewed as a key strength; staff characterized them as dedicated people committed to doing the right thing. The growth of partnerships between utilities and First Nations and between territorial and federal funding arms, along with emergence of a small renewable energy industry were also highlighted. Lastly, the availability of funding was seen as a key strength.

## 4.0 Initial Findings

Groundswell's interviews with Yukon IPP developers and stakeholders and the government and utility partners delivering them revealed a shared commitment to advancing renewable energy in Yukon and a growing roster of projects and experience. Discussions also revealed a host of challenges with policy implementation and program administration, ranging from "micro" operational issues to "macro" questions about the future of IPP. The most frequently heard proponent concerns related to unclear and/or inconsistent process, delayed timelines and high costs of participation – all of which were felt to pose high risks. Government and utilities acknowledged the need for process improvements but also questioned proponents' perceptions of who is, or should be, bearing risk where IPP projects are concerned.

The next step in the review is for Groundswell to bring proponents and internal partners together to share learnings and insights and facilitate a final exchange, after which government and utilities will finalize and move forward with an action plan to improve how IPP programs are delivered in Yukon. To prepare for this final exchange, Groundswell has grouped issues into four categories:

### 1) Areas for short-term action

Some issues and suggestions raised by IPP proponents were acknowledged by internal partners as warranting action. Further clarification may be needed from proponents where an issue was raised but action to address it has already been taken by internal partners.

*These include: SOP process framework; improved program materials; pre-feasibility information; taxation burden*

### 2) Areas for clarification (and potential action)

Some issues and suggestions raised by IPP proponents were acknowledged by internal partners as warranting action. Further clarification may be needed from proponents where an issue was raised but action to address it has already been taken by internal partners.

*These include: Costing transparency; communications; point person*

### 3) Areas for ongoing discussion and (potentially) future/long-term action

The fulfillment of the 40-gigawatt hour allocation set out for the SOP is on the horizon. What the next evolution of IPP in Yukon will look like is undecided. There are complex, quasi-existential issues that require careful consideration and resolution for internal IPP partners to move forward effectively. These issues are unlikely to be resolved within the timeframe of this review; however, the partners can map out a process for working towards a decision within the IPP action plan.

*These include: Winter pricing; battery storage policy development; de-coupling IPP pricing from YUB; program future; supply-demand mismatch; cap increases; queue management; transfer of environmental attributes*

#### 4) Opportunities for understanding and information sharing (but not action)

The interviews revealed numerous examples of issues that may not have an obvious fix but merit further discussion to help build understanding between the different IPP players. In some cases, issues and suggestions raised by IPP proponents were regarded as “non-starters” by internal partners; this rationale should be shared. In other cases, work and/or improvements are already underway and government/utilities simply need to share updates and information.

*These include:* Proponents retaining consultants for grid studies; distribution of IPP risk; future-ready policy development; communications; utility point person; pre-feasibility system information



Figure 2. The four “baskets” of issues emerging from Groundswell’s interviews



## 5.0 Developer Workshop

### 5.1 Overview

Government of Yukon invited IPP developers and stakeholders to a workshop on May 30, 2022. The session's objectives were to:

- Allow Groundswell to share "What We Heard" from both IPPs and internal (i.e., government and utilities) partners;
- Facilitate an exchange of perspectives and information between IPPs and internal government/utility partners;
- Solicit IPP input on SOP operational improvements (in progress and planned); and
- Solicit IPP advice and priorities regarding future-oriented program and policy development.

Groundswell facilitated the workshop, which was attended by:

- Seven IPP developers;
- Two staff from lending institutions who work with Yukon IPPs;
- Two IPP advocates and experts from the broader community; and,
- Eight staff representing the IPP internal partners (YG, YEC, YDC, and AEY).

Please refer to Appendix B for a complete list of attendees. The agenda is included below.

### Agenda

2:00 pm	Introductions & agenda review
2:15 pm	Presentation of findings
2:30 pm	System studies, standards, accountability
2:55 pm	Standing Offer Program process
3:25 pm	Communications, transparency, fairness
3:45 pm	Future planning
4:15 pm	Other issues or input
4:30 pm	Wrap-up and evaluation

## 5.2 Questions and Answers

During presentation and discussion, numerous questions were raised by IPP proponents and answered by the internal partners present. These questions touched on the following topics:

- Potential overlap, redundancy and cost attribution for system studies;
- Utility accountability for missed timelines;
- Need and potential process for a third-party/mediator role;
- Accountability for inaccurate cost estimates;
- Winter pricing;
- Role of batteries; and
- Yukon's "best fit" energy projects.

The complete set of questions and answers is included in Appendix C.

## 5.3 Participant Input During Workshop

IPP proponents shared additional input and suggestions with internal partners during the workshop as follows:

1. ***Provide rate contingencies in the EPAs to expedite projects*** – A developer suggested that the EPAs allow for developers to receive the higher rate if a new rate is set before their Commercial Operation Date. This would help avoid the major delays that several projects are experiencing currently.
2. ***Include a third party to hold parties accountable for timelines*** – When invited to provide specific direction around a third-party role, one developer suggested that timelines should be the focus for monitoring and/or mediation.
3. ***Designate someone to handle IPP files and coordinate with multiple agencies*** – One developer spoke to the challenge of navigating the complexity of multiple government agencies and requirements with changing staff and no corporate memory. They suggested that developers could have a point person that handles their file and coordinates between all levels of government.
4. ***Break out professional time in more detail on invoices*** – One developer provided an example of a recent invoice with one line item for "Engineering/Studies/Project Management" with a higher-than-expected cost. He suggested that those be broken out in separate categories so that this can be cross-checked with original estimates and proponents can understand where final expenses diverged.
5. ***Place a cap on costs to protect developers from cost increases compared to original estimates or institute a grant or assistance to cover the overage.***
6. ***Expedite winter pricing*** – See Appendix C for more information.

Developers and IPP stakeholders also confirmed and/or acknowledged the steps partners are taking (or have already taken) to improve the program, such as:

- **YEC's new process framework** – YEC's presentation of the new draft SOP process framework triggered questions around timeline accountability but there were no other suggestions or feedback received.
- **Communications and point person** - Developers had no concerns with how YEC is conducting communications currently. One developer commented that there has been good progress on this front since they first started and expressed appreciation for YEC's efforts.
- **Program expansion** – One participant expressed full support for making program expansion contingent on storage solutions. They noted that solar projects subscribed to the program more than had been anticipated and that other technologies couldn't compete. They felt the next round needs to be more intentional in focusing on what Yukon needs and values, citing the Atlin project as an example of the right kind for Yukon to pursue.

## 5.4 Participant Input Post-Workshop

Groundswell invited post-workshop feedback from IPP developers and stakeholders who had attended. Two surveys and one email were received. The following additional comments were shared:

- YEC seemed less interested in exploring new solutions than the draft Groundswell report had seemed to suggest;
- More detailed feedback regarding YEC's process may help to further pinpoint root causes for developer frustration and provide a higher value experience for both YEC and proponents in the future. Those issues include:
  - YEC requiring changes to technical aspects that all parties had agreed to;
  - Requirements changing with changes in personnel;
  - Less detail and reliability in regard to interconnection cost estimates (compared to AEY);
  - Consultant acting on behalf of YEC being largely unprepared for meetings, reversing decisions agreed to in previous meetings, being difficult to communicate with, and generally not appearing invested in helping move the file forward;
  - Compared to AEY, inconsistency with respect to deliverables, attention and reliability (i.e., "doing what they say they will do"); and
  - Lack of clear direction from YEC on the process for the Interconnection Agreement and EPA.

## 6.0 Final Advice

So how should YG and utilities tasked with furthering IPP in Yukon move forward with the insights and lessons gained during this review? Groundswell is pleased to share some advice for the internal partners to consider. Its ideas are grouped into three phases according to the nature of associated tasks:

- Operational improvements;
- Planning and feasibility; and,
- Program development.

PHASE & TIME FRAME	RESPONSIBLE PARTIES
<b>Operational improvements (0 - 6 months)</b>	
1. Revise project invoicing to provide more detail and breakdown for developers	YEC
2. Finalize the new SOP process framework	YEC, AEY, YG
3. Update the SOP program materials to reflect the new framework, including (if not already developed) a “navigation guide” to the departments and regulatory triggers typically involved with IPPs	YG, YEC
4. Create a briefing document identifying considerations (and geographic context) and high voltage (and higher cost) IPP interconnections for prospective developers	YEC, AEY
5. Consider revising the EPA to avoid project delays associated with rate setting processes (i.e., allow for increased rate if set during project timelines)	YG, YEC
6. Select 1-2 projects in the earlier stages of development for YG to pilot a third-party observer/mediator role with a particular focus on: <ul style="list-style-type: none"> <li>• Timelines</li> <li>• Project requirements and changes</li> <li>• Consultant performance</li> <li>• Involvement at key steps (to avoid redundancy)</li> </ul>	YG, YEC, AEY
7. Formally remove Watson Lake from the SOP	YEC, AEY, YG
<b>Planning and feasibility (6 months - 2 years)</b>	
8. Run and evaluate the effectiveness of the observer/mediator role pilot(s) for all parties (YG, YEC, and IPP)	YG, YEC, AEY
9. Initiate a feasibility study and/or options analysis for incentivizing winter generation projects, including preferred pricing, transfer of environmental attributes and/or other strategies	YG, YDC, YEC
<b>Program development (2+ years)</b>	
10. Develop a draft, high-level scope and criteria for potential future Yukon IPP programs and identify knowledge gaps, if any	YG, YDC, YEC, AEY
11. Undertake further studies to address knowledge gaps and refine program scope and criteria	YG, YDC, YEC, AEY
12. Design and implement the next phase of IPP programs and funding	YG, YDC, YEC, AEY

As a starting point, Groundswell recommends that the internal partners convene to review this final report and jointly accept and/or modify its advice as appropriate. A more detailed workplan with timelines and accountability can be developed from there.

# APPENDIX A

## Interview Questions

## IPP Standing Offer Program Review

### Proponent Interview Questions

---

1. What first motivated you (or your client) to consider independent power production?
2. Thinking back to the start of your project, how would you describe your level of familiarity with:
  - The technical aspects of independent power production;
  - The policy and regulatory aspects of independent power production.
3. What were you expecting the process to be like?
4. How much advance work had you (or your client) undertaken before submitting the pre-application?
5. How did the initial step go for you (or your client)?

- Explore:*
- *Availability/quality of assistance and advice*
  - *Availability/usefulness of information resources (SOP Program Rules)*
  - *User-friendliness of forms*
  - *Time for completion*

6. What were the next steps? How did they go for you (or your client)?

- Explore:*
- *Availability/quality of assistance and advice*
  - *Availability/usefulness of information resources*
  - *User-friendliness of forms*
  - *Time for completion*
  - *YESAB requirements*

7. How did the system impact (and interconnection) study go for you (and your client)?

- Explore:*
- *Availability/quality of assistance and advice*
  - *Financial requirements*
  - *Time for completion*

8. Which aspects of the SOP do you feel are working well and why?

9. Which aspects of the SOP need improvement, and how should they be improved?
10. On a scale of 1 to 5, with 1 being not at all and 5 being completely, how well do you feel the SOP is helping the government achieve the following IPP policy's objectives:
- Strengthen energy security and affordability of Yukon's electrical system;
  - Developing local electricity resources which are renewable and/or cleaner than diesel;
  - Encourage new, local economic opportunities;
  - Provide Yukon First Nations with opportunities to participate in economic benefits; and
  - Facilitating collaboration between public utilities and IPPs to develop new clean energy supplies which best serve the long-term interests of Yukon consumers.
11. What two or three things should the Government of Yukon and/or utilities consider doing to better achieve the IPP policy's objectives?

## IPP Standing Offer Program Review

### Internal Partner Interview Questions

---

1. What was your general reaction to what Jane heard from proponents? What feedback surprised you, and what didn't?
2. (For utilities) Proponents shared several specific concerns about aspects of the SOP administration that involve both utilities. Are these concerns valid, reflective of an earlier time in program evolution, or other?
3. For the ones you felt were fair/valid, what are some of the underlying causes from your end? How might proponents be contributing to the problem?
4. (For YG/YDC) Is there a role for YG/YDC to play in addressing some of the concerns directed at the utilities, and if so – what might that be?
5. Proponents offered specific recommendations that could have direct implications for your organization if adopted. Factoring in both potential effectiveness in addressing the underlying issue AND feasibility, which ones do you feel might belong in the action plan the internal partners will co-create?
6. Proponents offered specific recommendations that would not be actioned by your organization but could have implications for it if adopted. Factoring in both potential effectiveness in addressing the underlying issue AND feasibility, which ones do you feel might belong in the action plan the internal partners will co-create?
7. Which aspects of the IPP policy/programs do you feel are working well and should be maintained?
8. Aside from the ones raised by proponents, are there issues and opportunities with the IPP policy that you would like to see addressed?



## APPENDIX B

### List of Participants

## INTERVIEWEES

### IPP Proponents

Kate Ballegooyan	<i>Kluane First Nation</i>
Rosa Brown	<i>Vuntut Gwitchin Government</i>
Stuart Clark	<i>Renewable Energy Advocate/Expert</i>
Chris Cornborough	<i>ArcticPharm Organic</i>
Zachary Fulton	<i>Selkirk Development Corporation</i>
Greg Hakonson	<i>New Era North Fork Hydro</i>
Kevin Irving	<i>Sunergy Environmental Solutions</i>
John Jenson	<i>MGRID Energy Solutions</i>
Taylor Love	<i>Carcross/Tagish Management Corporation</i>
Evelyn Pollock	<i>Klondike Development Organization</i>
Brian Power	<i>Solvest</i>
Sebastien Roy	<i>Nomad Construction and Electrical Services</i>
Malek Tawashy	<i>Northern Energy Capital</i>
Alexandre Vigneault	<i>3EYOND Consulting Group</i>

### Internal Partners

Shane Andre	<i>YG Energy Branch</i>
Elise Bingeman	<i>Yukon Energy Corporation</i>
Cathy Cottrell	<i>YG Energy Branch</i>
Bill Cullen	<i>ATCO Electric Yukon</i>
Stephanie Cunha	<i>Yukon Energy Corporation</i>
Andrew Hall	<i>Yukon Energy Corporation</i>
Jamie McAllister	<i>Yukon Development Corporation</i>
Jay Massie	<i>ATCO Electric Yukon</i>
Emmanuel Ogemuno	<i>Yukon Energy Corporation</i>

## MAY 30<sup>TH</sup> WORKSHOP ATTENDEES

### IPP Developers

Greg Hakonson	<i>New Era North Fork Hydro</i>
Kevin Irving	<i>Sunergy Environmental Solutions</i>
Gina Nagano	<i>Tr'ondëk Hwëch'in Community Development Corporation</i>
Evelyn Pollock	<i>Klondike Development Organization</i>
Brian Power	<i>Solvest</i>
Malek Tawashy	<i>Northern Energy Capital</i>
Alexandre Vigneault	<i>3EYOND Consulting Group</i>

### IPP Supporters

Lisa Adam	<i>TD Bank Group</i>
Stuart Clark	<i>Renewable Energy Advocate/Expert</i>
John Maissan	<i>Renewable Energy Advocate/Expert</i>
Toni Vanthuyne	<i>TD Bank Group</i>

### Internal Partners

Shane Andre	<i>YG Energy Branch</i>
Cathy Cottrell	<i>YG Energy Branch</i>
Bill Cullen	<i>ATCO Electric Yukon</i>
Stephanie Cunha	<i>Yukon Energy Corporation</i>
Andrew Hall	<i>Yukon Energy Corporation</i>
Jamie McAllister	<i>Yukon Development Corporation</i>
Jay Massie	<i>ATCO Electric Yukon</i>

## APPENDIX C

### Developers Workshop Questions & Answers

**Q: It seems like there is redundancy and duplication between the utilities for studies, and developers end up paying the costs for the utilities to understand their own systems better. Can you explain where the utility and developer contributions start and end?**

**A:** AEY explained that they only study AEY's distribution system, versus ATCO's transmission system. Each utility looks at their own infrastructure and lines. YEC explained that the costs for bringing new renewable projects can't be borne by the ratepayers, leaving the question of who should pay for these studies if not the developers. YEC said it could try to identify any opportunities to consolidate costs for studies.

**Q: Will there be penalties for the utilities if they miss timelines? As an example, an Ontario program has a firm commitment to a 10-month timeline; could we expect something similar?**

**A:** YEC shared that part of the delays of the past stemmed from a lack of clear understanding around requirements for each stage, and the reality that utilities were designing the process in real time (i.e. with actual projects). With experience behind them, YEC staff are confident the timelines will improve now. A concrete timeline target is the eventual goal of YEC. However, there are external factors that could still interfere. For example, the pending YUB rate decision has held back numerous developers from signing their EPAs.

**Q: Given YG's policy objective to bring more renewables online, what does it think about taking on a role in mediation, particularly during the "meat" of the process with the utilities?**

**A:** YG indicated that they hadn't given this much thought up until this process and asked for clarity on which aspect of the process it would be intended to improve. YEC commented that the objective of bringing more IPPs on the system is not shared to the same degree by all parties: utilities have a broader mandate for reliable, affordable, and sustainable energy. It expressed concern that a dynamic in which YG makes decisions about IPPs drove up rates would pose a practical and political challenge.

*(Note: Rates and grid reliability would have to be pre-requisites, the proponent agreed, and the primary area where a third party could help is regarding accountability for time commitments because that is the biggest risk. YEC further noted that it might be challenging to clearly pinpoint cause and effect for time delays).*

**Q: How long does the final step of addressing deficiencies take? The uncertainties in the final steps really become problematic with financing.**

**A:** YEC said it's hard to define because each project varies and has unique needs. Timelines can't really be generalized and instead need to be evaluated on a case-by-case basis.

**Q: Is there any accountability for the cost estimates? There can be a big difference between the original estimate and the actual costs. It can also be really challenging when extra studies that weren't originally identified are needed.**

**A:** YEC shared that IPPs are charged based on the actual project costs. The cost of materials has skyrocketed in recent months, and everyone involved in energy projects is vulnerable to those cost fluctuations to ensure that ratepayers aren't paying higher electricity rates. YEC recognized that extra studies it can be a real burden on proponents and predicted that the new process would reduce those risks, along with the benefit of experience that both utilities now have.

**Q:** *Why has winter pricing been put in the “long term” action basket? There should be enough grid stability to proceed with intermittent winter power sources and there must be room to increase winter generation.*

**A:** YG said that this idea might better belong in a medium-term timeframe (note: Groundswell had assigned the “long term” label to this action). A more complex rate structure would be one of the first things YG talks about in the next round of IPP program development. There is some complexity that has to be worked through.

**C:** *The winter pricing issue may be portrayed as being more complicated than it is. The current YUB rate is based on costs two years ago. We know that actual costs are quite a bit higher than what IPPs are getting paid now, and we’re bringing more diesel on to the system. We pay the difference through Rider F, and we’re paying for extra generation at Aishihik and Mayo (and now Atlin), so we pay for it one way or another. It’s better to pay for it and see incentives for more winter renewable generation.*

**A:** YEC shared its perspective that winter pricing doesn’t fit neatly with the current regulatory framework. IPPs lock in for the sake of certainty and if the cost of diesel goes down they are protected. It is doubtful that IPPs would accept a model based on the actual variable costs, and (to best of its knowledge) there is no such system governing IPP rates in operation right now. Lending institutions are much more comfortable with a price that is locked in and subsequently inflated.

YEC further commented that there might be models to work with but overall ratepayers can’t be penalized by putting a more sophisticated pricing structure in place and so you must be careful. Paying a premium in the winter would imply paying a discount in the summer and getting that balance right might not be straightforward.

**Q:** *How might batteries fit in with individual IPP projects? Are you getting benefit from the battery even when solar farms aren’t producing because you can offset some of the diesel generation?*

**A:** YEC is still looking at this. First it needs to know if Yukon’s grid will be facing stability issues even with the existing 40 GWhr allocation, and whether the battery must work really hard to keep the grid stable. The economics are more likely favourable to battery storage on a centralized level. The feedback from developers suggests that IPP project economics are quite sensitive; adding battery costs may really add to the challenge (note: a developer shared that the cost of battery backup for their project was estimated at double the cost of the power plant itself). YEC had to build a business case to YUB around how the battery would offset diesel; it wasn’t about solar projects. YEC doesn’t charge any costs to IPPs for the battery, there is no mechanism under the program as currently designed.

**Q:** *What renewable energy projects are most desirable to YEC?*

**A:** YEC noted that Yukon is short on winter energy and capacity. The Atlin EPA is indicative of what YEC values: winter energy and capacity. Over the longer term, seasonal storage will also be high priority.