

ENERGY STRATEGY FOR YUKON

Micro-Generation Policy

October 23, 2013



BACKGROUND

The Yukon government released the *Energy Strategy for Yukon* in January 2009. The Energy Strategy sets out the government's energy policies and priorities.

In the Energy Strategy, the government committed to developing policies that will assist individuals to connect renewable energy sources to the grid.

Between November 2009 and February 2010, public consultation was conducted on a discussion paper on micro-generation and independent power production. Through that consultation, the public indicated clearly that there should be separate policies for micro-generation and independent power production. Subsequently, a specific policy for micro-generation was released for public consultation. Valuable input was received on proposed policy objectives, eligible energy sources, size of electricity projects, connecting to the grid, financial arrangements, policy framework, and roles and responsibilities.

This policy is part of the Energy Strategy's priority action to "update and develop a policy framework for electricity that emphasizes efficiency, conservation and renewable energy" by assisting "individuals to connect renewable energy sources to the grid" (p.15).

SCOPE

Application

This policy applies to customers in the residential, general service and industrial classes as defined under the Rate Schedules and the Terms and Conditions of Service, who want to generate electricity from eligible sources for their own consumption. This policy does not apply to Secondary Sales connections. The electrical generation will be interconnected to Yukon Energy Corporation's (YEC) or Yukon Electrical Company Limited's (YECL) distribution systems.

Policy Objectives

Working with our utility partners, the objectives of the micro-generation policy are to:

- a. Provide opportunities for Yukoners to produce electricity from renewable technologies for their own consumption.
- b. Encourage the development and adoption of new individual renewable energy sources to reduce greenhouse gas emissions.
- c. Support ongoing research and technology to diversify renewable energy sources.
- d. Promote energy conservation and greater energy efficiency.



POLICY PARAMETERS

Eligible Energy Sources

Eligible energy sources under this policy are limited to renewable technologies, which generally include wind power, micro-hydro, biomass, and solar systems. New renewable technologies will be considered as they emerge.

Size of Electricity Projects

Micro-generation name plate capacity of less than 5 kilowatts for customers on a shared transformer, and less than 25 kilowatts for customers on a single transformer will be assessed through a streamlined utility approval process. Micro-generation name plate capacities larger than these limits up to 50 kilowatts will be considered on a case-by-case basis by the utilities and will be subject to a detailed review of the customer's current infrastructure capacity and local grid reliability factors. Costs related to this review will be the responsibility of the customer.

Customers considering projects larger than 25 kilowatts are cautioned not to incur any expenses until the appropriate utility has approved the micro-generation project for connection to the grid.

Connection to the Electrical Grid

Technical interconnection standards are required to ensure the safety of utility workers, micro-generation customers, and equipment. Yukon-wide interconnection standards and interconnection agreement templates will be developed by the utilities within three months of the effective date of this policy and presented to the Yukon Utilities Board (YUB) for approval to ensure safety and consistency of application. The utilities have the right to limit the number of micro-generation customers in circumstances where infrastructure and/or technical constraints exist.

Financial

The following principles will be used in the development and implementation of the utility interconnection standards, utility policies and the Yukon government "Micro-Generation Production Incentive Program" described in appendix A.

1. The utilities will pay for, own, operate and maintain the metering equipment for the micro-generation customer.
2. The utility will install a single, bi-directional meter that minimizes interconnection costs but allows the utility to measure both imported energy from the grid and exported energy from the micro-generation customer.
3. The micro-generation customer is responsible for the interconnection costs and any potential transformer upgrade requirements.
4. All Yukon micro-generation customers will be eligible for the Yukon government's "Micro-Generation Production Incentive Program". This program will reimburse customers for the amount of electricity exported to the grid at a rate reflective of



the avoided cost of new generation in the territory. Details of this program can be found in Appendix A.

5. All Yukon micro-generation customers who live outside of municipal boundaries will be eligible for the Yukon government's Rural Electrification and Telecommunications Program. This program offers rural Yukoners an affordable and convenient way to install electrical or phone services at their home or business through land taxation based financing. Details of this program can be found in Appendix B.
6. Exported energy does not include energy produced by a micro-generation system but consumed within the building in which the micro-generation system is installed. For the purpose of this policy "exported" is the instantaneous net of energy consumed and produced within the building at any given time; however, energy produced for consumption within the building will result in reduced electricity imported from the utility and therefore result in reduced electricity bills for the customer.
7. The utility will report to the micro-generation customer and the Yukon government on the total energy exported for a given time period.
8. Yukon government will compensate micro-generation customers through the Micro-Generation Production Incentive Program on an annual basis based on the anniversary date in which the system was approved by the utility through the utility interconnection standards.

ROLES AND RESPONSIBILITIES

Joint Responsibilities of the Government of Yukon and the Utilities

1. Implement, maintain and communicate this policy.
2. Evaluate this policy two years from the effective date to ensure its implementation is meeting the policy objectives.

Government of Yukon

1. Ensure this policy is consistent with the *Energy Strategy for Yukon*, the *Climate Change Action Plan*, and other government priorities.
2. Meet obligations under First Nation Final Agreements, and ensure this policy is consistent with those obligations.
3. Deliver the "Micro-Generation Production Incentive Program" as described in Appendix A of this document.
4. Provide information to customers seeking to become micro-generation customers with respect to forecasting capital/maintenance costs and potential energy savings.



Utilities (YEC/YECL)

1. Develop technical interconnection standards and an interconnection agreement template within three months of the release of this policy.
2. Determine whether micro-generation customers meet the interconnection standards and are therefore eligible for micro-generation.
3. Provide estimates to customers of any upgrades required on the utility side of the meter for interconnection to the grid.
4. Assist the Yukon government in delivering the “Micro-Generation Production Incentive Program” by reporting to the Yukon government and the customer all electricity exported to the grid.

YUB

1. Review and approve the proposed technical interconnection standards and interconnection agreement templates for micro-generation as required.

Micro-Generation Customer

1. Meet the interconnection standards set by the utilities.
2. Notify the utilities of micro-generation plans and make available the electrical generation project for inspection by the utilities, or the applicable government regulator. The installation of all eligible energy sources must conform to relevant municipal by-laws, and to territorial and federal regulations.
3. Enter into an interconnection agreement with the relevant electrical service provider (YEC or YECL).
4. Be responsible for their own cost/benefit analysis.

DEFINITIONS

Name plate capacity – The maximum rated capacity of a generation unit.

Micro-Generation – The small-scale generation of electric power by individuals, small businesses and communities to meet their own needs, as alternatives or supplements to traditional centralized grid-connected power

Secondary sales – Those connections defined under Rate Schedule 32 “Secondary Energy”.



Appendix A

Micro-Generation Production Incentive Program

BACKGROUND

The Micro-Generation Production Incentive Program is a Yukon government program designed and delivered to support the Yukon Micro-Generation Policy. The purpose of this program is to offer a production incentive to micro-generation customers that encourages the installation and operation of renewable energy based micro-generation technology in the territory.

SCOPE

Application

This program applies to customers in the residential, general service and industrial classes as defined under the Rate Schedules and the Terms and Conditions of Service, who want to generate electricity from eligible sources for their own consumption. This program does not apply to Secondary Sales connections. The electrical generation will be interconnected to Yukon Energy Corporation's (YEC) or Yukon Electrical Company Limited's (YECL) distribution systems.

Program Objectives

The objectives of this program are to support the objective of the Yukon's Micro-Generation Policy by:

- a. Encouraging the development and adoption of new individual renewable energy sources to reduce greenhouse gas emissions.
- b. Supporting ongoing research and technology to diversify renewable energy sources.
- c. Promoting energy conservation and greater energy efficiency.

ELIGIBILITY CRITERIA

Basic Eligibility Criteria

In order to be considered eligible for this program applicants must meet all utility requirements under the Micro-Generation Policy for Yukon including: system size, eligible energy source, and all interconnection standards.

Eligible Energy Sources

Eligible energy sources under this policy are limited to renewable technologies, which include wind power, micro-hydro, biomass, and solar systems. New renewable technologies will be considered as they emerge.

Electric Inspection

Applicants must provide proof that their micro-generation system has been inspected by both a qualified electrical inspector (territorial or municipal) and the relevant electrical utility for their region.

PRODUCTION INCENTIVE

Micro-Generation Production Incentive

Successful applicants to the Yukon government's Micro-Generation Production Incentive Program will receive an incentive for electricity exported to the grid that is reflective of the current avoided cost of new electrical generation in the territory.

The incentive rate will apply to electricity exported to the grid and be set at \$0.21/kWh on the Yukon's Integrated System (YIS) and \$0.30/kWh in electrically isolated communities powered by diesel generation. This rate will be reevaluated after two years to ensure its relevance as an appropriate incentive rate. These rates are based on the latest analysis conducted by the utilities on avoided cost of new generation supply and published through the Yukon Electric Company Ltd. 2013 rate application (DSM Plan Appendix F).

Any electricity produced by the customer but used by the customer within their own facility will not receive this incentive. Only electricity exported to the grid will receive a production incentive through the Yukon government's program. Through this process the incentive further encourages energy efficiency within the customer's home or business (the less energy used internally the more production incentive offered).

Export data will be collected by the utilities and reported to both the micro-generation customer and the Yukon government. The Yukon government will reimburse micro-generation customers on an annual basis for all exported electricity accrued through the year.

APPLICATION PROCESS

Before applying for the Yukon government's Micro-Generation Production Incentive Program applicants must apply and be accepted by their local utility as a micro-generation customer. This will require meeting all of the utility's interconnection and safety requirements for a micro-generation customer as set out by the utility.

For more information contact the Yukon Energy Corporation or the Yukon Electrical Company Ltd. (contact information provided below).

Applications to the Micro-Generation Production Incentive Program can be made to the Yukon government's Energy Solutions Centre, 206A Lowe Street, Whitehorse, Yukon Y1A 1W6. Application forms will be available at the Energy Solutions Centre office (206A Lowe Street), the Energy Solutions Centre Website (www.energy.gov.yk.ca), and local utility offices.

Micro-generation customers can choose to opt out of the Micro-Generation Production Incentive Program; however, no credit for electricity exported to the grid will be received from the utility or the Yukon government.

YUKON INTEGRATED SYSTEM COMMUNITIES

The following communities and surrounding areas make up the Yukon Integrated System:

Dawson City, Keno, Elsa, Mayo, Stewart Crossing, Pelly Crossing, Carmacks, Faro, Ross River, Haines Junction, Whitehorse, Marsh Lake, Tagish, Carcross, Teslin

Isolated Communities that are served by diesel generation include the following:

Beaver Creek, Burwash Landing, Destruction Bay, Old Crow, Upper Liard and Watson Lake

CONTACT INFORMATION

For information about this program and the Yukon's Micro-Generation Policy contact the Yukon Government's Energy Solutions Centre or visit our website at:

Website: www.energy.gov.yk.ca

Phone: (867) 393-7063 or toll free at 1-800-661-0408, ext. 7063

Email: energy@gov.yk.ca

Mail or Storefront: 206A Lowe St., Whitehorse Yukon, Y1A 1W6

For information about the Yukon's micro-generation interconnection standard contact your electrical service provider (YEC or YECL) at:

Yukon Energy Corporation

Phone: (867) 393-5300 or toll free at 1-866-926-3749

Mail: #2 Miles Canyon Road, Box 5920, Whitehorse Yukon, Y1A 6S7

Yukon Electrical Company Limited

Phone: (867) 633-7000 or toll free at 1-800-661-0513

Mail: 100-1100 1st Avenue, Whitehorse Yukon, Y1A 4T4

RURAL ELECTRIFICATION

POLICY & GUIDELINES

1. Objective and Program Overview

The program objective is to facilitate the extension of electrical services to rural residential, small load commercial and other non-industrial property outside incorporated communities where the Yukon Government is the property taxation authority.

The program will consider support for a range of electrical service installations from single site specific installations to multiple properties in larger geographic areas. It provides planning, design, project management, and project financing at favorable interest rates.

The program is jointly sponsored by the Yukon Development Corporation (YDC) and the Department of Community Services (CS).

2. Definitions

“alternative service” means electrical power generated from sustainable energy sources such as wind, solar, and water and distributed from a permanent standalone installation not connected to the WAF (Whitehorse/Aishihik/Faro electrical transmission) grid that is serving a single property;

“capital costs” means costs relating to the construction of a primary electrical service extension or a secondary service extension;

“interest” is Bank of Canada rate in effect at the time the project approval ballot survey is issued;

“owner” with respect to real property means:

- (a) an owner with fee simple title or ownership in which the rights, obligations and liabilities are equivalent to fee simple, specifically Category A and Category B Settlement Land where the Yukon Government is the property taxation authority;
- (b) a purchaser by way of agreement for sale with the Government of the Yukon or the Government of Canada;
- (c) a lessee from the Government of the Yukon or the Government of Canada, and where the remaining term of the lease for which the property taxes are payable by the lessee is equal to or greater than the amortization period ; or

- (d) the Department of Indian Affairs and Northern Development acting on behalf of the Indian Band with respect to land which has been reserved or set aside by notation in the property records of the Department of Indian Affairs and Northern Development.

“primary electrical service” means the main electrical power distribution line for all properties within a project area, including supporting poles or underground conductors, and all necessary high voltage transformers;

“rural property” means real property located outside of the boundaries of a municipality;

“secondary electrical service” means the electrical power distribution line required to deliver electrical power to a property from a primary electrical service, including all transmission lines, supporting poles and underground conductors, including the transformer(s) directly required as a part of an individual service connection located on the property;

“project area” means an area of rural property, the boundaries of which have been defined by the Yukon Energy Corporation and Yukon Electrical Company Ltd. where appropriate, with input from affected property owners and the Department of Community Services.

3. Principles and Practices

The Rural Electrification Policy is based on the following general principles and practices. These principles and practices will be used to guide operational decisions that are not covered by explicit policy provisions.

A. Responsiveness to Needs of Rural Yukoners

The provision of rural electrification services will be in response to requests from rural property owners.

B. Public Participation

The rural property owners that may benefit or be directly impacted will have the opportunity to participate in both the planning and decision-making processes for electrification projects.

C. Democratic Project Approval

The approval of rural electrification projects will be determined through a democratic vote of a special majority of the property owners in the project area.

D. Cost-effectiveness, Prudent Planning, and Utility Standards

Services must be planned from an area and community development perspective consistent with applicable standards and impacts for the systems as a whole.

E. Full Cost Recovery

Property owners within a project area must contribute a fair share of the full costs for providing rural electrical services to their properties.

F. Equitable and Proportional Distribution of Costs

Property owners who receive an equitable benefit from a rural electrification service, both at the time the service is provided or at a subsequent time, should pay an equitable and proportional share of the costs of the service.

G. Creating Partnerships

The provision of rural electrical services should be achieved by property owners, service providers and the Yukon Government working in a cooperative, open partnership.

4. Criteria

4.1 Eligibility

Eligible applicants are rural Yukon people, small load commercial and other non-industrial businesses or property owners seeking the extension of electrical services to property outside the boundary of an incorporated community who are owners as defined in Section 2.

To be eligible, an application for stand-alone alternative electrification service to a single property must require funding of at least \$1,000.00.

Specific Exclusions

Developers who have undertaken the construction and servicing of a subdivision are not eligible applicants, however where a developer continues to hold a minority number of the total properties in a service area, the developer is included under 5.2 and 5.4.

Major and isolated industrial customers subject to OIC 1995/090 and resource development projects eligible under the Energy Infrastructure Loans for Resource Development Program (OIC 1993/099 as amended) are not eligible applicants.

4.2 Scope of electrical services

Program funding is intended to enable installation of primary and secondary electrical distribution infrastructure and/or permanently installed alternative services to property. Where necessary, provision may be

made for improvements to transmission or substation facilities to allow a rural electrification project to proceed.

Only infrastructure and installations meeting utility standards and specifications or other applicable codes and standards will be supported. Electrical service regulations approved by the Yukon Utilities Board also apply.

4.3 Financing

4.3.1 Program Financing

The level of program funding available for financing electrification projects through the Rural Electrification and Telecommunication Program, is set each year by appropriation. Funding availability shall be subject to the necessary approval of the Yukon Legislative Assembly.

4.3.2 Project Financing Terms and Conditions

Projects costs are determined on an all-inclusive basis including extraordinary planning not normally covered by the service provider, capital costs, and interest on the amortized principal.

Funding for each project, excluding any contribution by the service provider, is limited to a loan maximum of 25% of the total assessed value of land and improvements within the project area. The investment is secured through a local improvement charge to property owners, under the authority of the Assessment and Taxation Act.

4.3.3 Public Utility Contributions

Limited contributions may be available from the Yukon Energy Corporation or The Yukon Electrical Company Ltd. (YECL) in accordance with the electrical service regulations approved by the Yukon Utilities Board.

Subject to justification based on the benefits to other rate payers or the system as a whole, and related regulatory and budgetary approvals that may apply, the Yukon Energy Corporation or Yukon Development Corporation may contribute to upgrading or changes to transmission or substation facilities as part of a rural electrification project.

4.3.4 Equitable Allocation of Costs

All property owners within the area covered by the project will be allocated an equitable portion of the all inclusive project cost from the outset, either as a lump sum or through a local improvement charge, identified on the annual property tax notice, and amortized over a term of up to 15 years depending on the size of the project, and where possible, the preference stated by the affected property owners.

4.3.5 Fair Contribution Toward Existing Systems

Properties outside the original project area who, at a later date, choose to subscribe to an already implemented rural electrification project may apply for the electrical infrastructure specific to their project area, which would be calculated as a separate new project.

Property owners who apply for a service extension which is dependent on an existing electrical system extension that was implemented under this program shall, for a period of 15 years following completion of the initial project, make a fair and proportional contribution toward the costs of the existing electrical system extension. The contribution will be rebated to the owners of property in the original project area, unless they have already been rebated by the utility.

Properties inside the original project area that were not yet approved for legal land tenure when the initial project was completed shall, for a period of 15 years following completion of the initial project, make a fair and proportional contribution toward the costs of the existing electrical system extension. The contribution will be rebated to the owners of property in the original project area, unless they have already been rebated by the utility.

5. Application and Approval Process

5.1 Expression of Interest

Application forms are available from, and must be submitted to, Property Assessment and Taxation, Department of Community Services. Requests are dealt with on a first come, first served basis.

5.1.1. a) Stand-alone Services

For an application requesting stand-alone alternative energy service to one property, the applicant(s) are encouraged to solicit competitive proposals from service providers. If the proposed project is determined, through the technical analysis, to be not cost-effective or not competitive, the applicant(s) will be required to seek competitive proposals

The applicant(s) must provide information for technical review and approval which includes:

- property that would be served by the proposed solution;
- features and benefits of the proposed solution;
- detailed information on equipment including costs.

b) Other Single Property Services

With the support of the applicant(s), a project benefiting a single property can proceed to “Detailed Planning and Costing”.

5.1.2 Multiple Property Application

For an application requesting service to two or more properties, preliminary work on the identification of project area, infrastructure requirements, costing including a reasonable planning deposit, if required and financing alternatives, will be undertaken through the Yukon Energy Corporation in cooperation with the Department of Community Services and The Yukon Electrical Company Limited where appropriate.

With the support of the applicant(s), and any other beneficiaries, small projects, can proceed to “Detailed Planning and Costing”. For other projects, if interest is sustained after the review of preliminary information with project proponent(s), a public information meeting may be organized by the Department of Community Services in cooperation with the appropriate utility and proponents. A project may proceed to the Verification of Support Vote or lapse at this stage.

5.2 Verification of Support Vote

Formal survey of all property owners within the project area proposed for electrification services may be undertaken through a mail ballot survey (Vote #1). The Ballot will provide information about the proposed service, and the amount of the planning deposit required, if any, from property owners in the project area.

Each property owner will have the opportunity to vote on whether the project should proceed to detailed planning and costing. Approval by a special majority of 65% of those who respond to the survey ballot is required..

5.3 Detailed Planning and Costing

If the required support is obtained and the planning deposit, if any, is paid, the sponsoring agencies proceed with detailed planning, costing and financing analysis. A specific service plan and budget estimate will be prepared by the Yukon Energy Corporation or The Yukon Electrical Company Ltd., or the appropriate service provider, along with a forecast by the Department of Community Services of the local improvement charges the property owner(s) would pay.

If there is a significant and material change in the final project plan and cost estimates, the proposal may be subject to further review with affected property owners before it can proceed for project approval voting.

The financing plan will include eligible contributions by YEC or YECL pursuant to the Electrical Service Regulations, and other contributions, if any, justified on the basis of benefits to other rate payers or the system as a whole.

5.4 Project Approval by Property Owners

5.4.1 Single Property Application

After confirming program loan funding, the Department of Community Services will require the property owner to enter into an Agreement authorizing the project and agreeing to repayment terms.

5.4.2 Multiple Property Application

After confirming program loan funding and that the project is feasible, a mail ballot is undertaken (Vote #2). This ballot will include the information necessary for property owners to understand the financial implications and costs to individual properties, of the proposed electrification service, and provide each affected property owner with the opportunity to vote on whether the proposed service should proceed as planned and estimated.

Approval by a special majority of 65% of property owners in the proposed project area, is required for the project to be implemented.

5.5 Installation

If the required support is obtained, YEC and/or YECL, or the service provider in the case of an alternative service installation are responsible for the installation of electrical services based on the specific project contribution that was approved by the property owner(s) in the project area.

5.6 Recovery of Costs

After completion of the installation project and final costs are known, a regulation pursuant to the Assessment and Taxation Act will be prepared, to attach local improvement charges to all properties in the project area, for the recovery of the project costs. Local improvement charges are payable on an annual basis for a defined period (e.g., up to 15 years) or can be paid out as a lump sum.

Should CS become aware that a stand-alone system which was funded through this program is not functional or has been removed, the property owner may be required to pay the LIC in full immediately.

5.7 Deferment

Where a rural electrification system serves two or more properties, a property owner may choose not to hook up to the system and enter into an Agreement to defer payment of the Local Improvement Charge for up to 15 years, subject to legislative amendment, from the completion date of the system.

The property owner will be required to start paying the deferred Local Improvement Charge:

- 1) if they hook-up to the service;
- 2) at the expiry of the deferment period.

The property owner must pay the deferred Local Improvement Charge in full if the property is sold.