

## Technical

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### Q1. What are the technical requirements for an RE System to qualify for interconnection under the programme?

A1. A full set of technical requirements are outlined in GRENLEC's Interconnection Policy, which is available at [grenlec.com](http://grenlec.com). Among the key requirements:

The system must be capable of interconnecting to GRENLEC's distribution voltage (230 V single phase or 400 V three-phase) and frequency 50 Hz.

For inverter based systems, inverters must meet the UL01741 standard or equivalent.

Solar PV systems must be installed in accordance with the IEEE 929-2000 standard and pass electrical inspection.

For some systems over 10 kW, GRENLEC may require reactive power/voltage support, based on the findings of the System Impact Study.

### Q2. What are the safety/protective equipment requirements?

A2. The RE system must include effective grounding, appropriate protective equipment to isolate faults in the customer's RE facility or GRENLEC's network. The system must also include a lockable disconnect switch to allow GRENLEC to isolate it.

### Q3. What type of equipment does GRENLEC specify/recommend?

A3. GRENLEC does not specify the source, origin or type of technology. The requirement is for the system to be based on a renewable source/s and meet the technical requirements described in A1 above.

### Q4. Are there any size limits for systems interconnected?

A4. Under the present Standard Offer of 500 kW, GRENLEC can approve up to a maximum capacity of 100 kW for each customer location. Where a customer desires to install a system above 100 kW up to a maximum 1 MW, GRENLEC may agree to negotiate a separate arrangement.

### Q5. What size system should I install?

A5. Each customer determines the size of their system based on their budget, available space and

objectives. Typically, customers size their RE systems, so that the expected credit is approximately equivalent to their consumption charge. However, systems may be sized smaller or larger, within the limits of the programme. Where the credit is less than the consumption charge, the customer will pay any difference. Where it exceeds the consumption charge, GRENLEC will accumulate any net amount and pay to customers, on request, after three or more months.

### Q6. How will I know how much my system is generating?

A6. All of the energy generated is supplied to GRENLEC's grid via a revenue class meter furnished by Grenlec. This meter will be read at the same time as the customer's consumption meter and this reading will determine the credit from Grenlec for each billing period. The customer can monitor the reading on this meter and compare with the bills/statements.

### Q7. How can I achieve optimal performance of my RE system?

A7. Customers should maintain their installations in accordance with guidelines provided by manufacturers and installers.

Ensure maximum output by clearing obstacles to the energy source. For example, trim tree branches that shade solar panels.

Customers are also encouraged to monitor the operation of their systems regularly to allow early detection or failure of system or components that may reduce or interrupt generation.

## Financial/Billing

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### Q8. How is the rate paid for RE generation determined?

A8. The rate is based on a calculation of the fuel portion of Grenlec's generation costs. It is the value of the fuel the Company avoids burning because of the energy supplied by RE customers.

Customers choose from two rate options:

1. **Fixed rate** - \$0.45/kWh is an estimate of the average expected fuel cost of generation over a 10 year period from 2011.

2. **Variable rate** - adjusted annually and uses the average fuel cost of generation in the prior calendar year.

Variable Rate Movement	
Year	Rate / kWh
2015	\$0.50
2014	\$0.54
2013	\$0.56
2012	\$0.54

**Q9. Why is the rate at which I sell to GRENLEC different than the rate I pay GRENLEC for service?**

A9. The value to GRENLEC of the electrical energy it buys from RE customers is the fuel that the Company does not have to burn to meet demand, as a result of the energy supplied by RE customers. This is referred to as avoided fuel cost and is the basis for the rates that GRENLEC compensates customers.

Customers pay GRENLEC for electrical energy with value added to ensure that this energy is available whenever it is needed, at the quantity required, while meeting specific power quality standards and safety requirements.

**Q10. What factors determine the financial viability of participation in the RE programme? / How soon can I recover my investment cost?**

A10. Grenlec is encouraging customers to participate in this programme to promote environmental sustainability, to promote national energy security and for economic benefits.

Customers are responsible for evaluating the financial feasibility of planned interconnections. In determining the payback period, consider:

- Total cost of the investment (includes the initial cost of installation plus the cost of operating and maintaining the RE system)
- Estimated production (system performance will vary with wind patterns and sunlight for wind and solar systems)
- Rate options (fixed or variable) that customers choose from when signing up to Grenlec's RE Interconnection Programme.

**Q11. What fees can customers expect to pay?**

**A11. SCHEDULE OF FEES**

Fees current at publishing date and are periodically revised. Please consult our website or Customer Care Team for applicable fees. Fees are subject to VAT.

Schedule of Fees			
Application Fee	\$ 150.00		
System Impact Study	\$3,000.00	Where applicable	
Contribution to System Modification	As determined by Study	Where applicable. See note below.	
Security Deposit	From review of account details		
	<b>Single Phase</b>	<b>Three phase</b>	
Connection Fees	\$100.00	\$350.00	
Meter Relocation Fee	\$ 60.00	\$60.00	Where applicable
Contribution to metering costs	\$380.00	\$2,180.00	Revised periodically

For systems larger than 10kW there may be a need for an engineering study called a **System Impact Study**. This study will assess how customers' interconnection will interact with GRENLEC's infrastructure. If such a study is required, GRENLEC will request approval to proceed from the customer, who will be required to meet the cost of \$3000.00 before the study is undertaken, in addition to the cost of any upgrades or mitigation measures that the study recommends.

To accurately determine the amount of energy supplied by a customer's RE system to GRENLEC's grid, a revenue class energy meter is required.

The cost of this metering is shared between the customer and GRENLEC. The customer pays for the initial meter and installation. GRENLEC owns the meter and is responsible for its maintenance, including replacing it at the Company's expense if the meter fails.

**Q12. Will I have a zero bill, meaning nothing to pay when I sign up for the RE interconnection programme?**

A12. Customers will continue to receive bills every month for all electricity consumption. These bills must be paid by the due date. Credit for the energy supplied to GRENLEC by a customer's RE facility will be applied to these bills, thereby reducing the amount the customer has to pay to GRENLEC. If the credit is sufficiently high, a customer can eliminate the due amount or even have a net amount that GRENLEC will pay on request if it is accumulated for three or more months.

**Q13. Do I still have to pay a bill every month?**

A13. Customers will continue to receive monthly bills that must be paid by the due date. These bills will show charges in respect of energy supplied by GRENLEC. They will also include credit for energy supplied to GRENLEC by customers' RE systems, as adjustments on the right side of the **Billing Details** table on bills.

Where the credit is less than the consumption charge, customers will pay any difference. Where it exceeds the consumption charge, GRENLEC will accumulate any net amounts and pay to customers, on request, after three or more months. Where customers do not request payments for net amounts, they will be applied to future bills.

**Q14. How and when will I receive credit for the energy generated by my system?**

A14. Credits for the energy supplied by a customer's RE system will be reflected on the monthly bill as an adjustment/discount. Any excess credit is accumulated each month. A customer may request a payment for any credit that may have accumulated over a period of three months or more.

**Q15. When should I expect my electricity bills?**

A15. GRENLEC will continue to read customers' meters according to the existing schedule, which is based on the location of your property (you can see this information on the left hand side of your bill).

However, bills for RE interconnection customers are issued either on the 15<sup>th</sup> or 25<sup>th</sup> day of each month.

**Q16. Why would the credit I receive differ from month to month?**

A16. The credit for any particular billing period is dependent on the amount of energy that a customer's RE system supplies to GRENLEC.

The amount of energy supplied during the period varies with:

- The availability of the energy source (e.g. PV solar systems produce less during rainy periods)
- The performance of the PV systems (e.g. if a PV solar system has soiled or faulty panels)
- The number of days in the billing period.

**Q17. Why should there be a security deposit and does that amount change?**

A17. There is no additional security deposit associated with the programme. Please note that the RE meter is associated with a customer's consumption meter for which a security deposit is always maintained. This deposit is an estimate of 2-months' usage, allowing the Company to extend credit to customers for almost two-months after electricity is used.

Example: A customer who uses electricity in August is billed in September and the payment deadline is in October.

GRENLEC asks customers to upgrade their security deposits from time to time. The Company pays each customer 4% interest on their security deposit every year. This appears on customers' bills as a credit in January or February.

The security deposit is returned to customers when they close accounts on which there are no outstanding balances.

**Administrative/Other**

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**Q18. What are the steps in obtaining an RE interconnection?**

A18. The following is a list of the steps involved in obtaining an interconnection under GRENLEC's Customer RE Interconnection Programme:

STEP 1 - Application

STEP 2 - Approval – Obtain approval before purchase and installation of equipment

STEP 3 - Procurement & Installation – After receipt of approval only

STEP 4 - System Commissioning (Within 12 months of approval)

STEP 5 - Contractual Obligations and Responsibilities during operational phase

**Q19. How does a customer apply to the programme?**

- A19. The application process involves a customer completing and submitting that appropriate application form based on the size of the system being applied for and paying the applicable non-refundable Application Processing Fee. (A simplified application form applies to systems with a capacity of 10kW or less). The application form should be submitted with supporting documents including:
- a. A one-line schematic diagram showing the proposed system components and their interconnection as well as the proposed grounding system

**Q20. Why should I sign the contract/agreement before receiving approval from GRENLEC to proceed with the project?**

A20. Customers are asked to sign the relevant interconnection agreement form prior to application processing to demonstrate that customers have read and understand the terms of the programme before committing to continue with the installation.

The terms of the agreement take effect after the system is commissioned when GRENLEC countersigns it.

**Q21. How long is the interconnection agreement/contract valid for?**

A21. Both the fixed and variable rate contracts under the current standard offer programme have a duration of 10 years. GRENLEC reserves the right to the change contract duration and any term of its interconnection programme but such programme modifications will not affect contracts that have already been executed.

**Q22. What happens after agreement expires?**

A22. GRENLEC's Interconnection Agreements provide for renewal under the terms and conditions being offered at the time a contract are being renewed. These contracts must be renewed prior to the expiration of existing contracts.

**Q23. What are the options for interconnection in Carriacou and Petite Martinique?**

A23. Existing and planned RE installations for Carriacou and Petite Martinique had exceeded the technical limit for intermittent RE generation on those two smaller electricity systems. Unfortunately, this means that GRENLEC will not be able to facility interconnection request on those islands. Customer on the sister island can still participate in the programme by locating the facility in mainland Grenada. The credits from any such system will function in the same way as if the system was collocated with the customer existing facility.