Isle au Haut Solar project

- Isle au Haut has a full time population of 73, maybe over 300 in the summer. Close to the minimum for a functioning town - school, store, roads, mailboat, government, library, etc.

- Company is a member owned, for profit co-op founded in 1969.

- Electricity rates are $0.32/kWh + $16/month; avg cost is about $0.38/kWh. 140 meters. About 10 miles of distribution lines on the island.

- 34 year old, 7 mile cable to the mainland. Two back-up diesels; if the cable fails running the island on diesel will more than triple our costs.

- Until the recent drop in the cost of wind and solar we thought our only economical option would be a new cable and a 50 to 100% increase in our costs.
• We now know we can lower our rates with a new solar/battery/diesel hybrid system.

• On-going community discussion for the last two years.

  • Company membership voted unanimously to move ahead with solar;

  • two special town meetings — one unanimous, one 80% in favor — transferred town land to the company.

• Plan is to build the system in two phases: Phase one will be designed to operate with the cable; when the cable fails we will transition to Phase two — complete grid independence.
Isle au Haut Electric Power Company

Cable and primary distribution lines

location of PV site

Single phase, 15KVA, 7 mile cable
34 years old

2400v single phase primary line

location of switching and large diesel genset

proposed PV site
Google Earth view of the PV site.

Land is on top of a hill with some of it sloping to the south. It is mostly granite ledge with an overlay of organic mat and some gravel.

There are no vernal pools. No grading will be done. A large number of 2” post holes will be drilled for the racks for the solar array.

Some small amount of fill may be needed for an access road.

The yellow boundaries mark the approximate location of the lot.
The proposed building site #2 in the southeast corner of the land was chosen and a concrete pad installed in the Fall of 2016. The proposed road, building site and septic field in the south center of the lot will not be used.
Proposed layout of the completed solar array (400 kw).

During phase one of the project 100 kW of panels and 100 kWh of batteries will be installed, probably in the south end. However, post holes for the entire array will be drilled during phase one. The final array will be about 400 kW and 1,000 kWh of batteries.

Orange path will be the route of cables, probably on the ground in conduit. A cleared way sufficient for the tracked drilling rig and other access will also follow the orange path.

A concrete pad (shown) on the survey above is located near the bottom right terminus of the conduit. The pad will hold outside battery and inverter equipment. Most likely there will be no enclosure.

The map of the array was provided by Hans Albee of ReVision Energy.