SENeca energy

“EMPOWERING THE SENECA NATION”

Anthony Giacobbe – Director Seneca Energy
“To ensure the security, prosperity and independence of the Seneca Nation by building a sustainable energy platform and lowering energy costs for the Nation and its residents”
Energy Vision

- Energy Sustainability
- Reduce Energy Costs
- Improve Infrastructure
- Economic Development
- Environmental Benefits
- Utilize Natural Resources
- Workforce Development
- Energy Information “Hub”
Framework for Success

Leadership

Strategic Vision

Capital Investment

Project Evaluation & Selection

Team Development
Strategic Planning

1. Identify stakeholders
2. Form Leadership Team
3. Assess Needs & Resources
4. Develop Energy Vision
5. Develop Specific Goals
6. Evaluate & Prioritize Projects
7. Identify Financing Options
8. Strategic Energy Plan
Critical Decision Criteria

- ROI – Return on Investment
- IRR – Internal Rate of Return
- Sustainability / Resiliency
- Sovereignty / Independence
- Capital Investment Required / Capital Available
- Nation Member Interest / Acceptance
- Economic Development
- Workforce Development
## Decision Matrix

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### Category

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<td>Time to completion</td>
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### Additional Notes

- **NG Infrastructure**: Score = 0
- **Wind Turbine**: Score = 6
- **Alleg. Solar**: Score = 0
- **NG Exploration & Production**: Score = 3
- **Microgrid**: Score = 0
- **Geothermal**: Score = 0
- **Solar Array**: Score = 0
- **Biomass**: Score = 0

**Score Calculation**

- **NG Infrastructure**: 0
- **Wind Turbine**: 6
- **Alleg. Solar**: 0
- **NG Exploration & Production**: 3
- **Microgrid**: 0
- **Geothermal**: 0
- **Solar Array**: 0
- **Biomass**: 0
Project Flowchart

- Project origination to project approval

- Includes multiple decision points:
  - Decision Matrix
  - Regulatory Permitting Process
    - Seneca Energy, EPD, Nat. Res. Comm., THPO, Legal, etc.
  - SE BOD Approval
  - B&F Committee Approval
  - Seneca Nation Council Approval
Project Implementation Phase I

- Feasibility / Public Outreach
- Leadership Presentations “Champion(s)”
- Technology / Resource Evaluation
- Site Selection
- Dept. / Agency Coordination
Project Implementation Phase II

- Financing
- Contracting / Permitting
- Construction
- Utility Interconnect
- Post Construction Admin., Monitoring and O&M
Seneca Energy Project Overview

Project Highlights

- Cattaraugus Fish Hatchery PV – 8 kW
- Allegany Fish Hatchery Microgrid/PV – 13 kW
- Oak Tree Housing PV – 10 kW
- LED Installations, EE Measures
- Microgrid Feasibility Studies
- Natural Gas Well P&A Project
- Cattaraugus Fiber Broadband Project
- Negotiate ROWs
- 1.5 MW Wind Turbine / 2MW Solar Array
1.5MW Vensys Wind Turbine

**Highlights**

- Capital investment: $3.5MM
  - $2.5MM in grants
  - DOE $1.5MM/NYSERDA $1MM
- Commissioned: 3/8/17
- Power: Virtually net-metered
- 7.5MM/kWh produced
- ~$575,000 revenue generated
- Community benefits - $25 monthly credit
- Project payback: ~8 years

**Generation/Emissions Stats**

- ~9.8MM kWh produced since commissioning
- Equivalent of powering ~1,361 homes (7,200 kWh NYS avg.)
- 1,497 cars emissions removed for 1 year
Turbine Construction
Rotor Fly
2MW Solar Array

Highlights

- Capital investment: $3.4MM
- Power: Virtually net-metered
- Project payback: ~11 yrs.
- ~5MM kWh generated
- ~Equivalent to 694 homes / 764 cars
- Financing:
  - Seneca Nation funded construction
  - NYSERDA Grant: ~650,000
2MW Solar Array
Contact Info. / Questions?

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