SENeca Energy

“EMPOWERING THE SENeca NATION”

Anthony Giacobbe – Director Seneca Energy
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Mission Statement

- The MISSION of Seneca Energy is 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.
Framework for Success

Strategic Vision

Leadership

Team Development

Capital Investment

Determination
Strategic Planning

- Identify stakeholders
- Form Leadership Team
- Develop Energy Vision
- Assess Needs & Resources
- Develop Specific Goals
- Prioritize Projects
- Identify Financing Options
- Strategic Energy Plan

Strategic Energy Plan
Strategic Planning

Opportunity to engage stakeholders

Guidance for dealing w/ challenges

Clear path to reach short & long-term goals

Long-term Strategy

Opportunity to engage stakeholders
Strategic Planning

- DOE First Steps Grant for Strategic Energy Planning
- DOE NREL Anemometer Loan Program
- TEDC/DEMD Grants
- Tribal Energy Program – Clean Energy Deployment Grant - 2015
- Seneca Energy Established - 2014
- DOI Strategic Energy Planning Assistance
- DOE Energy Efficiency and Conservation Block Grant
- DOE First Steps Grant for Energy Organization Planning

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DOE NREL Anemometer Loan Program

DOE First Steps Grant for Strategic Energy Planning
Energy Vision

- Energy Sustainability
- Reduce Energy Costs
- Improve Infrastructure
- Economic Development
- Environmental Benefits
- Utilize Natural Resources
- Workforce Development
- Energy Information “Hub”
Scientific evidence for warming of the climate system is unequivocal.

- Intergovernmental Panel on Climate Change (NASA – Climate Change Website)
Climate Change Effects
Climate Change Evidence

- **Global Temperature Rise** – 1.62 degrees F increase since late 19th century
  - Most occurring last 35 yrs.

- **Warming Oceans** – Top 2,300’ warming > 0.4 degrees F since 1969

- **Shrinking Ice Sheets** – Greenland lost an avg. of 286B tons of ice/year & Antarctic lost 127B tons of ice per year b/w 1993-2016
  - Antarctic rate has tripled in last decade

- **Glacial Retreat** – Rockies, Alps, Alaska
Climate Change Evidence

- **Decreased Snow Cover** – Over past 5 decades there has been less spring snow cover and it’s melting earlier

- **Rising Sea Levels** – Rose 8” in last century
  - Rate the last two decades is nearly double

- **Extreme Events** – “Rain bombs”, Record highs increasing, record lows decreasing since 1950

- **Ocean Acidification** – Acidity of ocean surface has increased by 30% since Industrial Revolution
  - Since late 1700’s/early 1800’s
Don’t ignore the signs
Greenhouse Gas Emissions

- Water vapor ($H_2O$)
- Nitrous oxide ($N_2O$)
- Carbon dioxide ($CO_2$)
- Methane ($CH_4$)
Seneca Project GHG Reductions

Over 25 year project lifecycle

- Reduce ~120MM lbs. of Carbon Dioxide (CO2)
- Reduce ~2.4MM lbs. of Sulfur Dioxide (SO2)
- 255,000 lbs. of Nitrous Oxide (NO2)
- 1,380,787 milligrams of mercury vapor
Project Implementation Phase I

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

- Financing
- Contracting / Permitting
- Construction
- Utility Interconnect
- Post Construction Admin., Monitoring and O&M
1.5MW Vensys Wind Turbine

**Highlights**

- 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**

- ~3.5MM/kWh annually
  - 486 homes powered/yr.
    - NYS 7,200 kWh/avg.
  - 4.3MM lbs./CO2 reduced annually
    - 147 cars off road/annually
Turbine Construction
Rotor Fly
2MW Solar Array

Highlights

- Investment: $3.4MM
- Commissioned: 10/16/17
- Power: Virtually Net-metered
- Project payback: ~11 yrs.
- Financing:
  - Seneca Nation funded construction
  - NYSERDA Grant: ~650,000
  - USDA - RUS Loan (currently reviewing)
Additional Projects

Project Highlights

• Catt Fish Hatchery PV – 8 kW
• Allegany Fish Hatchery Microgrid/PV – 13 kW
• Oak Tree Housing PV – 10 kW
• LED installations, EE measures
• Planning Bingo Hall PV – ~600 kW
• Microgrid feasibility study
• Natural gas well P&A project (27 wells since 2013)
• In process of planning a 2MW-5MW community solar project
• Residential solar loan program
Times Are Changing
Seneca Energy Team

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