



SENECA
NATION OF INDIANS



***SENECA ENERGY &
SENECA SOLAR***

“EMPOWERING THE SENECA NATION”

Anthony Giacobbe – Director Seneca Energy & Telecommunications

About Seneca Energy & Seneca Solar

- The Seneca Nation is a leader and innovator in deploying renewable energy projects on their Native lands.
- Seneca Energy and Seneca Solar are sister companies wholly owned by the Seneca Nation established to deliver solutions on and off Native lands.

Our mission is to **profitably and equitably deliver innovative renewable energy solutions that heal the Earth for current and future generations.**



- ✓ **Seneca Energy** is a tribally chartered entity of the Seneca Nation that provides renewable energy, natural gas, and broadband services to the members of the Seneca Nation.



- ✓ **Seneca Solar** is a division of Seneca Holdings, which delivers over \$250M in products and services annually with the size and infrastructure to execute large projects.



Our Values. Our Legacy

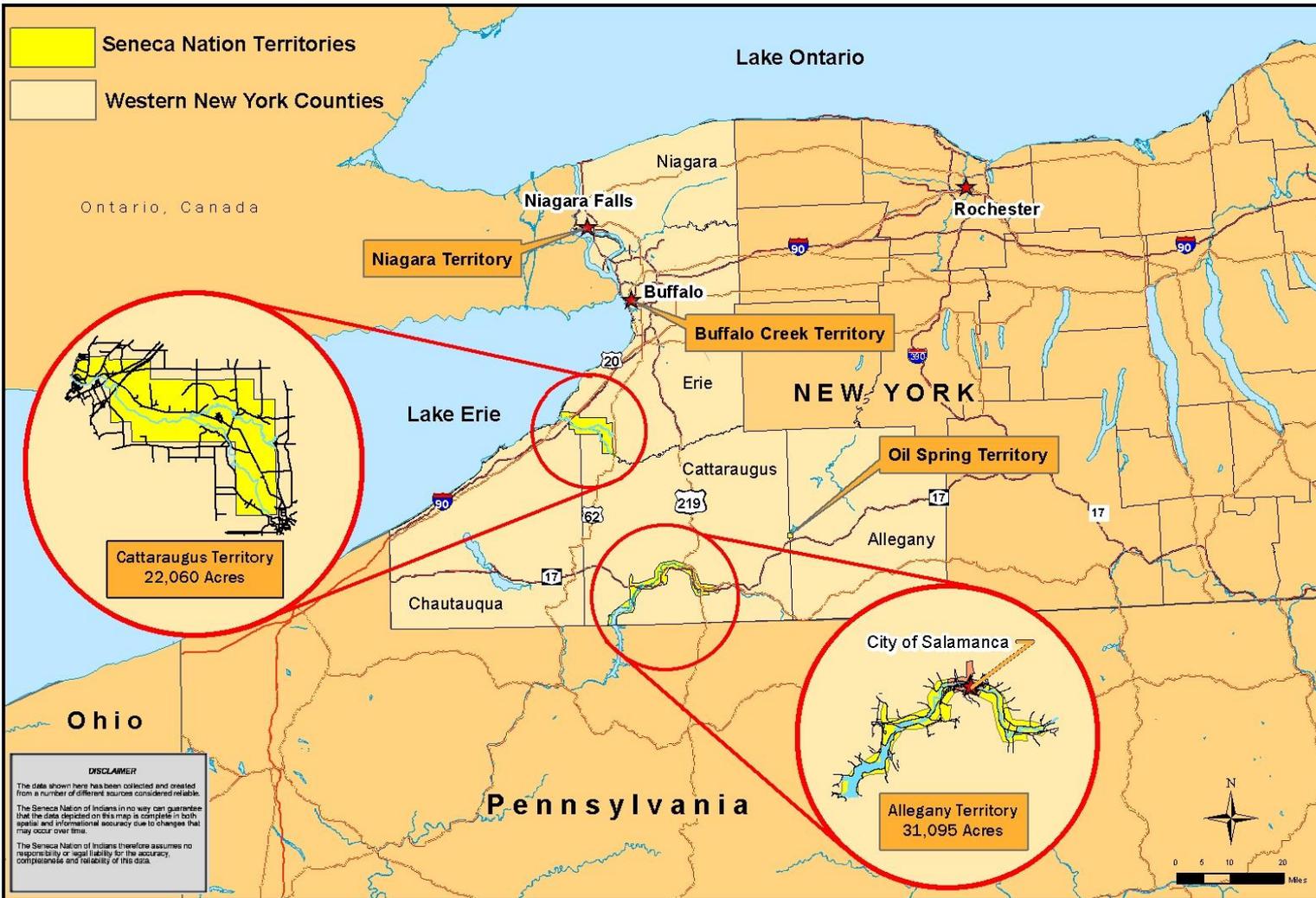


- **Care for and heal the Earth:** We feel urgency to maximize and accelerate healing of the Earth; our business is dedicated to restoring balance to humanity's relationship with our planet.
- **Deliver exceptional results:** We are professionals dedicated to exceeding expectations of our customers; we hold ourselves to delivering products and services of the highest quality.
- **Create training and employment opportunities:** We are committed to ensuring that Senecas and other Indigenous people around the world can participate in the clean-energy economy.
- **Invest for the Seventh Generation:** This Native principle compels us to advocate for future generations.



Seneca Nation of Indians

Locational Map of the Territories



Seneca Energy Mission Statement



“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

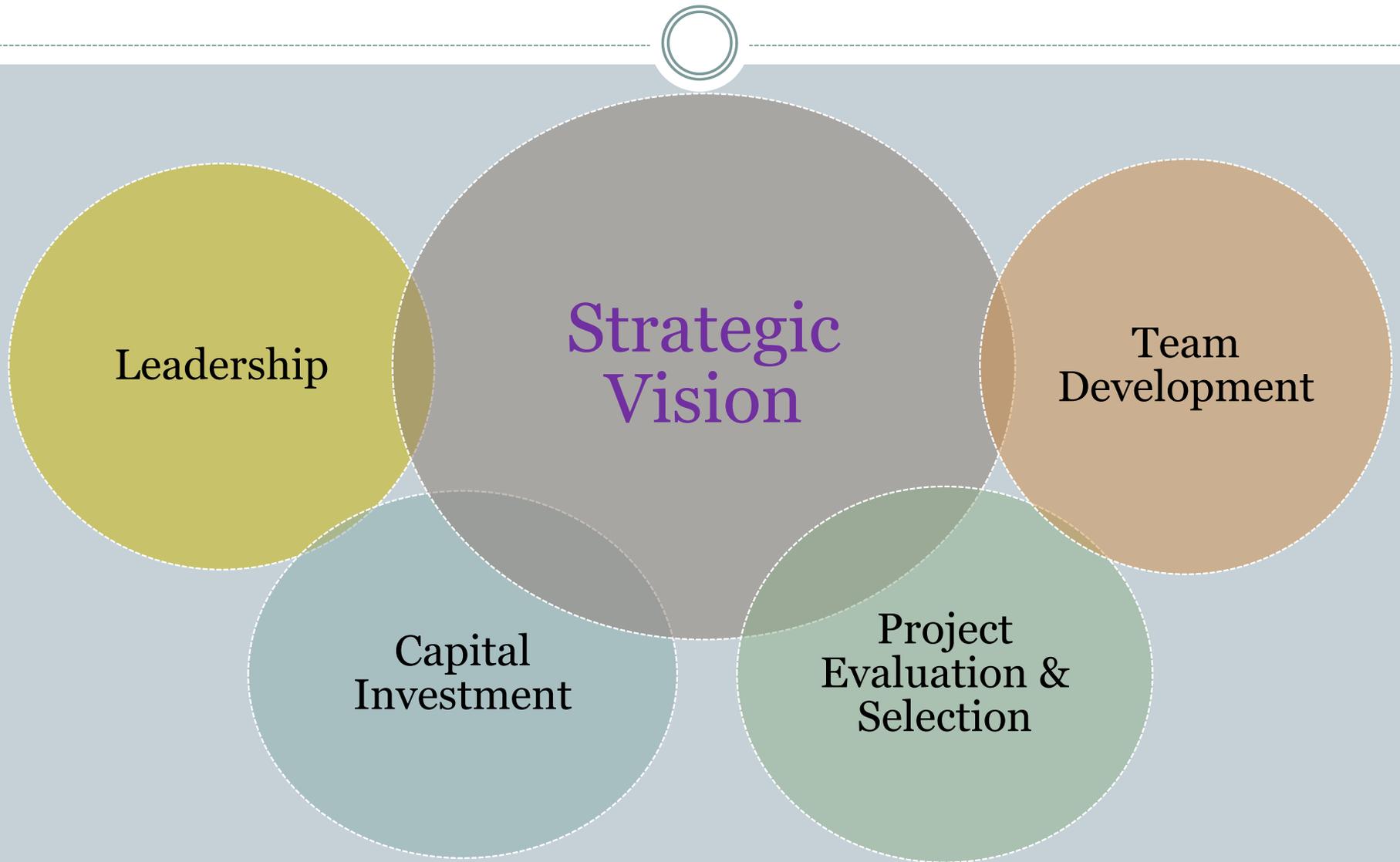
Utilize Natural
Resources

Workforce Development

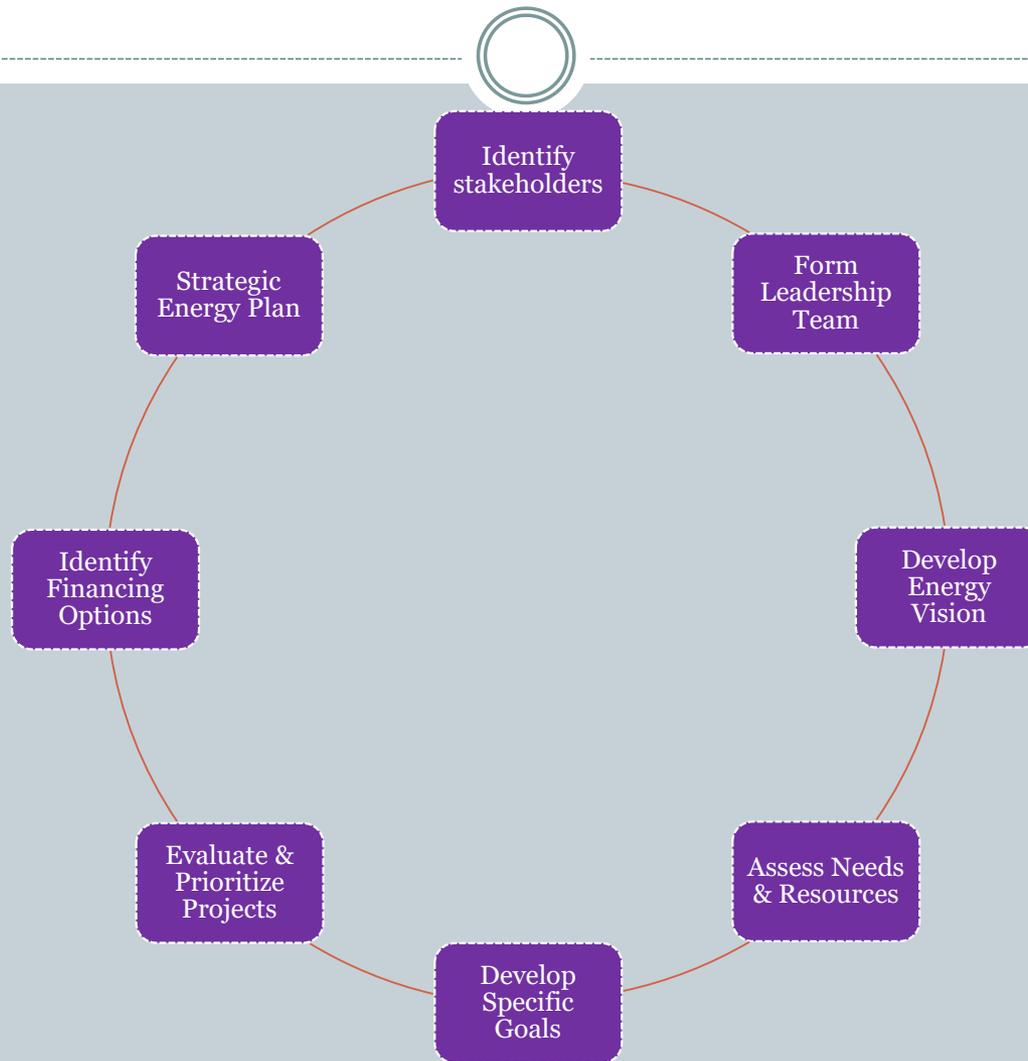
Energy Information
“Hub”



Framework for Success



Strategic Planning



Decision Matrix



	15.0%	12.5%	10.0%	7.5%	12.5%	15.0%	10.0%	10.0%	7.5%	100%	
<i>Option</i>	<i>ROI (PVI)</i>	<i>Gross Margin (Oper.)</i>	<i>Capital Investment</i>	<i>O&M</i>	<i>Energy \$ Saved for SNI</i>	<i>Energy Govern. (Dependence)</i>	<i>Nation Employment & Career Development</i>	<i>Public Acceptance</i>	<i>Time to Completion</i>	<i>Score</i>	<i>Weighted Avg.</i>
NG Infrastructure										0	
Wind Turbine	7	7	5	8	8	3	5	10	5	6	
Alleg. Solar										0	
NG Exploration & Production	5	4	2	9	2	2	3	2	4	3	
Microgrid										0	
Geothermal										0	
Solar Array										0	
Biomass										0	

<i>Category</i>	<i>Linguistic Values</i>			<i>Numerical Values</i>		
	<i>2, 3, 4</i>	<i>5, 6, 7</i>	<i>8, 9, 10</i>	<i>2, 3, 4</i>	<i>5, 6, 7</i>	<i>8, 9, 10</i>
ROI (PVI)	Good	Better	Best	> \$1 - \$1.25	\$1.50	\$1.75 - \$2
Gross Margin	Adequate	Good	Excellent	< 30% GPM	30% GPM	> 30% GPM
Capital Investment	High	Med	Low	> \$6 Mil	\$3-\$6 Mil	\$1-3 Mil
O&M	High	Med	Low	> \$150K/yr.	\$75K-\$150K/yr.	\$25K - \$75K/yr.
Energy \$ Saved for SNI	Adequate	Good	Excellent	50K - 250K/yr.	250K - 500K/yr.	> 500K/yr.
Energy Gover. (dependence)	High	Med	Low	Nat. Res./EA/Legal - 2 wk comment period		
Public Acceptance	Low	Med	High	Nat. Res./EA/Legal - 2 wk comment period		
Nation Employment	Current	> 5	> 10	Current	> 5	> 10
Time to completion	LT	MT	ST	> 5 yrs.	3-5 yrs.	1-3 yrs.

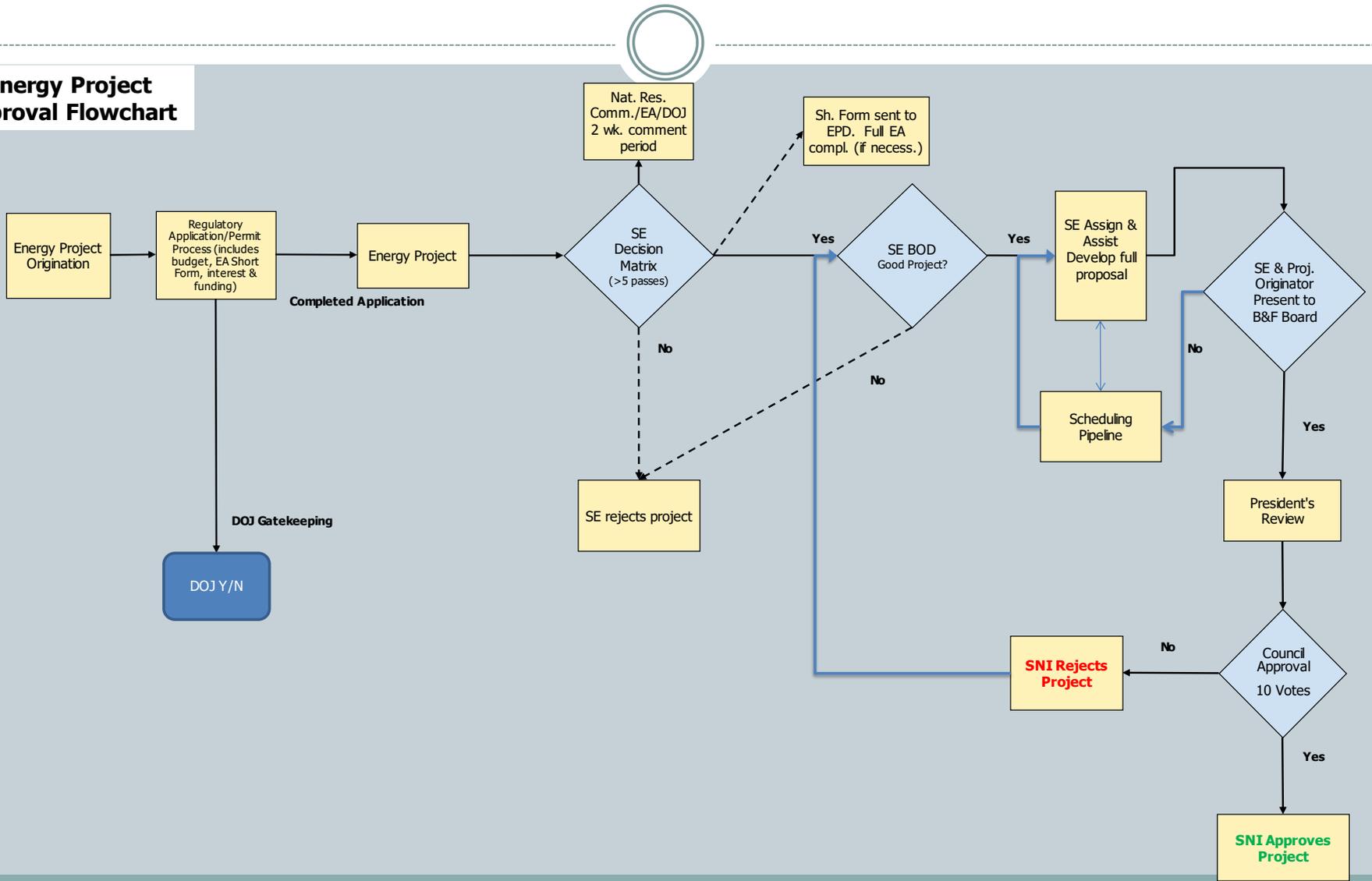
Project Flow



- Project origination to project approval
- Includes multiple decision points:
 - ✓ Decision Matrix
 - ✓ Regulatory Permitting Process
 - ✓ Seneca Energy, EPD, Nat. Res. Comm., THPO, Legal, etc.
 - ✓ SE Utilities Commission Approval
 - ✓ B&F Committee Approval
 - ✓ Seneca Nation Council Approval
 - ✓ Authorization from the President

Project Flowchart

Energy Project Approval Flowchart



Seneca Energy Project Overview



Project Highlights

- Cattaraugus Fiber Broadband Project
- 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
- Expanding our natural gas distribution infrastructure
- 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
- Community benefits - \$25 monthly credit
- Project payback: ~8 years

Generation/ Emissions Stats

- ~15MM kWh produced since commissioning
- Equivalent of powering 2,083 homes (7,200 kWh NYS avg.)
- 2,290 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.
- ~9MM kWh generated
- ~Equivalent to homes / cars
- Financing:
 - ✓ Seneca Nation funded construction
 - ✓ NYSERDA Grant: ~700,000





2MW Solar Array



Cattaraugus Fiber Broadband Project



Project Highlights

- 50-Mile Fiber Broadband Project
- Majority aerial w/ ~5 miles underground
- Crossed I90; Crossed RR's
- Replaced 260 NGRID utility poles on Terr.
- Connected over 100 residents and businesses to date
- 300+ additional residents and businesses are signed up
- Fiber and Calix equipment purchases

Cattaraugus Fiber Broadband Map



Reconnect 1 & 2



Pole



Existing Tower



GPON Cabinet



Hut Location

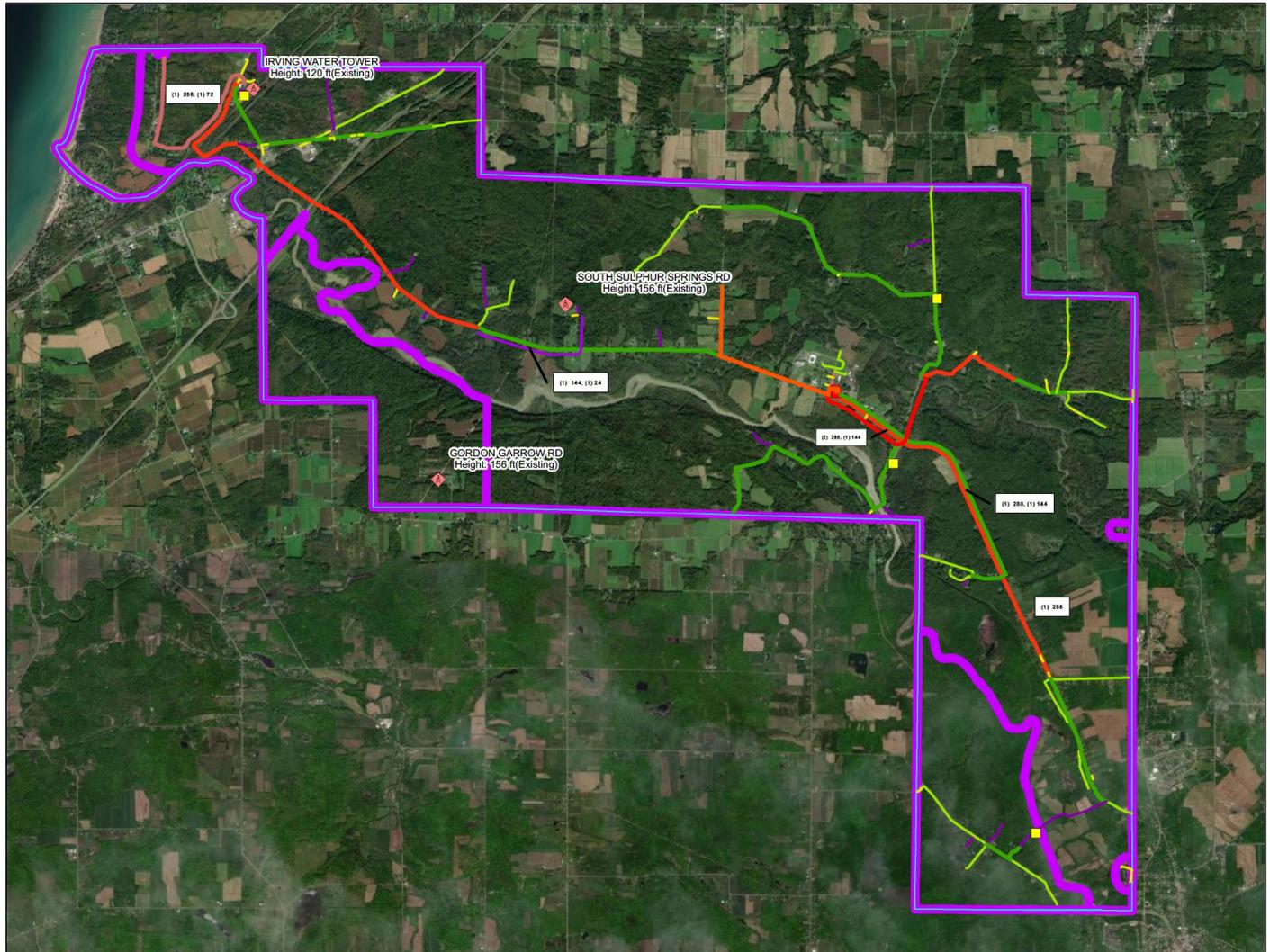


PFSA



Fibercable

- 12 Fibers
- 24 Fibers
- 48 Fibers
- 72 Fibers
- 144 Fibers
- 288 Fibers



Partner with Seneca



The Seneca Nation is building partnerships with other Native communities to bring Earth-healing solutions and energy sovereignty to Native people everywhere.

- Seneca Solar and Seneca Energy are deploying renewable energy projects that include community solar and wind, while:
 - ✓ Supporting economic self-determination and energy sovereignty for Native Communities.
 - ✓ Building a Tribal workforce and Indigenous enterprise capacity to benefit current and future generations.
- Working together seamlessly, and with other trusted partners, we have the flexibility to meet Native Nation's unique needs.
 - ✓ **Seneca Energy** works with Native communities to build projects on Native lands responsibly and in close partnership.
 - ✓ **Seneca Solar** develops renewable energy projects on Native and non-Native lands.



Seneca Solar is certified under the National Minority Supplier Diversity Council (NMSDC).



Seneca Energy's Allegany Solar Project

Let's do the most good. Together



**SENECA
ENERGY LLC**



**SENECA
SOLAR**
A DIVISION OF SENECA HOLDINGS

Our Services



We help our clients achieve their goals while maximizing benefits to the environment and society. We offer:

- **Strategic advisory services:** We help clients develop collaborations, strategies, organizational structures, and projects that meet the goals of diverse internal and external stakeholders.
- **Consulting and project management:** We leverage our experience and strength in project execution to help clients proactively mitigate risks and deliver results on environmental projects.
- **Solution development and delivery:** We have the capacity, experience, and partners to deliver a wide range of Earth-healing solutions across the U.S. and abroad.
- **Tribal engagement:** We bridge trust gaps with tribes and other Indigenous groups on environmental project planning and delivery.



Contact Info. / Questions?



Anthony Giacobbe
Director, Seneca Energy
anthony.giacobbe@sni.org

