SENECA
NATION OF INDIANS

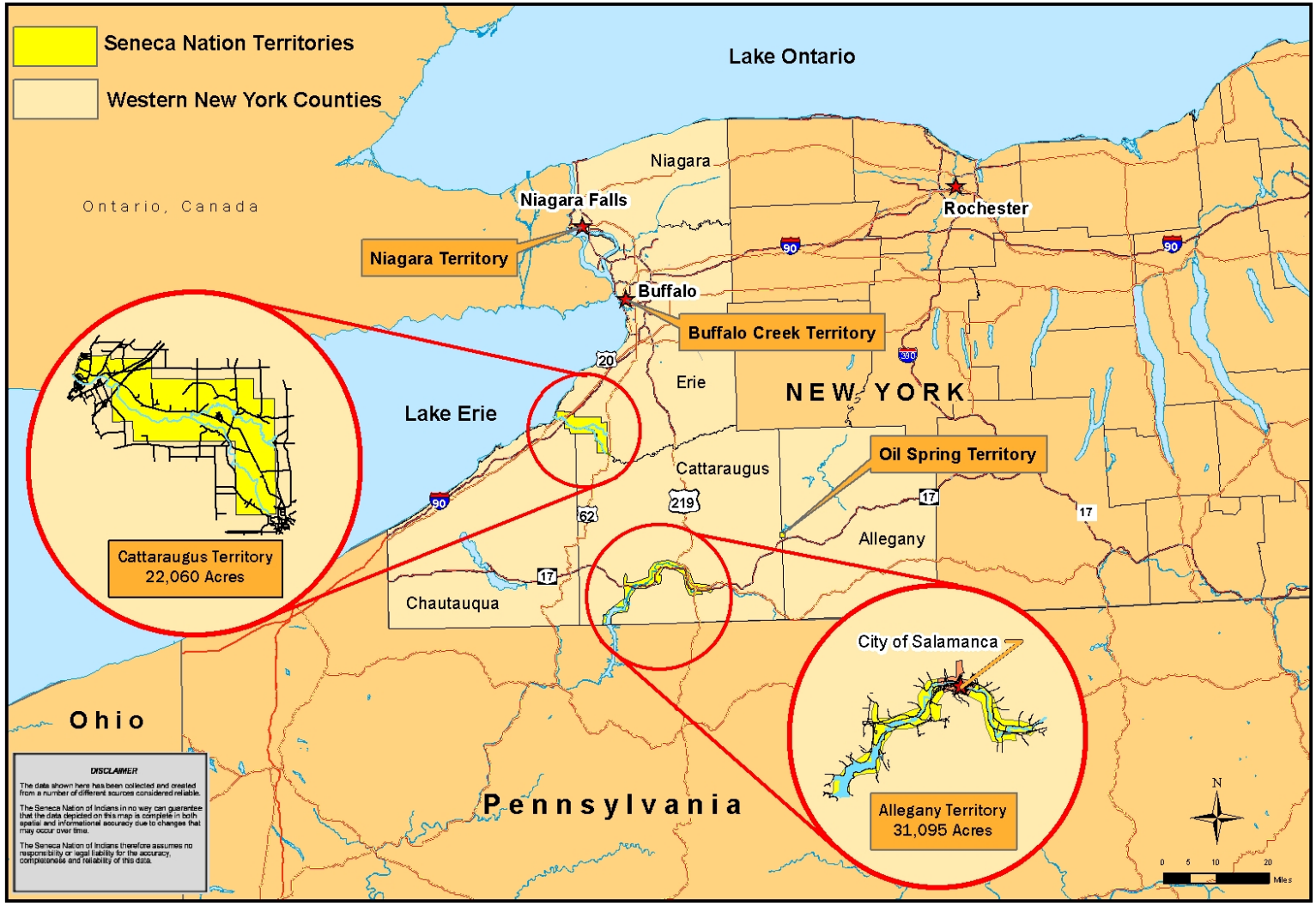
SENECA ENERGY

"EMPOWERING THE SENECA NATION"

Anthony Giacobbe – Director Seneca Energy

Seneca Nation of Indians

Locational Map of the Territories

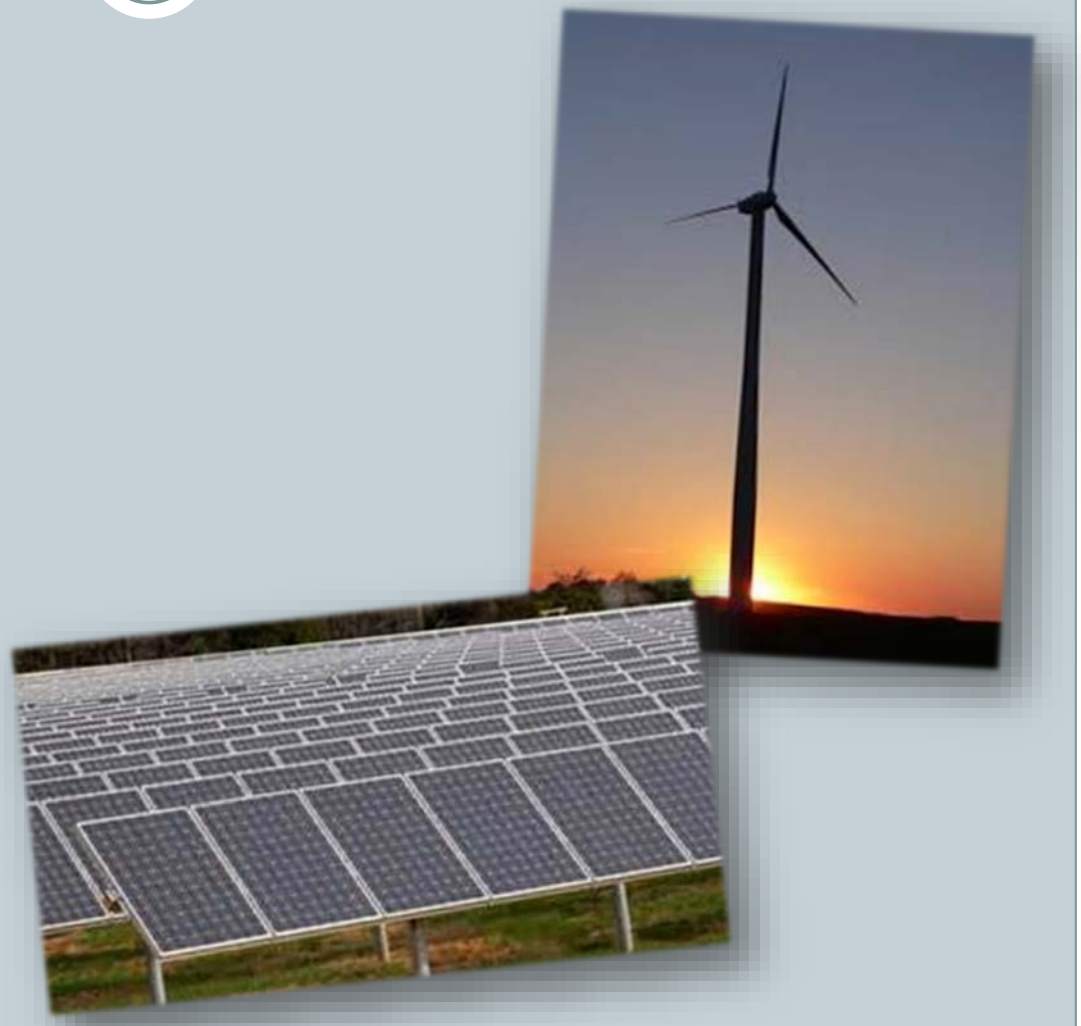


Seneca Energy Mission Statement

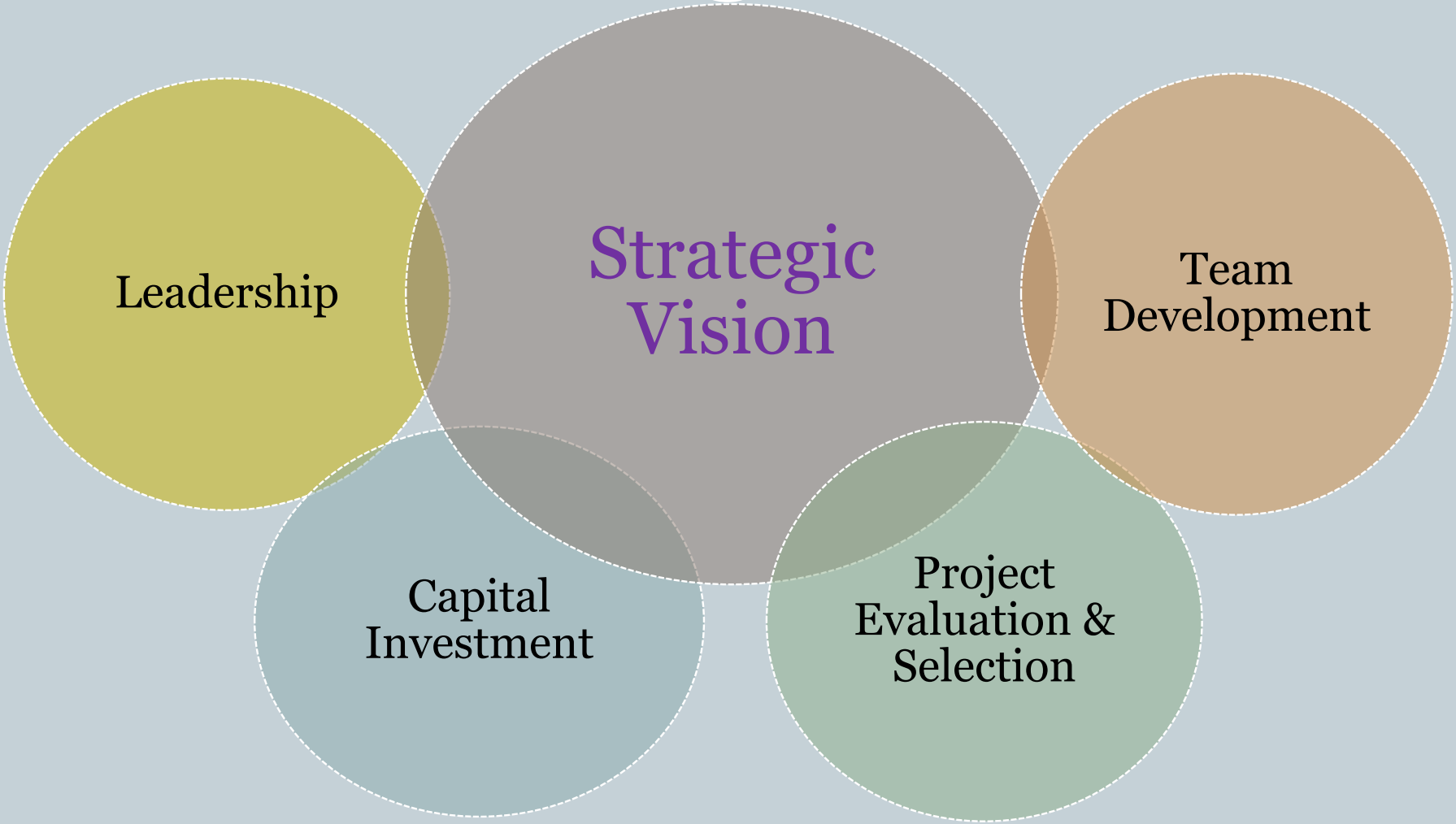
"To ensure the security, prosperity and independence of the Seneca Nation by building a sustainable energy platform and lowering energy costs for the Nation and its residents"

Energy Vision

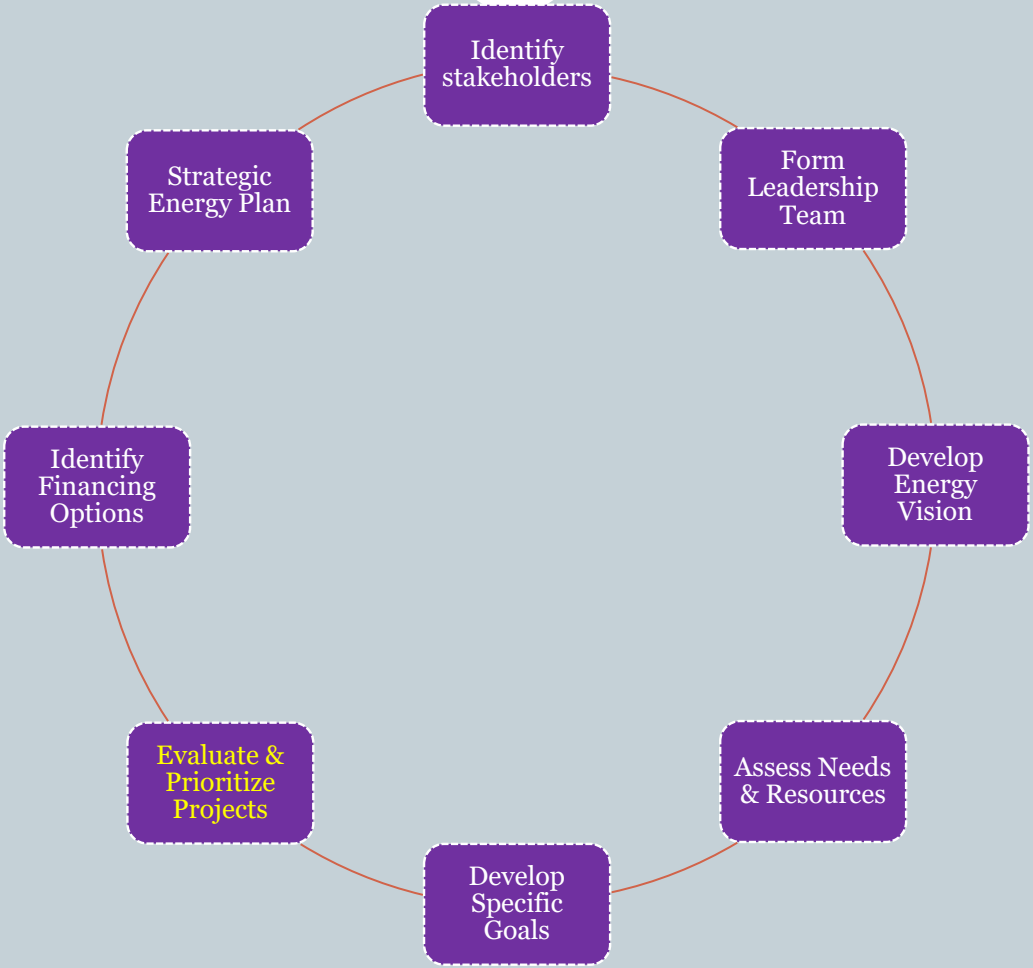
- Energy Sustainability
- Reduce Energy Costs
- Improve Infrastructure
- Economic Development
- Environmental Benefits
- Utilize Natural Resources
- Workforce Development
- Energy Information "Hub"



Framework for Success



Strategic Planning



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

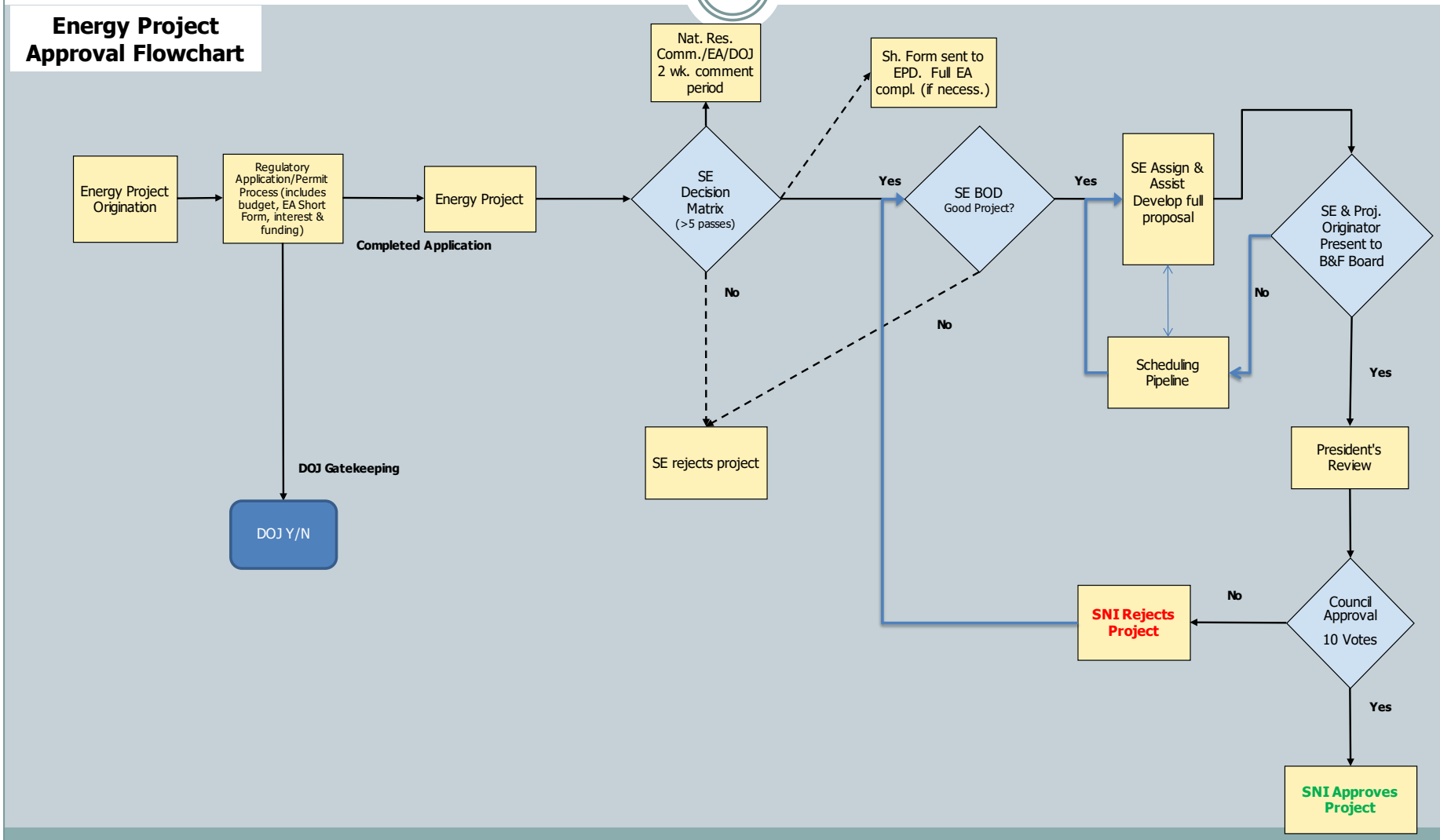
%	15.0%	12.5%	10.0%	7.5%	12.5%	15.0%	10.0%	10.0%	7.5%	100%	
Option	***ROI (PVI)***	***Gross Margin (Oper.)***	***Capital Investment***	***O&M***	***Energy $ Saved for SNI***	***Energy Sovern. (Dependence)***	***Nation Employment & Career Development***	***Public Acceptance***	***Time to Completion***	***Score***	*Weighted Avg.*
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	

Category	***Linguistic Values***				***Numerical Values***		
	2, 3, 4	***5, 6, 7***	***8, 9, 10***		***2, 3, 4***	***5, 6, 7***	***8, 9, 10***
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 Sover. (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.

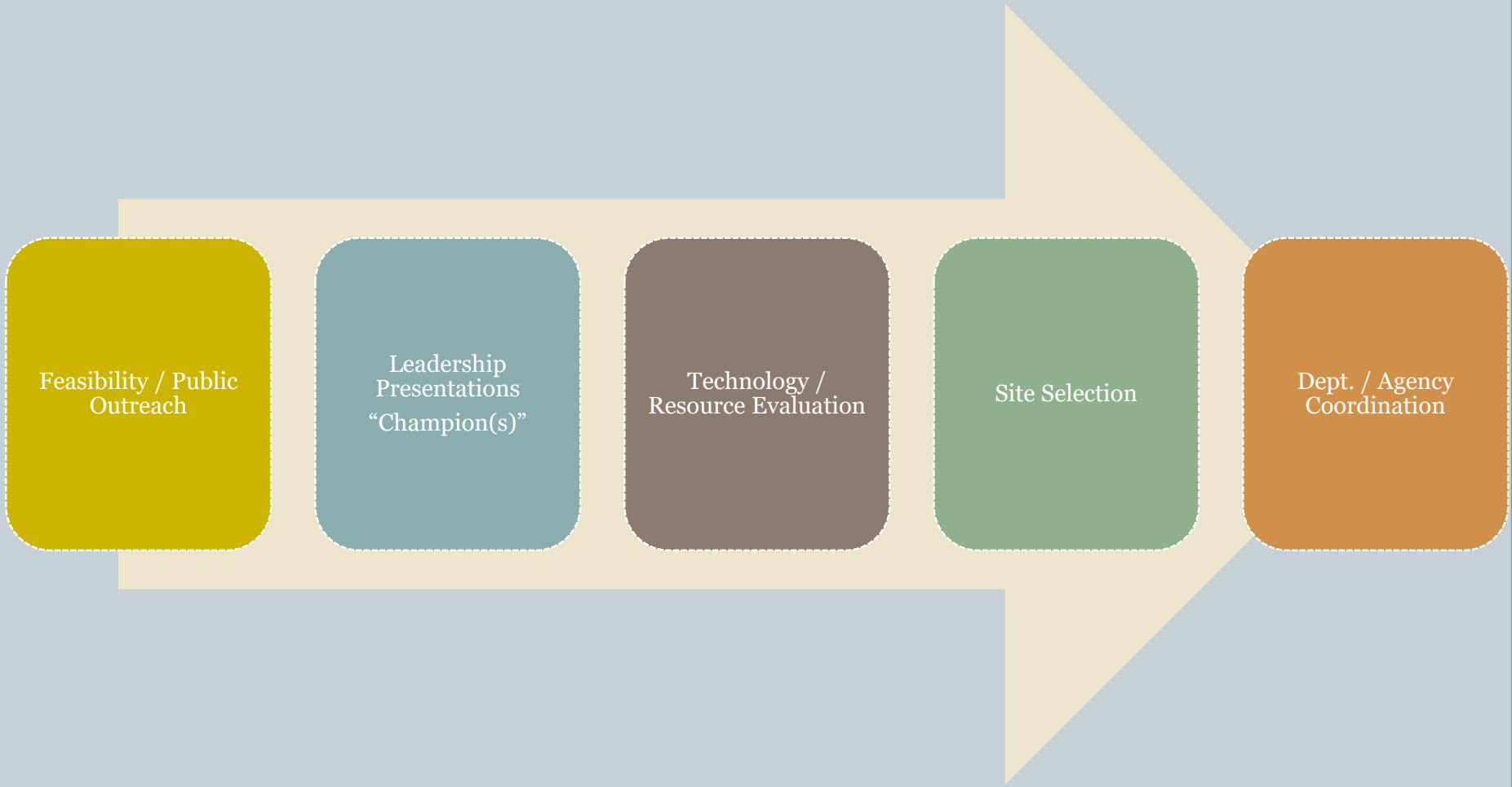
Project Flowchart

- 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

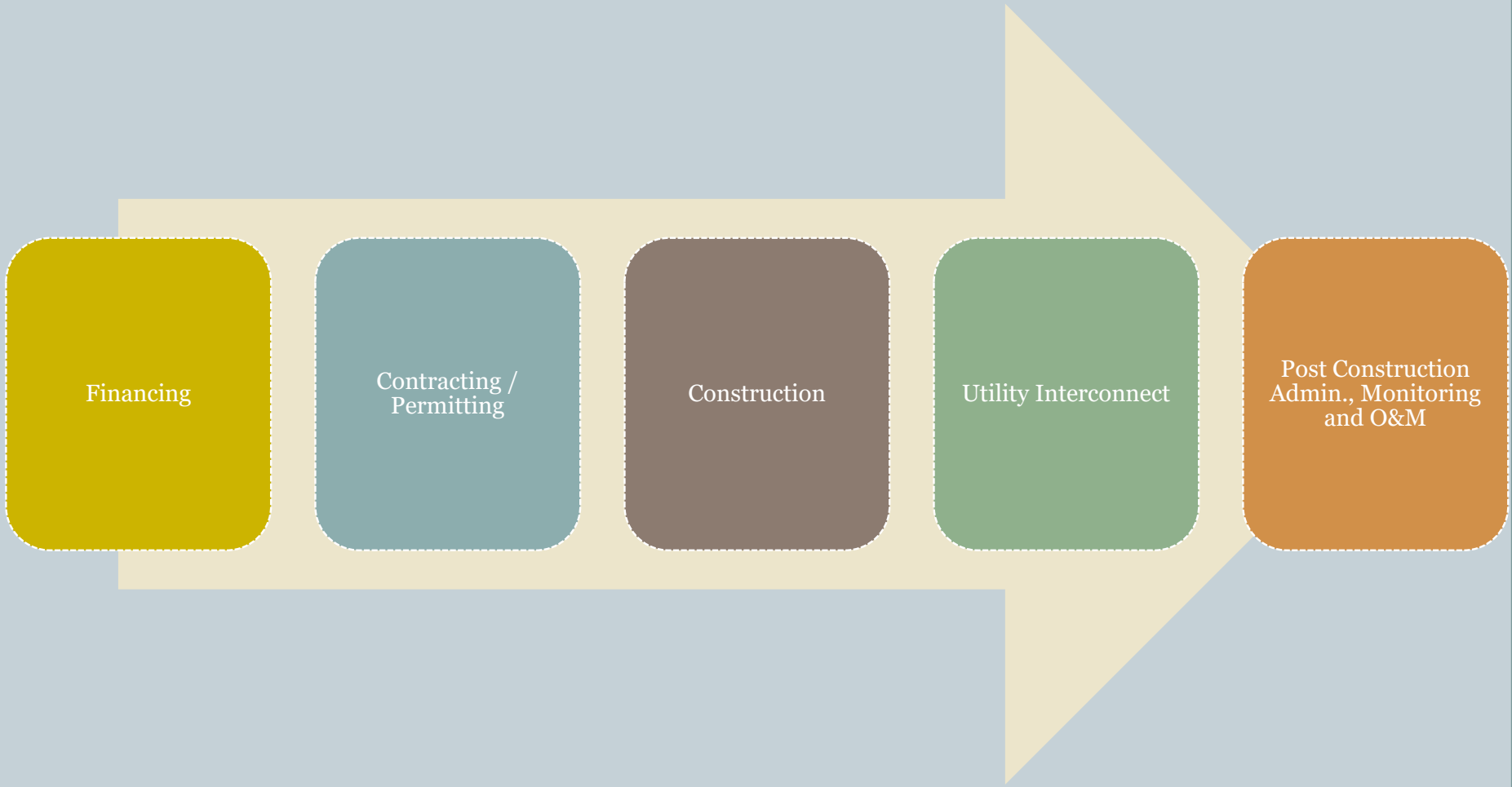
Project Flowchart



Project Implementation Phase I



Project Implementation Phase II



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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SENECA NATION of INDIANS
Keeper of the Western Door

SENECA ENERGY LLC