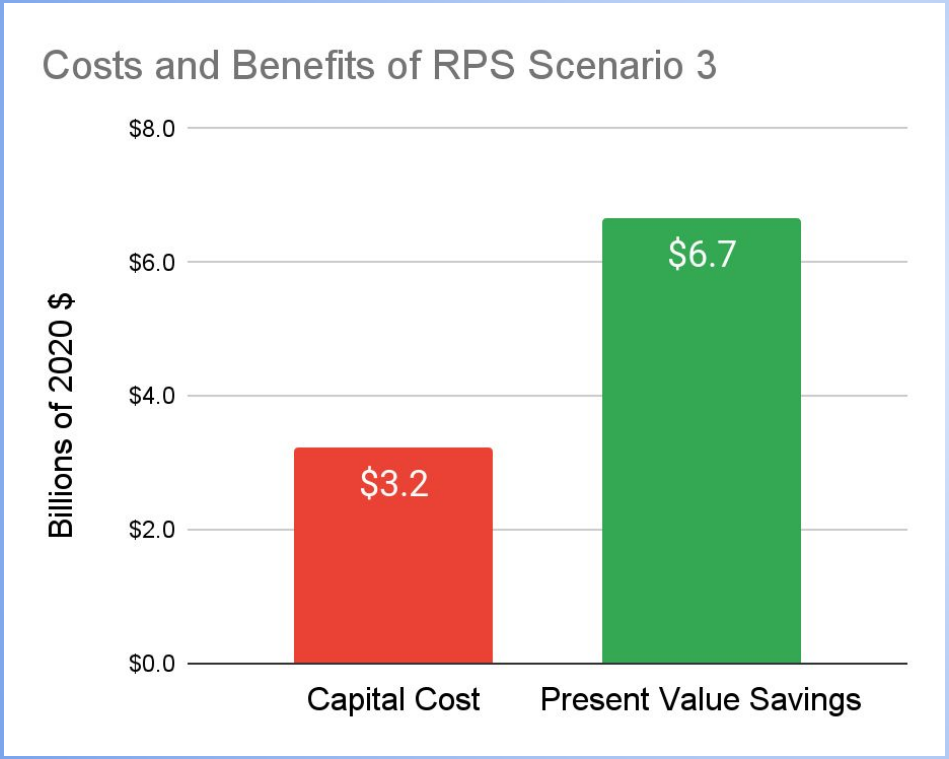
Preliminary Economic Analysis of Railbelt RPS

By Alan Mitchell, Analysis North, no payment received for this work.

- Benefits and Costs of NREL Scenario #3, the Wind/Solar Scenario
- Favorable Results
- Starts the Economic Discussion and Indicates that More Analysis is Justified
- Details Available at https://analysisnorth.com/rps-econ.html

Preliminary Benefit/Cost Analysis

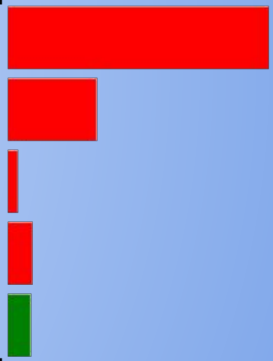


Present Values are anchored to the year 2035

- Capital Cost of Implementing RPS Scenario 3 is $3.2 billion, relative to Base Case.
- Present Value Benefits (Fuel Savings, with small offset from renewable operating costs) are $6.7 billion.
- Capital Costs could more than double and Scenario #3 is still cost-effective.

Capital Costs of Scenario #3 relative to Base Case

Generation Source	Added Capacity Megawatt	Capital Cost $ / kilowatt	Total Cost $ billions
Wind (**cost = 1.94 x Nat'l Average**)	802	$2,912	$2.34
Solar (**cost = 1.46 x Nat'l Average)**	455	$1,750	$0.80
Add Turbine to Bradley Lake	62	$1,484	$0.09
Biomass	50	$4,462	$0.22
Fossil Fuel	-137	$1,510	-$0.21
		Total:	$3.24



2020 $

Benefits that were *Not* Considered in the Analysis

- No further decline in Wind and Solar Costs between 2020 and 2035
  - Solar Cost has declined 85% since 2010, adjusted for inflation
  - Wind Cost has declined 65%
- No increase in Fuel Prices beyond general inflation after 2040
- No Carbon Tax avoided
- No Federal Production Tax Credit (PTC) or other types of Federal Support