

Propane for Interior Alaska: A Preliminary Economic Analysis



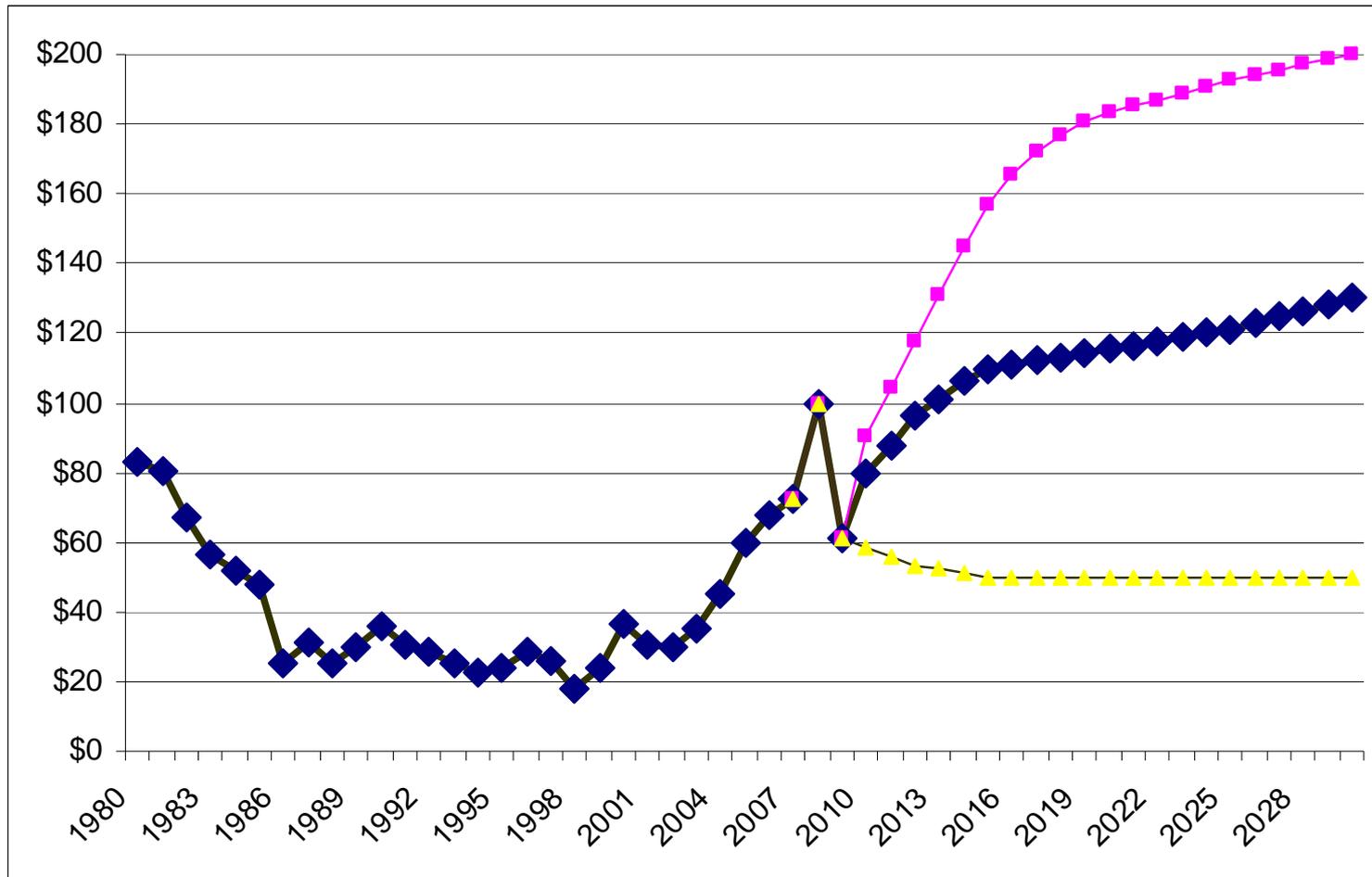
by

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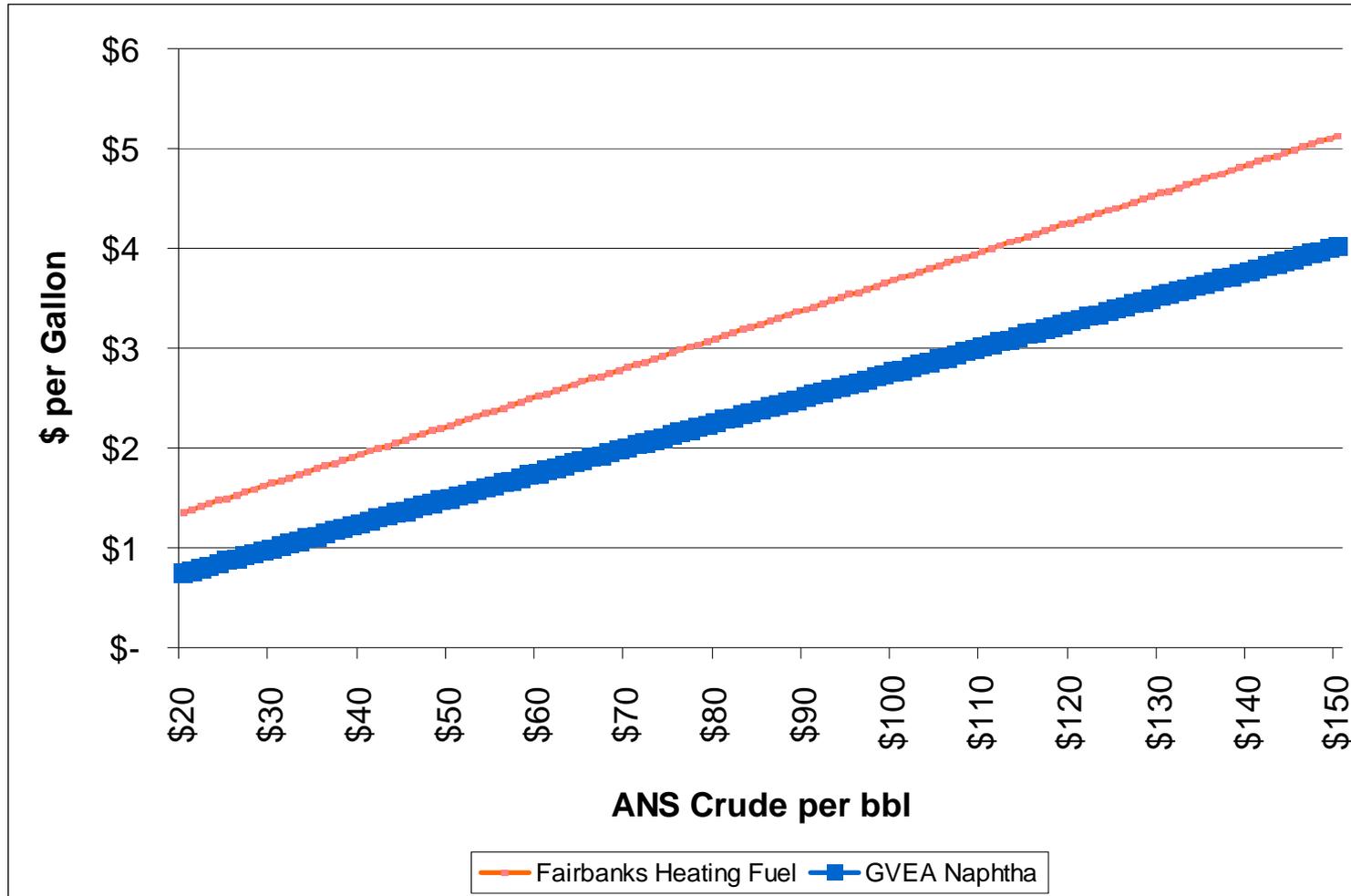
for

Alaska Propane Opportunities Conference
Fairbanks, Alaska
June 17, 2009

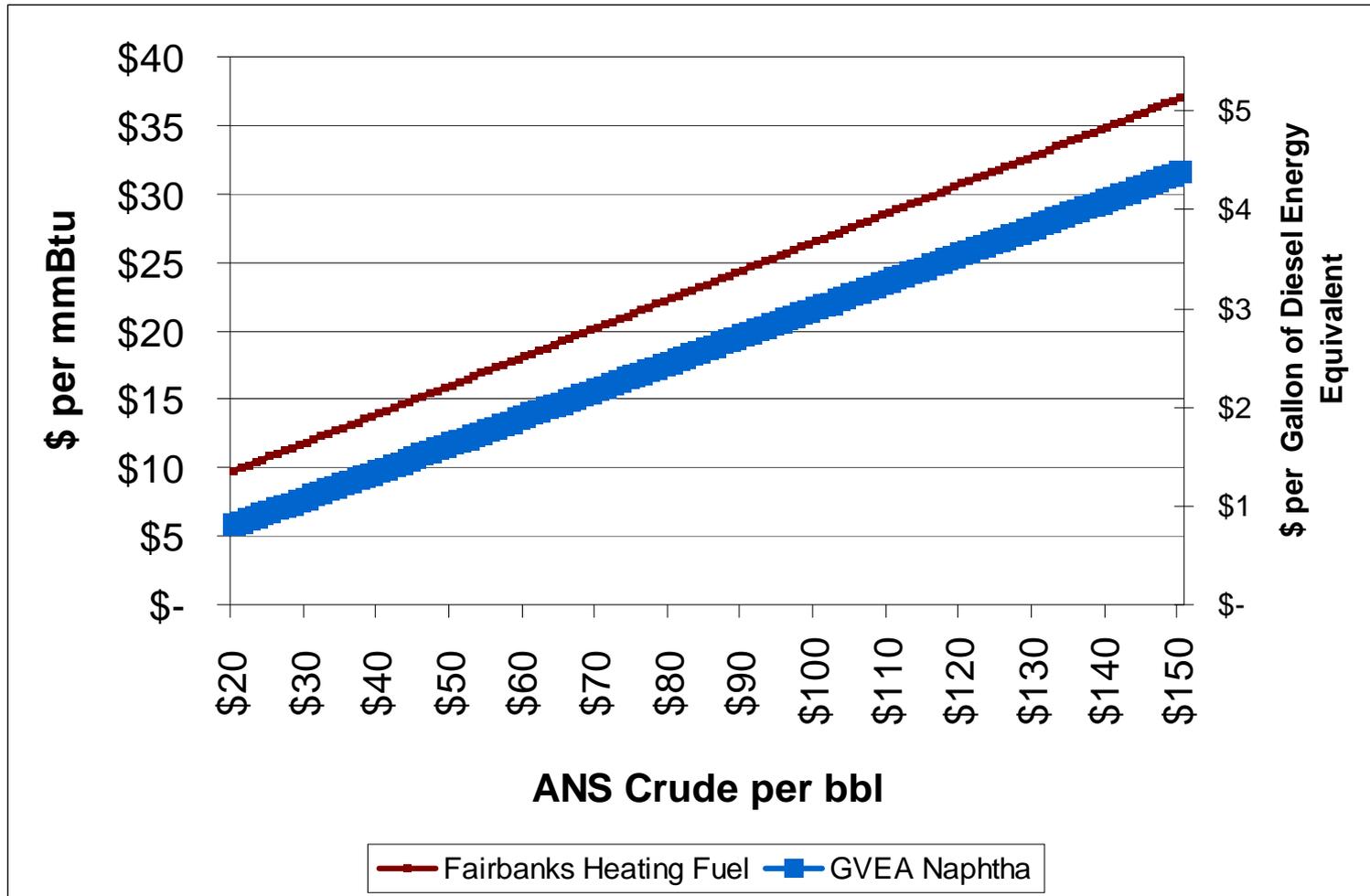
Real Oil Price: History and Projection



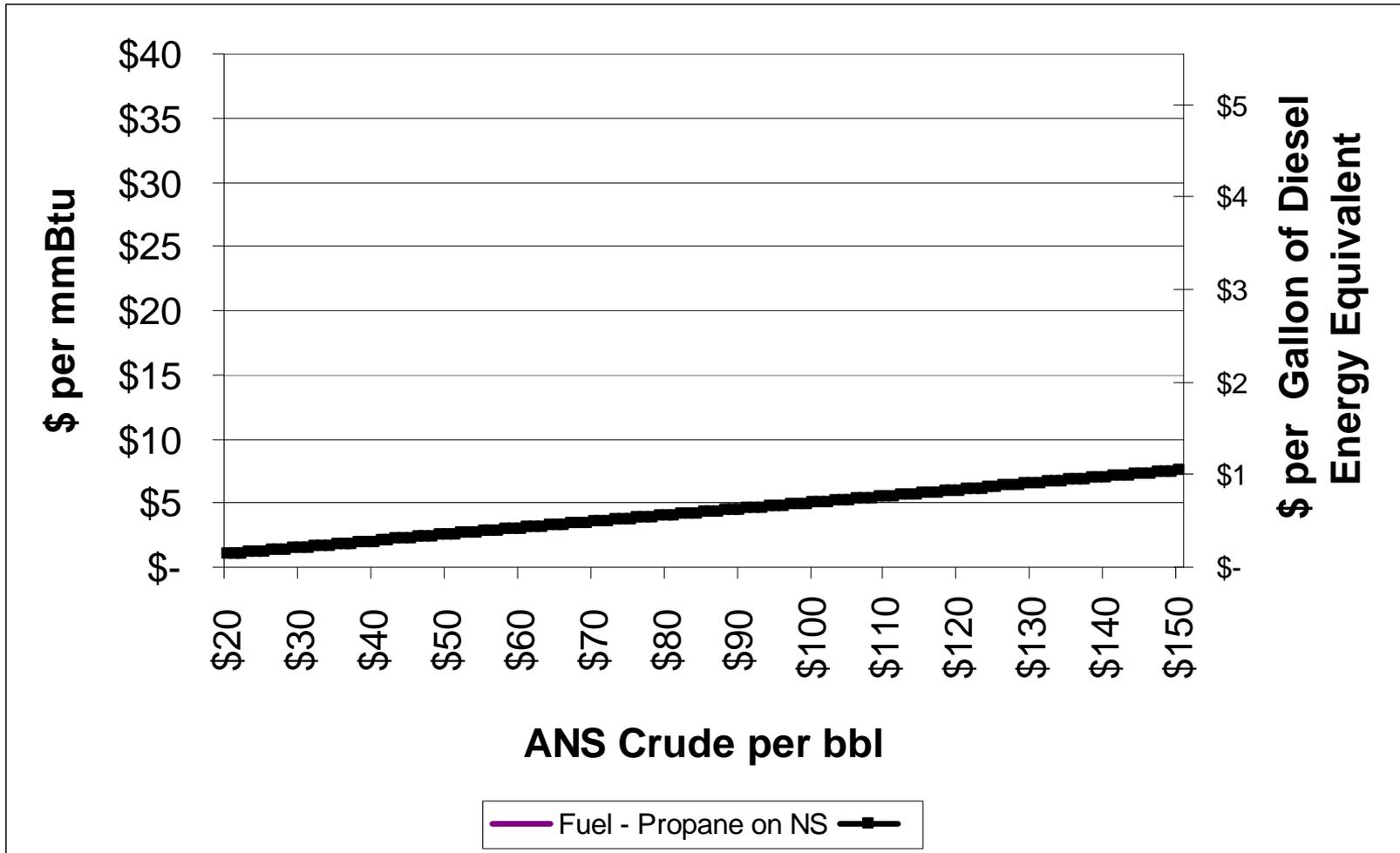
Fairbanks Naphtha and Fuel Oil Prices (gallon)



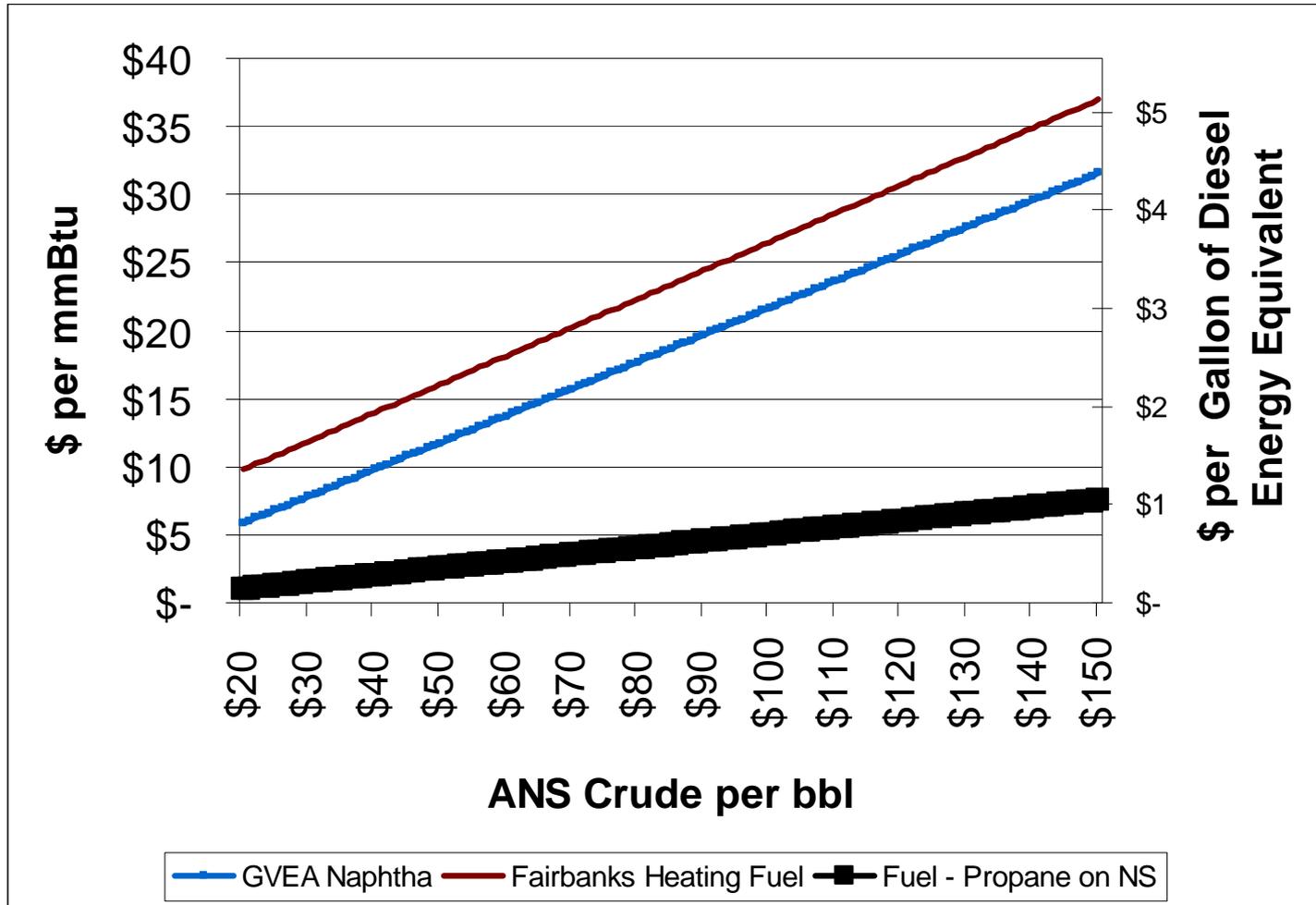
Fairbanks Naphtha and Fuel Oil Prices (mmbtu)



North Slope Propane Price (mmbtu)



An Opportunity



Propane Extraction Plant: Operational Assumptions



- Pull 250 million cubic feet of gas off daily production of 8-9 billion cubic feet containing 2% propane
- Extract 7,661 mmbtu of propane (2,000 barrels) per day
- Reinject remaining gas
- Propane Price per mmbtu = 5% of crude oil price per barrel
- Example
 - If crude price = \$64 per barrel, then propane price into plant = .29 per gallon

Propane Extraction Plant: Financing Assumptions



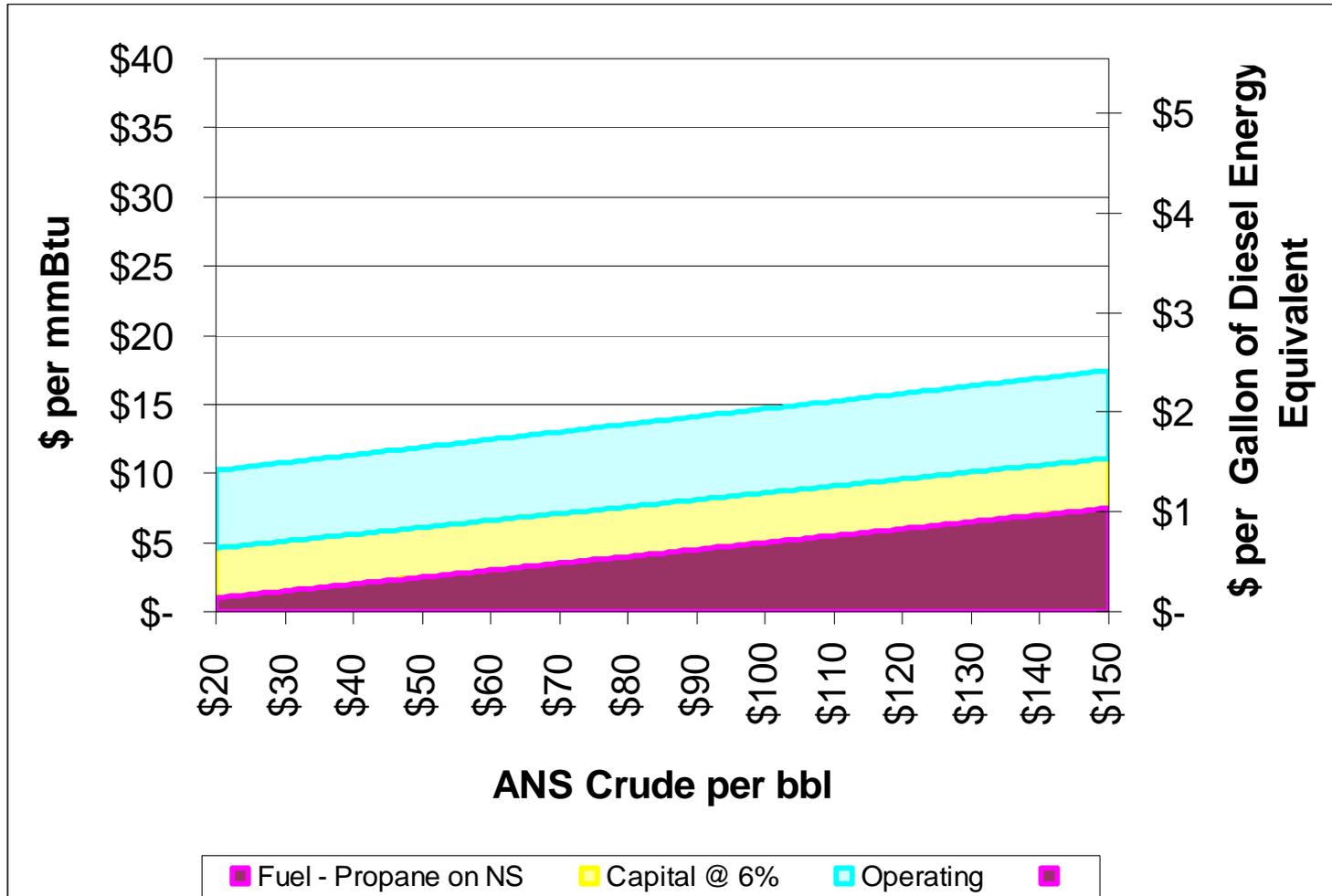
- Capital Cost = \$74,090,000
- Financing Terms
 - 6% interest rate
 - 10 year amortization
- Annual Cost = \$10,066,457
- Cost per mmbtu = \$3.60
- Cost per gallon = \$.33
- Propane price out of plant @ \$64 = .62 per gallon*
when plant operating at capacity

Propane Delivery Assumptions

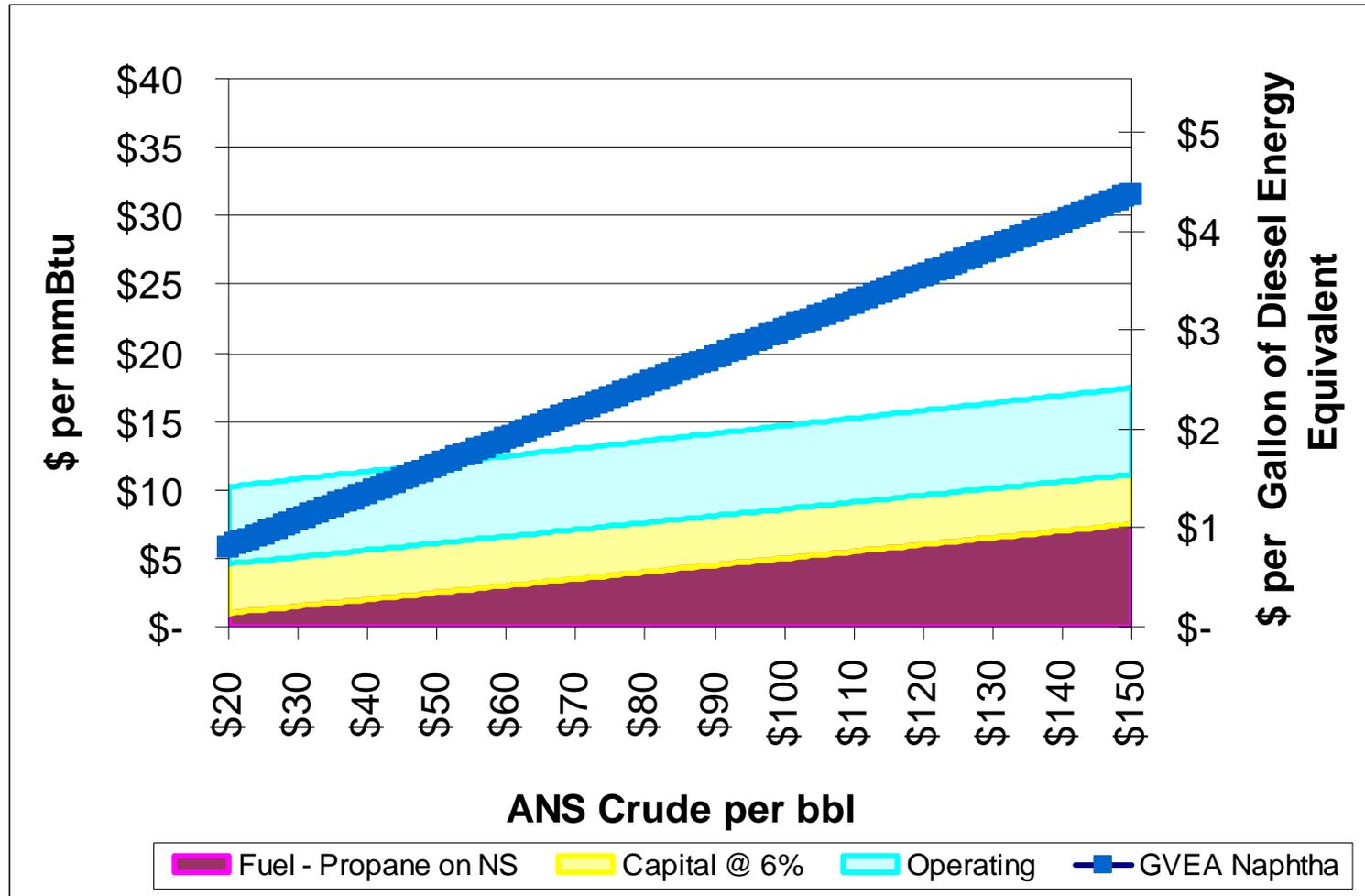


- Total Annual Operating Cost = \$16,220,000
- Trucks South per Day = 10
- Fuel Cost for Trucks @ \$64 = \$880,000
- Fuel Cost for Extraction Plant @ \$64 = \$360,000
- Fuel Cost per gallon of propane @ \$64 = .04
- Other Operating Costs = \$14,980,000
- Total Operating Cost per gallon of propane @ \$64 = .53
when plant operating at capacity

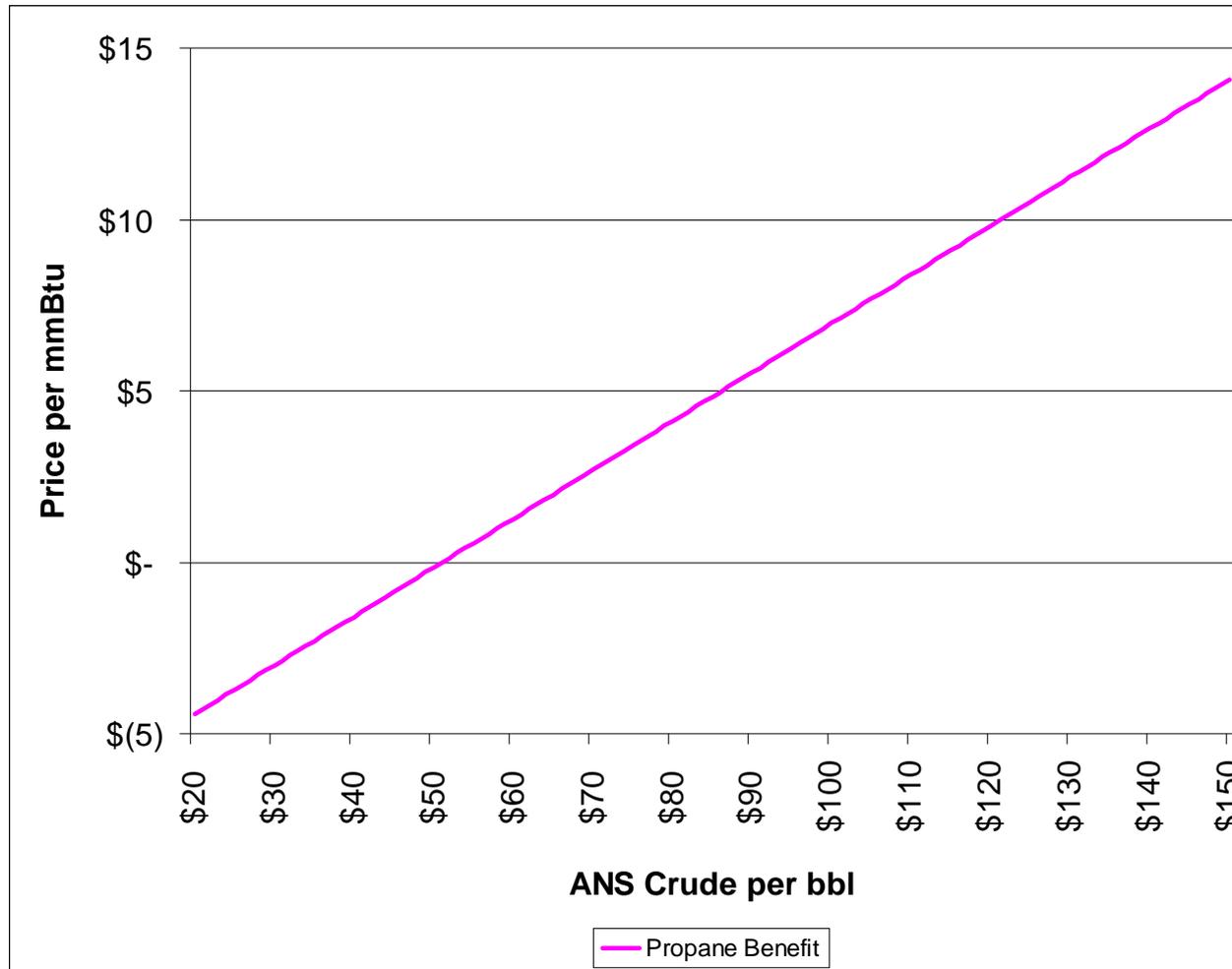
Propane Delivered Cost to Fairbanks



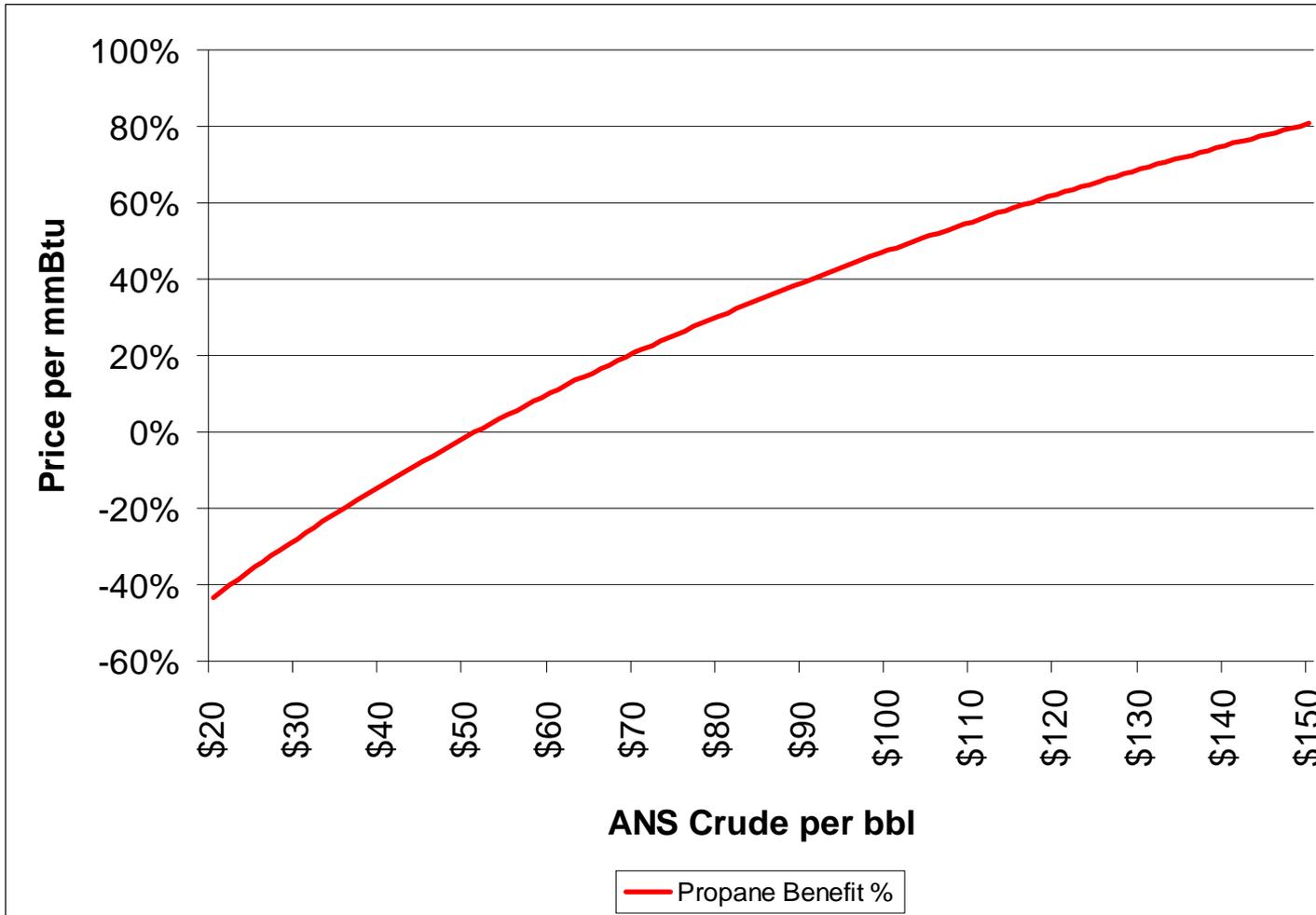
Propane vs. Naphtha Price in Fairbanks



Propane Savings vs. Naphtha



Propane Savings vs. Naphtha



Example of Displaced Naphtha Savings Today @ \$64 ANS



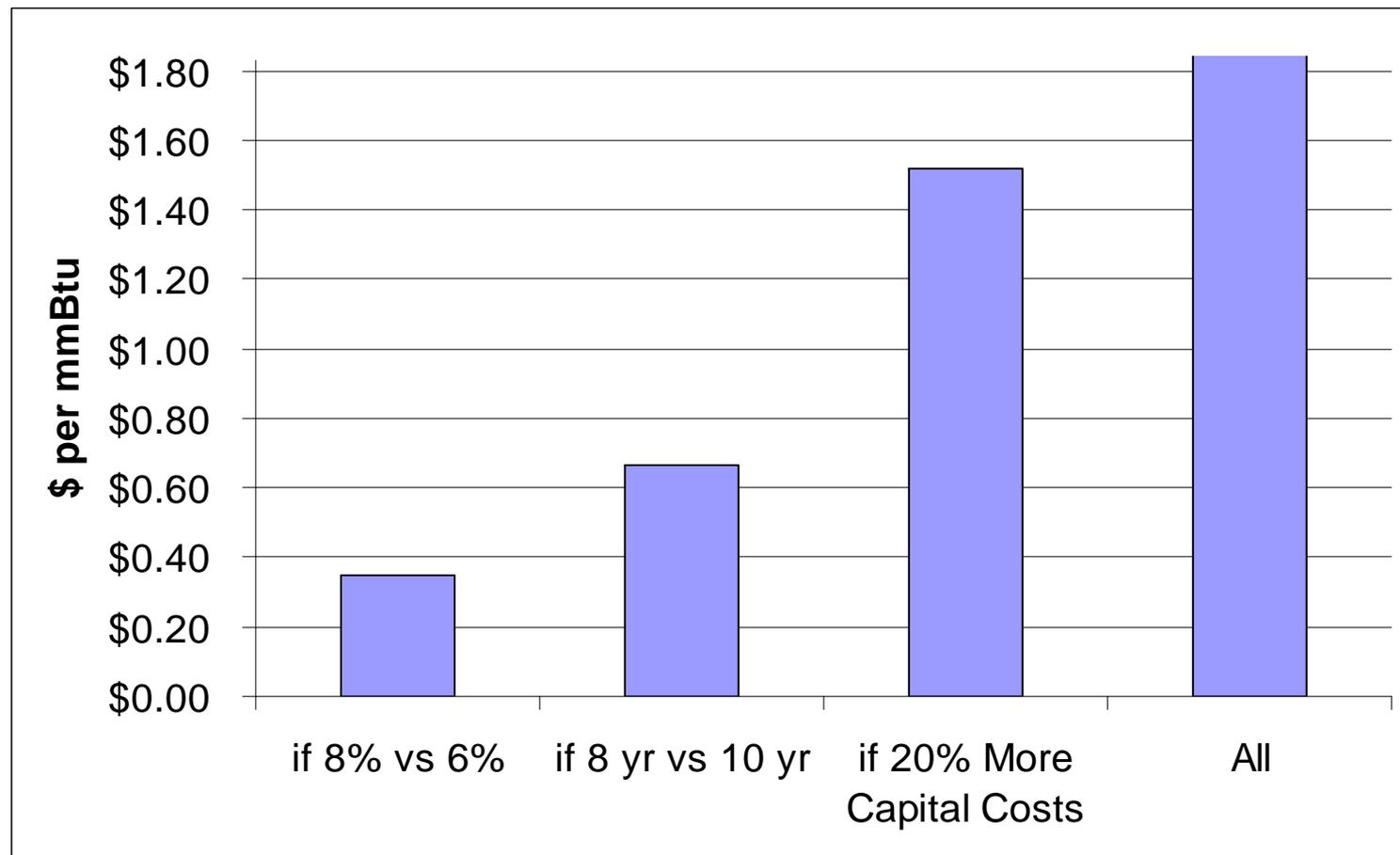
	Gallon	Mmbtu
Propane into Extraction Plant	\$.29	\$3.20
Propane in Fairbanks	\$1.16	\$12.68
Naphtha*	\$1.85	\$14.51
Propane Saving per unit	---	\$1.83
Daily Saving	---	\$14,054
Annual Saving	---	\$5,129,534

Sensitivity Analyses



- Interest Rate
- Amortization
- Capital / Operating Cost
- Project Lifetime

Naphtha Sensitivity Analyses: Finances

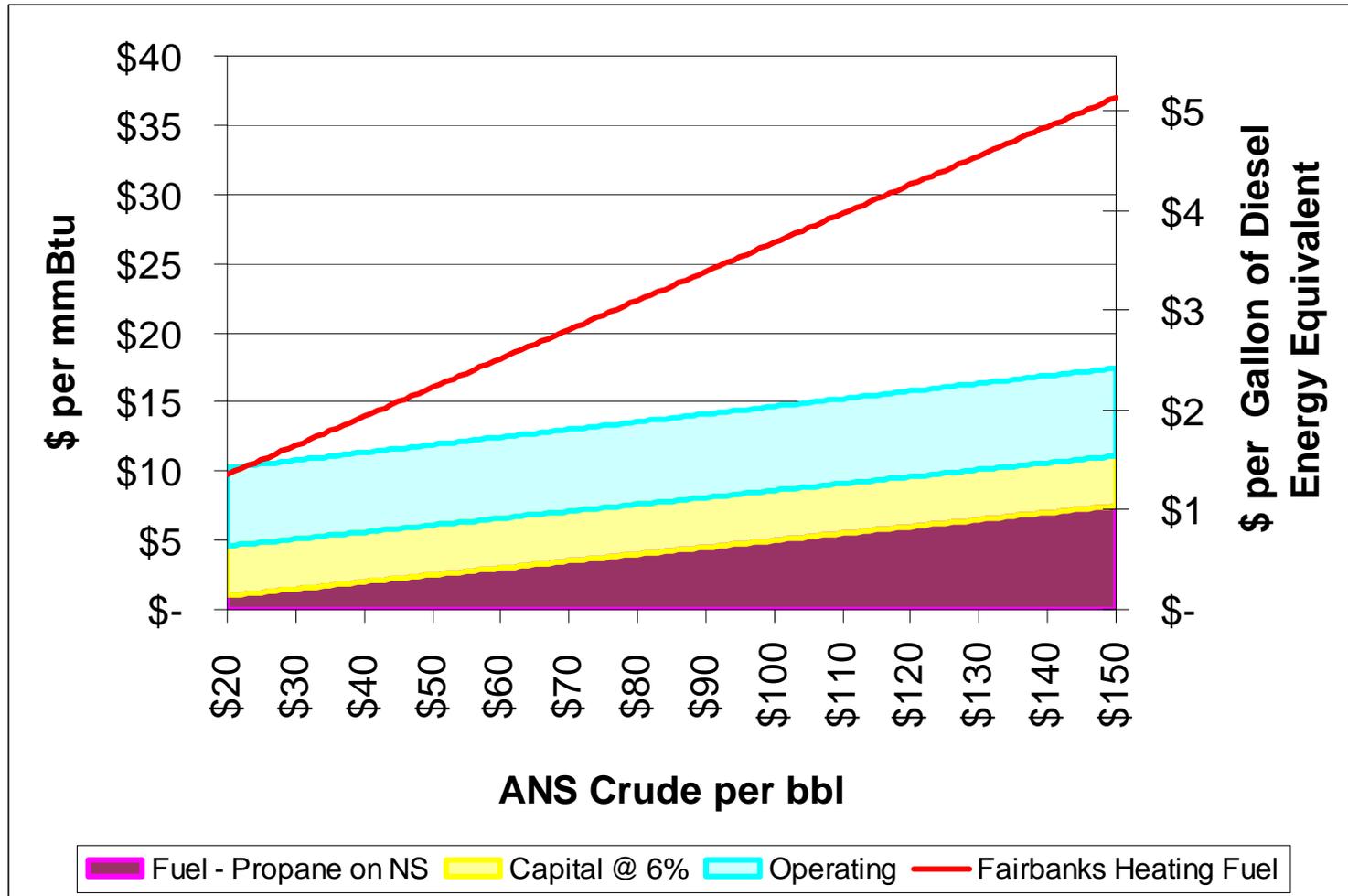


Sensitivity Analyses: Project Life

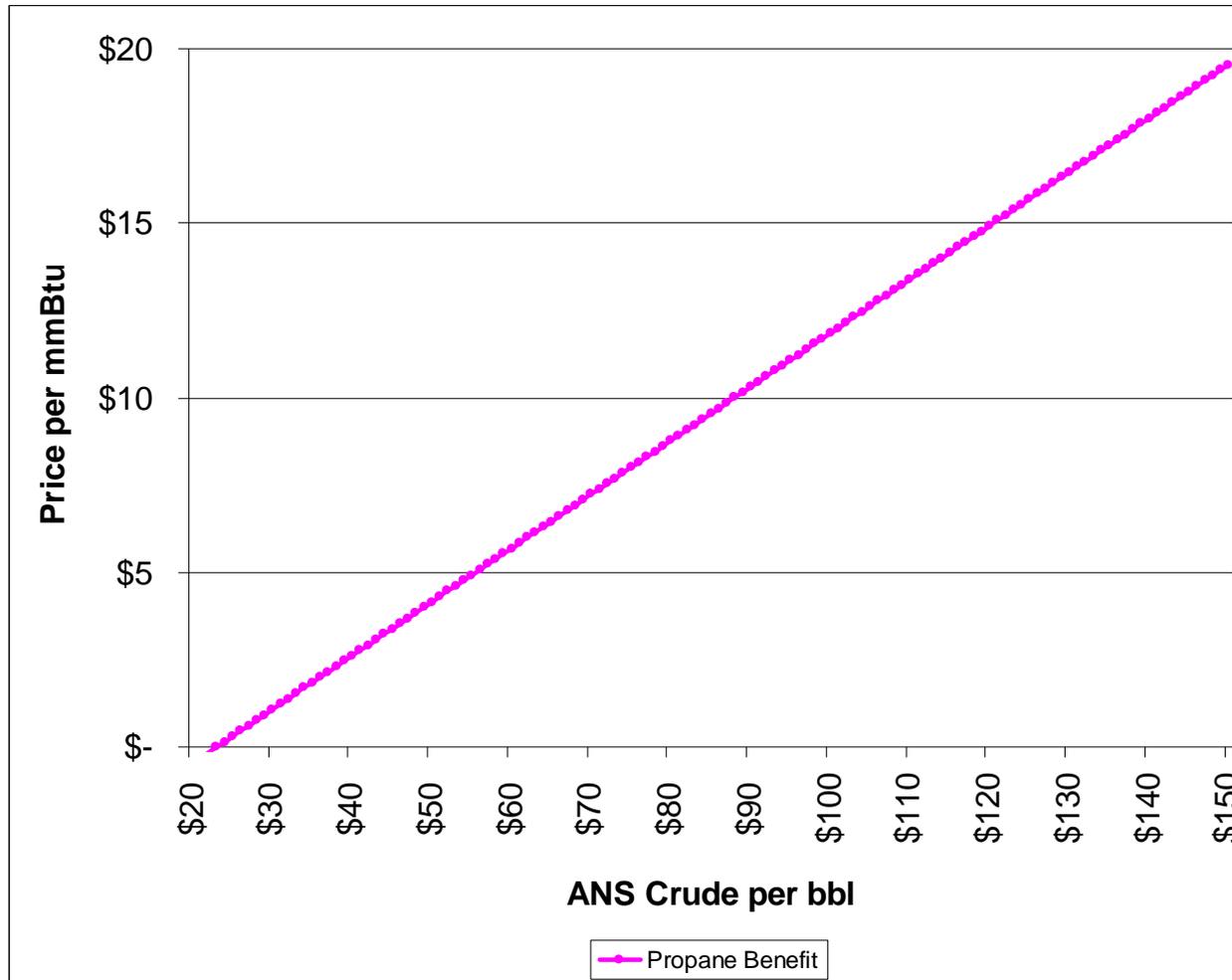


- Gasline
- Bullet Line
- Local Gas

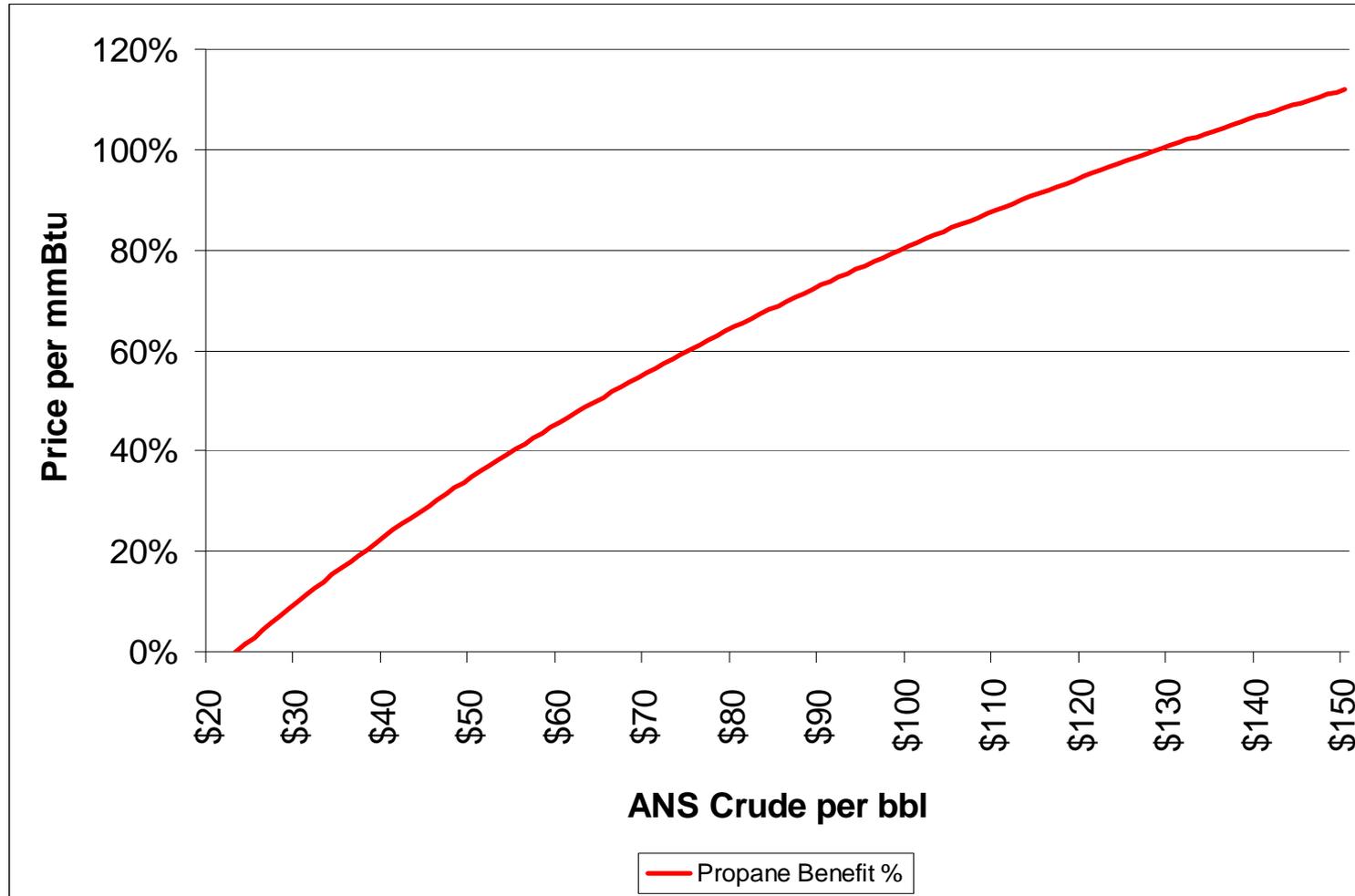
Propane vs. Fuel Oil Price in Fairbanks



Propane Savings vs. Fuel Oil



Propane Savings vs. Fuel Oil

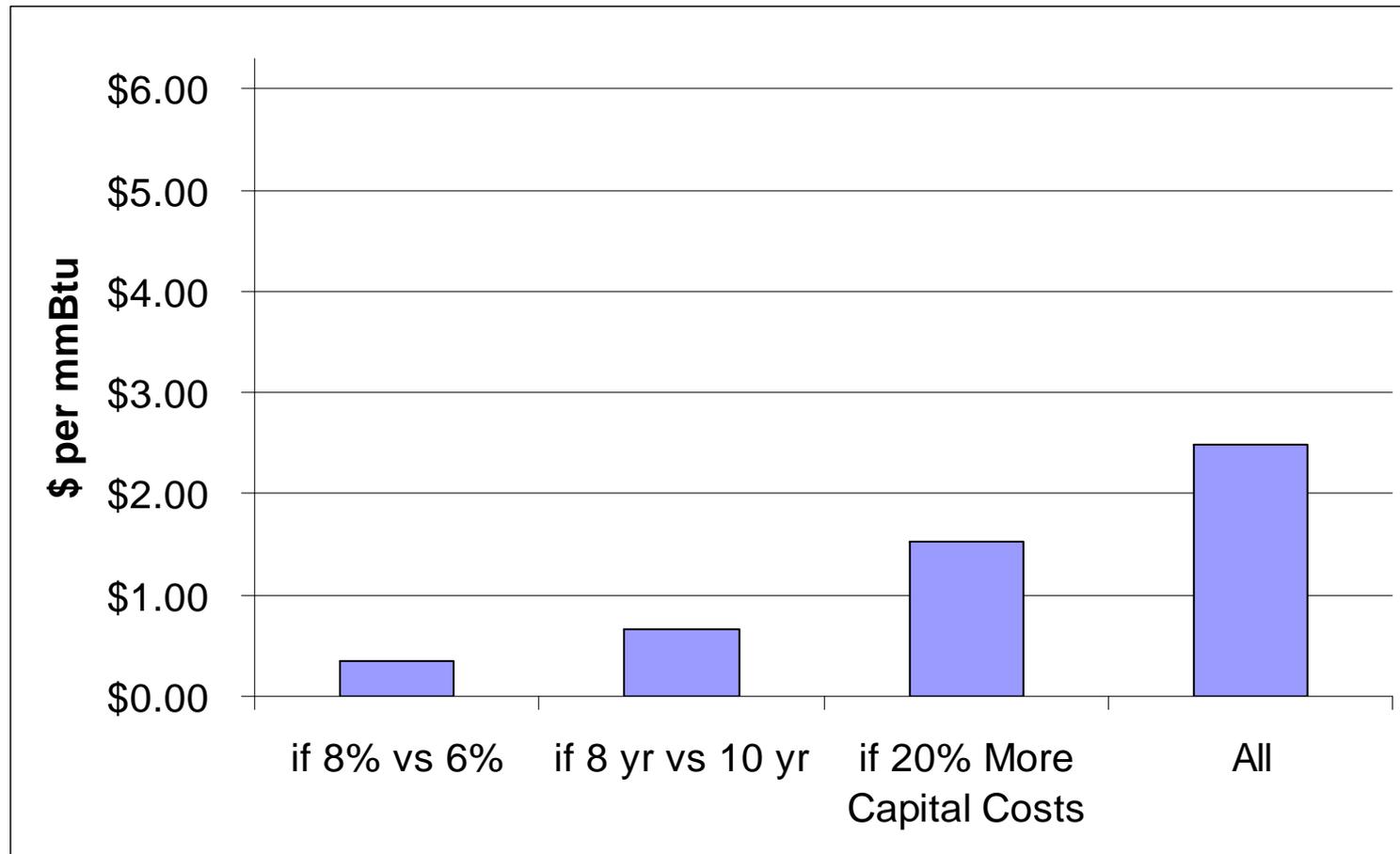


Example of Displaced Fuel Oil Savings Today @ \$64 ANS



	Gallon	Mmbtu
Propane into Extraction Plant	\$.29	\$3.20
Propane in Fairbanks	\$1.16	\$12.68
Fuel Oil*	\$2.63	\$18.98
Propane Saving per unit	---	\$6.30
Daily Saving	---	\$48,300
Annual Saving	---	\$17,629,656

Fuel Oil Sensitivity Analyses: Finances



Conclusions



- Uncertainty and volatility of crude price
- Propane price stability
- Propane can displace “base load” naphtha under reasonable project assumptions
- Propane inroads into the fuel oil market would increase project benefits substantially

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