

FNG: Natural Gas in Two Years

Summary

A public private partnership between the State of Alaska and Fairbanks Natural Gas (FNG) represents the timeliest and most cost effective solution to addressing urgent energy issues across Alaska.

Scope

- FNG has secured an abundant and affordable source of North Slope natural gas from Exxon Mobile. Its ten year contract for up to 17 Bcf per year is enough to supply FNG's current residential and commercial customer base plus significant growth, GVEA and the Flint Hills Refinery.
- The gas liquefaction process will produce as a byproduct more than 30,000 gallons per day of propane, which will be made available at cost for distribution throughout rural Alaska.
- FNG has to date completed plant designs, acquired property, concluded site investigations and secured permits to construct a LNG plant on the North Slope.
- The State of Alaska will provide debt financing through a state entity to (i) construct a facility on the North Slope to liquefy natural gas, (ii) purchase LNG tanker trailers, and (iii) build adequate storage in the Fairbanks/North Pole area.
- FNG will lease and operate the North Slope facility, truck LNG to Fairbanks/North Pole and regasify for distribution through a growing network of pipelines.
- FNG will relinquish itself to economic regulation by the Regulatory Commission of Alaska. Capital provided by the state will be excluded from FNG's rate base, thus minimizing the cost to ratepayers. Debt will be amortized over time and included in rates paid by consumers.
- With a return allowance reflecting its risk profile and investment to date, FNG will proceed with an aggressive system expansion throughout the Fairbanks/North Pole area.
- The LNG assets have been designed to enable easy redeployment to different communities – in whole or in part – should an alternative delivery system become available to the Railbelt. These assets could also be redeployed at tidewater for future delivery of LNG to Southeast or for export.

Cost

- \$250 million in bonds will be issued through a state entity to construct liquefaction facilities, tanker trailers and associated equipment to deliver LNG from the North Slope to the Fairbanks/North Pole area. This amount is based on fixed cost bids on plant and equipment obtained from major industrial suppliers, and includes contingencies.
- Average total rate charged to customers will be \$10-\$12 per Mcf with ANS crude at \$50.

Schedule

- First gas will be delivered to customers in 2011.

Drivers / Benefits

- Clean burning natural gas is essential to help the Interior meet EPA's PM 2.5 air quality standard. Failure to comply will put the Interior at risk of losing federal funding, including the economies associated with its military bases.
- This project will allow for more stable energy pricing for electricity generation for GVEA and cheaper feedstock for crude oil refinement at the Flint Hills Refinery.
- This project eases pressure on the Cook Inlet's natural gas supply and enables FNG to comply with RCA ruling to locate an alternative energy source for the Interior market.
- FNG's current LNG facility at Point McKenzie could be rededicated and modified to provide a cost-effective winter peak gas supply to Southcentral.
- This project will allow Alaska's trucking industry to convert from diesel fuel to the natural gas, with fueling stations initially located on the North Slope, Interior and Southcentral.

FNG / POLAR North Slope LNG Proposal
Average Rate Charged at Various ANS Prices
[\$ per Mcf]

Scenario I	Funding:	\$250MM Grant									
	Term:	n/a									
	Interest Rate:	n/a									
	ANS Crude	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	\$50	\$8.21	\$8.30	\$8.74	\$8.52	\$8.61	\$8.74	\$8.79	\$9.19	\$9.02	\$9.15
	\$100	10.53	10.65	11.11	10.86	10.95	11.07	11.12	11.54	11.34	11.47
	\$150	14.07	14.24	14.73	14.43	14.52	14.63	14.67	15.11	14.87	15.00

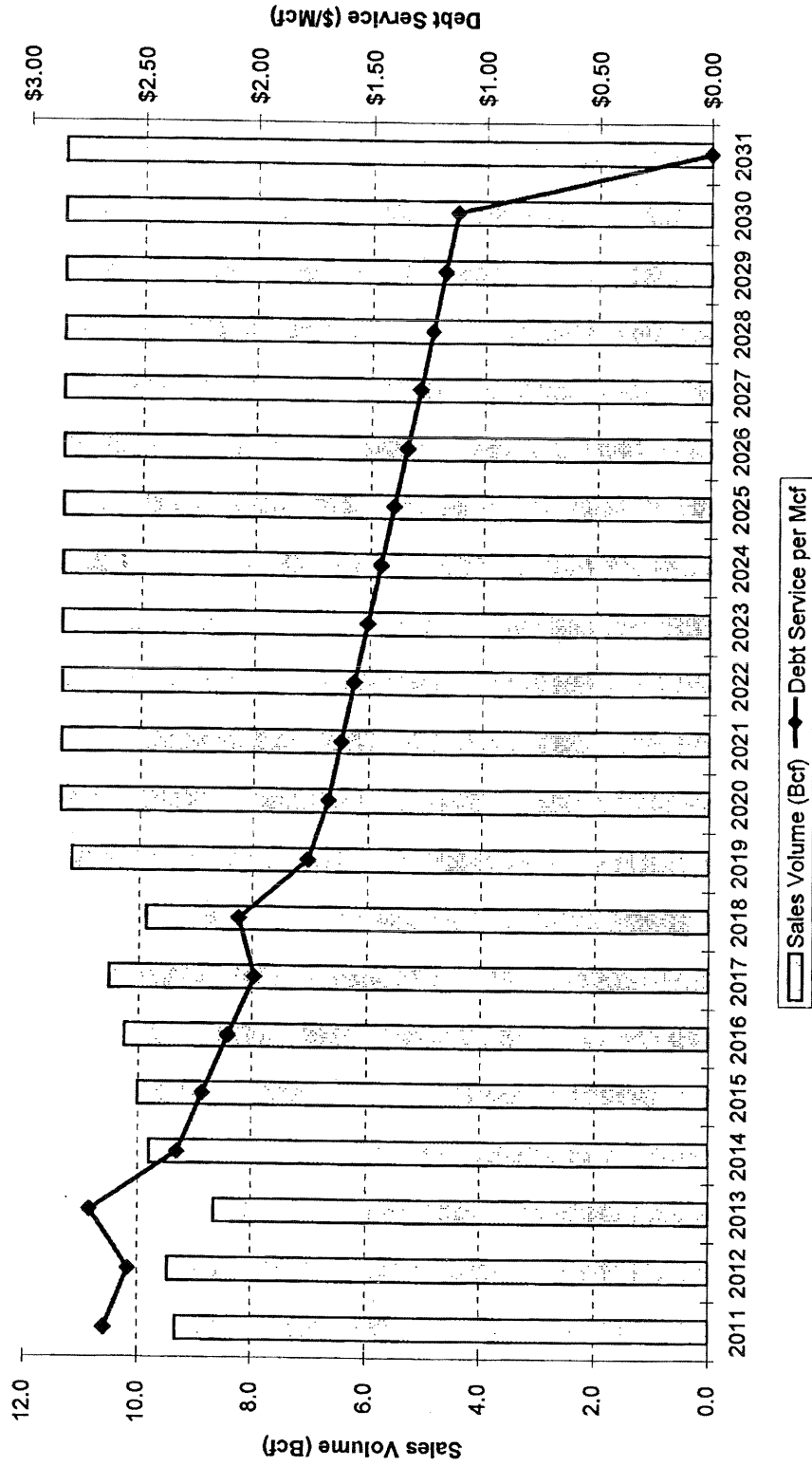
Scenario II	Funding:	\$250MM Bond									
	Term:	10 Years									
	Interest Rate:	5.0%									
	ANS Crude	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	\$50	\$12.16	\$12.06	\$12.71	\$11.89	\$11.79	\$11.72	\$11.57	\$12.03	\$11.42	\$11.40
	\$100	14.48	14.41	15.08	14.23	14.13	14.05	13.90	14.38	13.74	13.72
	\$150	18.02	18.00	18.70	17.80	17.70	17.62	17.46	17.95	17.27	17.25

Scenario III	Funding:	\$250MM Bond									
	Term:	20 Years									
	Interest Rate:	5.0%									
	ANS Crude	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	\$50	\$10.86	\$10.84	\$11.45	\$10.84	\$10.83	\$10.84	\$10.78	\$11.25	\$10.78	\$10.83
	\$100	13.18	13.19	13.82	13.18	13.17	13.17	13.10	13.59	13.10	13.14
	\$150	16.71	16.78	17.44	16.75	16.74	16.74	16.66	17.17	16.63	16.68

Scenario IV	Funding:	\$250MM Bond									
	Term:	30 Years									
	Interest Rate:	5.0%									
	ANS Crude	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	\$50	\$10.43	\$10.44	\$11.03	\$10.49	\$10.51	\$10.54	\$10.51	\$10.98	\$10.57	\$10.63
	\$100	12.74	12.79	13.40	12.83	12.85	12.88	12.84	13.33	12.88	12.95
	\$150	16.28	16.37	17.02	16.40	16.41	16.44	16.39	16.90	16.41	16.48

Bond Amortization per Mcf

[Bond = \$250MM; Term = 20 years; Interest Rate = 5.0%]



Increased traffic due to long-haul trucking of LNG along the Dalton Highway

Mile Point	Location Description	Length	2007 ADT	2007 VMT	FNG ADT	FNG VMT	Total ADT	Total VMT	ADT Increase
0.000	Dalton Highway Start	24.341	278	6,767	60	1,460	338	8,227	21.6%
24.341	Hess Creek	31.248	261	8,156	60	1,875	321	10,031	23.0%
55.589	Mile Point 55.589	198.144	244	48,347	60	11,889	304	60,236	24.6%
253.733	Atigun River #1	161.397	184	29,697	60	9,684	244	39,381	32.6%
Totals		415.130		92,967		24,908		117,875	26.8%

Source: ADOT - 2007 Annual Average Daily Traffic, Northern Region

Note 1: ADT = Average Daily Traffic

Note 2: VMT = Vehicle Miles Travelled

Note 3: ADT = Northbound + Southbound Traffic

**Fairbanks Natural Gas
Potential Development Schedule**

FNG
ZONE DESCRIPTION

Zone Name	Zone #	Year Developed	Miles of Main	Residential Type A - Std Count	Fbks Mem. Hospital Count	Commercial Type A - SM Count	Commercial Type B - MID Count	Commercial Type C - LG Count	Multi-Resid Count	Total Structure Count
97, 98 & 99 Install	A	1997-1999	22.5	250		220	30	5	15	520
2000 Install	2000		4.6	100		60	10	2	14	186
Fbks Memorial Hospital	FMH	2003			1					1
Airport	1	2007	5.9	10		20	9	3		42
Alipor-North	2	2007	10.2	107		8	1	1		117
University - West	3	2011	12.6	654		1	1	1	23	679
Gaist	4	2011	10.2	352		6	7	7	16	388
Shanley *	5	2011	4.8	127		7	8	5	8	165
Aurora *	6	2010	8.7	396		21	13	1	7	438
Railroad Prop. North	7	2011	3.3	94		17	27	4	13	155
Railroad Prop. South	8	2005	4.5	97		22	15	1	8	143
Taku	9	2010	5.7	373		6	6	10	2	397
Executive Estates	10	2006	6.4	283		18	35	14	14	364
Davis Road	11	2006	2.0	24		5	4	22	2	57
Restaurant Row	12	2004	3.2	236		2	13	11	3	265
AE Heating District	13	2013	11.7	454		74	71	1	46	646
Cushman North	14	2009	7.6	164		58	48	3	42	315
Hospital	15	2006	3.2	62		3			14	79
Bjernermark	16	2006	3.9	209		6	1	1	51	268
Leisure	17	2005	5.0	11		25	13	3	1	53
Lakeview estate	18	2013	2.4	10		1	2		1	14
Island Homes *	19	2012	3.7	277		6	6	1	1	291
Hamilton Acres *	20	2011	7.9	491		7	7	2	24	531
Shannon Park	21	2010	4.2	308		2	1	1	1	313
Benifey Area	22	2004	5.2	141		17	19	7	4	188
Lemata	23	2011	6.0	131		3	1	6	12	155
Steese-South	25	2014	22.6	374		16	12	7	25	434
Steese-North	26	2015	16.7	598		3	1		4	606
Farmer's Loop-Skyline	27	2016	16.3	383		6	1		4	394
Farmer's Loop-Ski Boot-Hill	28	2016	11.1	176						176
Farmer's Loop-Auburn	29	2016	11.4	478						483
Farmer's Loop - South	30	2016	14.7	48		1	1			50
Chena Ridge - East	32	2013	31.5	423		2	2			428
Chena Pump	34	2011	10.8	168		12	8	1		189
FBKS SUBTOTAL			305.9	8,007	1	685	372	123	362	9,520
North Pole - Phase 1	NP1	2011	27.9	451		14	6	1	13	485
North Pole - Phase 2	NP2	2012	47.7	833		15	19	2	10	879
North Pole - Phase 3	NP3	2013	80.7	1,789		30	43	13	36	1,891
Totals			462.2	11,080	1	714	440	139	421	12,775

Notes: * : Indicates that zone count was updated with a more accurate review of FNSB property tax records.
 Zone #: The zones identified on the expansion area map were assigned reference numbers in addition to being named.
 Miles of Pipe: Estimated miles of distribution main required to complete this specific zone.
 Count: By reviewing aerial photos and researching tax records, a count of the number of potential residential, commercial and multi-family customers in each zone was determined.
 In the future, we will further define these counts and add more detailed sub-classes of customers such as large and average residential, small, medium and large commercial.

Fairbanks Consumer Savings with State Participation Space Heating with Natural Gas versus Fuel Oil

	Count (Thru 2016)	Annual Usage ***	
		Gas (Mcf)	Oil (Gallons)
Residential	11,060	190	1,400
Multifamily Residential	421	1,000	7,575
Small Commercial	714	680	5,152
Medium Commercial	440	4,000	30,000
Large Commercial	139	7,600	57,576
FMH	1	110,000	833,333
UAF	1	200,000	1,515,000

10-Year Bond Amortization

ANS Crude (\$/bbl)	Natural Gas (\$/Mcf)	Fuel Oil (\$/gal)	Residential				Multifamily Residential			
			Annual Cost		Annual Savings		Annual Cost		Annual Savings	
			Gas	Oil	Household	Areawide	Gas	Oil	Household	Areawide
\$50.00	\$12.16	\$2.10	\$2,310	\$2,940	\$630	\$6,963,376	\$12,160	\$15,908	\$3,748	\$1,577,698
\$100.00	\$14.48	\$3.60	\$2,751	\$5,040	\$2,289	\$25,314,128	\$14,480	\$27,270	\$12,790	\$5,384,590
\$150.00	\$18.02	\$4.60	\$3,424	\$6,440	\$3,016	\$33,359,172	\$18,020	\$34,845	\$16,825	\$7,083,325
ANS Crude (\$/bbl)	Natural Gas (\$/Mcf)	Fuel Oil (\$/gal)	Small Commercial				Medium Commercial			
			Annual Cost		Annual Savings		Annual Cost		Annual Savings	
			Gas	Oil	Household	Areawide	Gas	Oil	Household	Areawide
\$50.00	\$12.16	\$2.10	\$8,269	\$10,819	\$2,550	\$1,820,986	\$48,640	\$63,000	\$14,360	\$6,318,400
\$100.00	\$14.48	\$3.60	\$9,846	\$18,547	\$8,701	\$6,212,371	\$57,820	\$108,000	\$50,080	\$22,035,200
\$150.00	\$18.02	\$4.60	\$12,254	\$23,699	\$11,446	\$8,172,158	\$72,080	\$138,000	\$65,920	\$29,004,800
ANS Crude (\$/bbl)	Natural Gas (\$/Mcf)	Fuel Oil (\$/gal)	Large Commercial				Fairbanks Memorial Hospital			
			Annual Cost		Annual Savings		Annual Cost		Annual Savings	
			Gas	Oil	Household	Areawide	Gas	Oil	Household	Areawide
\$50.00	\$12.16	\$2.10	\$92,416	\$120,910	\$28,494	\$3,960,610	\$1,337,600	\$1,749,999	\$412,399	\$412,399
\$100.00	\$14.48	\$3.60	\$110,048	\$207,274	\$97,226	\$13,514,358	\$1,592,800	\$2,999,999	\$1,407,199	\$1,407,199
\$150.00	\$18.02	\$4.60	\$136,952	\$264,850	\$127,898	\$17,777,766	\$1,982,200	\$3,833,332	\$1,851,132	\$1,851,132
ANS Crude (\$/bbl)	Natural Gas (\$/Mcf)	Fuel Oil (\$/gal)	UAF				Total Areawide Savings			
			Annual Cost		Annual Savings					
			Gas	Oil	UAF	Areawide				
\$50.00	\$12.16	\$2.10	\$2,432,000	\$3,181,500	\$749,500	\$749,500	\$21,802,969			
\$100.00	\$14.48	\$3.60	\$2,896,000	\$5,454,000	\$2,558,000	\$2,558,000	\$76,425,846			
\$150.00	\$18.02	\$4.60	\$3,604,000	\$6,969,000	\$3,365,000	\$3,365,000	\$100,613,354			

20-Year Bond Amortization

ANS Crude (\$/bbl)	Natural Gas (\$/Mcf)	Fuel Oil (\$/gal)	Residential				Multifamily Residential			
			Annual Cost		Annual Savings		Annual Cost		Annual Savings	
			Gas	Oil	Household	Areawide	Gas	Oil	Household	Areawide
\$50.00	\$10.86	\$2.10	\$2,063	\$2,940	\$877	\$9,695,196	\$10,860	\$15,908	\$5,048	\$2,124,998
\$100.00	\$13.18	\$3.60	\$2,504	\$5,040	\$2,536	\$28,045,948	\$13,180	\$27,270	\$14,090	\$5,931,890
\$150.00	\$16.71	\$4.60	\$3,175	\$6,440	\$3,265	\$36,112,006	\$16,710	\$34,845	\$18,135	\$7,634,835
ANS Crude (\$/bbl)	Natural Gas (\$/Mcf)	Fuel Oil (\$/gal)	Small Commercial				Medium Commercial			
			Annual Cost		Annual Savings		Annual Cost		Annual Savings	
			Gas	Oil	Business	Areawide	Gas	Oil	Business	Areawide
\$50.00	\$10.86	\$2.10	\$7,385	\$10,819	\$3,434	\$2,452,162	\$43,440	\$63,000	\$18,560	\$8,606,400
\$100.00	\$13.18	\$3.60	\$8,962	\$18,547	\$9,585	\$6,843,547	\$52,720	\$108,000	\$55,280	\$24,323,200
\$150.00	\$16.71	\$4.60	\$11,363	\$23,699	\$12,336	\$8,808,190	\$66,840	\$138,000	\$71,160	\$31,310,400
ANS Crude (\$/bbl)	Natural Gas (\$/Mcf)	Fuel Oil (\$/gal)	Large Commercial				Fairbanks Memorial Hospital			
			Annual Cost		Annual Savings		Annual Cost		Annual Savings	
			Gas	Oil	Business	Areawide	Gas	Oil	FMH	Areawide
\$50.00	\$10.86	\$2.10	\$82,536	\$120,910	\$38,374	\$5,333,930	\$1,194,600	\$1,749,999	\$555,399	\$555,399
\$100.00	\$13.18	\$3.60	\$100,168	\$207,274	\$107,106	\$14,887,678	\$1,449,800	\$2,999,999	\$1,550,199	\$1,550,199
\$150.00	\$16.71	\$4.60	\$126,996	\$264,850	\$137,854	\$19,161,650	\$1,838,100	\$3,833,332	\$1,995,232	\$1,995,232
ANS Crude (\$/bbl)	Natural Gas (\$/Mcf)	Fuel Oil (\$/gal)	UAF				Total Areawide Savings			
			Annual Cost		Annual Savings					
			Gas	Oil	UAF	Areawide				
\$50.00	\$10.86	\$2.10	\$2,172,000	\$3,181,500	\$1,009,500	\$1,009,500	\$29,777,585			
\$100.00	\$13.18	\$3.60	\$2,636,000	\$5,454,000	\$2,818,000	\$2,818,000	\$84,400,462			
\$150.00	\$16.71	\$4.60	\$3,342,000	\$6,969,000	\$3,627,000	\$3,627,000	\$108,649,313			

*** Usage numbers are estimated based on historical usage numbers and information available to FNG at the time of this projection.