

HB

330

STATE OF ALASKA

WALTER J. HICKEL, GOVERNOR

DEPT. OF ENVIRONMENTAL CONSERVATION

OFFICE OF THE COMMISSIONER
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April 1, 1994

The Honorable Joe Green
Alaska State Legislature
Capitol, Room 114
Juneau, Alaska 99801

Dear Representative Green,


This letter underscores the Department of Environmental Conservation's support for a variety of efforts underway to expand the use of natural gas fueled vehicles in the state. This cheaper, cleaner fuel has great potential to clean our air, reduce spills, reduce costs of electric power generation outside the railbelt, and increase state revenues as much gas is shut in while there is a market for petroleum based fuel elsewhere.

A previous position paper published by the department objected to some of the terms in the original HB 330. We have no objection now to the version which cleared the House.

In Anchorage, where natural gas is available, the air quality plan for attainment speaks to using compressed natural gas (CNG) as a CO reduction strategy. The Clean Air Act of 1990 requires nonattainment areas that have not reached their air pollution goals by 1995 to implement a CNG program for fleets. Now that the State Implementation Plan revision for Air Quality has been approved by the Lieutenant Governor, we are taking the steps necessary to allow federal CMAQ (Congestion Mitigation Air Quality) funds administered by DOT/PF to be used to support a natural gas fueling infrastructure for these fleets.

With best regards,

Sincerely,


John A. Sandor
Commissioner

MT/re (G:\COMM\GREEN.LTR)

cc: The Honorable Bert Sharp, Chairman, Senate Transportation Committee

HB 330

Bill/Resolution Floor Action

Current Status: (S) TRA

Jrn-Date	Jrn-Page	Action
01/03/94	2013	(H) PREFILE RELEASED
01/10/94	2013	(H) READ THE FIRST TIME - REFERRAL(S)
01/10/94	2013	(H) TRANSPORTATION, FINANCE
01/12/94	2042	(H) COSPONSOR(S): SANDERS
03/16/94	2827	(H) TRA RPT CS(TRA) NEW TITLE 5DP 1NR
03/16/94	2827	(H) DP: FOSTER, HUDSON, MULDER, MENARD, G.DAVIS
03/16/94	2827	(H) NR: VEZEY
03/16/94	2827	(H) -ZERO FISCAL NOTE (DOT) 3/16/94
03/23/94	2927	(H) FIN RPT CS(TRA) NEW TITLE 5DP 6NR
03/23/94	2928	(H) DP: MACLEAN, LARSON, MARTIN, HOFFMAN
03/23/94	2928	(H) DP: FOSTER
03/23/94	2928	(H) NR: HANLEY, PARNELL, GRUSSENDORF, BROWN
03/23/94	2928	(H) NR: THERRIAULT, NAVARRE
03/23/94	2928	(H) -PREVIOUS ZERO FISCAL NOTE (DOT) 3/16/94
03/28/94	3017	(H) RULES TO CALENDAR 3/28/94
03/28/94	3017	(H) READ THE SECOND TIME
03/28/94	3017	(H) TRA CS ADOPTED UNAN CONSENT
03/28/94	3018	(H) OBJECTION TO ADVANCEMENT MOTION
03/28/94	3018	(H) ADVANCED TO THIRD READING 3/29 CALENDAR
03/29/94	3059	(H) READ THE THIRD TIME CSHB 330(TRA)
03/29/94	3060	(H) PASSED Y36 N2 A2
03/29/94	3066	(H) NAVARRE NOTICE OF RECONSIDERATION
03/29/94	3066	(H) RECON TAKEN UP SAME DAY UNAN CONSENT
03/29/94	3067	(H) PASSED ON RECONSIDERATION Y37 N1 A2
03/29/94	3070	(H) TRANSMITTED TO (S)
03/30/94	3405	(S) READ THE FIRST TIME - REFERRAL(S)
03/30/94	3405	(S) TRA, L&C

NATURAL GAS

COMPANY ACTIVITIES

AGA REPORTS 700 CNG STATIONS IN THE UNITED STATES

The American Gas Association's (AGA) latest estimates are that about 30,000 natural gas vehicles are currently on the road in the United States. Between 8.6 and 12.5 million NGVs could be on the United States roads by 2010. Eight million NGVs would replace about 600,000 barrels of foreign oil per day. It will take about 1 trillion cubic feet of natural gas per year to fuel 8 to 10 million vehicles. The United States in all markets was expected to use about 20 trillion cubic feet of natural gas in 1993.

According to the AGA, more than 700 natural gas refueling stations currently operate in the United States—about half of them are accessible to the public. Oil companies involved in public refueling stations include Amoco, Chevron, Texaco, Unocal, FINA, Shell and Phillips 66.

Safety appears to be an added advantage of NGVs. A 1992 AGA survey of more than 8,000 fleet-based vehicles found that in 278.3 million miles, NGV injury rates per vehicle mile traveled were 37 percent lower than the rate for gasoline fleet vehicles, and 34 percent lower than the rate for the entire population of registered gasoline vehicles. Not a single death occurred in 278.3 million miles of NGV operation. The collision rate for NGVs was 31 percent lower than the rate for gasoline fleet vehicles, but 30 percent higher as compared with the national average for registered gasoline vehicles. Yet despite this higher collision rate for NGVs—almost all of which are fleet vehicles—the injury rates for NGVs were lower than those for gasoline vehicles.

AGA cites two reasons for this safety record: the structural integrity of the NGV fuel system and the fact that natural gas dissipates into the atmosphere because it is lighter than air.

Access: AGA, phone 703 841 8660

INDUSTRY ANALYSES

NATURAL GAS

AMOCO COMPARES ALTERNATIVE FUELS, FAVORS CNG

F. Chapel, of Amoco Oil Company, discussed alternative fuels at the International Centennial Management Conference and Exposition on Environmental, Health and Safety Issues in Fleet and Vehicle Maintenance and Refueling Operations. The conference was held in Reston, Virginia in September.

According to Chapel, CNG is the preferred alternative fuel.

Data from a California Air Resources Board study, (Table 1) indicate that CNG produces the lowest emission levels in nearly every category versus the competitor fuels.

CNG has a high octane rating, and other than in the first seconds of acceleration from a dead stop, its performance is virtually indistinguishable from gasoline, including miles per gallon performance, says Chapel.

CNG vehicles show reduced engine wear, combustion deposits, and maintenance costs compared with the other fuels.

The operating characteristics reportedly are also superior. CNG starts well at cold temperatures; it causes no vapor lock; the high octane rating prevents knock; and it drives well in either warm or cold temperatures.

CNG is also safe, according to Chapel. Its fuel/air ignition ratio minimizes the potential for explosion. The storage tanks and related hardware are built to extremely rigorous standards. Should the CNG be released into the air, it would dissipate quickly.

In addition, CNG is neither toxic nor corrosive.

Natural gas for vehicles is typically priced 20 to 40 percent below the price of gasoline at the retail level. CNG also performs well because it is naturally about 130 octane and it yields essentially the same or better miles per gallon versus gasoline.

TABLE 1
EMISSIONS CHARACTERISTICS
OF ALTERNATIVE FUELS
(Grams/Mile)

	Ozone-Producing		CO	NO
	Exhaustive	Evaporative		
Gasoline	0.35	0.04	1.4	0.66
Methanol (M85)	0.25	0.09	1.0	0.45
Ethanol (E85)	1.02	0.05	1.8	0.61
Propane	0.20	0	1.4	0.27
Natural Gas	0.19	0	0.1	0.44

LNG shows similar operating characteristics to CNG. However, the -260°F temperature requires special handling.

Chapel notes that current technology makes it difficult for electric vehicles to compete in the alternative fuels market due to their limited power and range. Batteries also represent a potential hazardous waste disposal problem.

CNG Infrastructure

Fueling facilities are needed to provide CNG users with fuel, but adequate numbers of vehicles are required to justify the investment. A CNG compression station and dispenser typically cost \$200,000 to \$300,000 per site.

Key customer concerns are that the pumps be similar to gasoline dispensers; that CNG fueling should approximate the speed of a gasoline purchase; that payment options should include those commonly accepted—cash, major credit cards, government fleet cards—that refueling be available at any time; and that the product be sold in equivalent gallons.

FIGURE 1

OPERATING CHARACTERISTICS OF ALTERNATIVE FUELS

	Natural Gas	Methanol	Ethanol	Propane
Cold Weather Starts	○	●	●	●
Vapor Lock	○	●	●	⊙
Anti-Knock Problem	○	○	○	○
Convenience of Refueling	●	●	●	●
Cold Engine Driveability	○	●	●	●
Warm Engine Driveability	○	●	⊙	⊙

⊙ = Same as Gasoline

● = Worse than Gasoline

○ = Better than Gasoline

SOURCE: CHAPEL

companies; retail fuels marketers; and conversion technology centers. According to Chapel, a working partnership between industry and government will play a pivotal role in the expanded use of CNG.

Access: *The International Centennial Management Conference, Reston, Virginia, September 1993*

Alaska State Legislature

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COMMITTEE
ECONOMIC TASK FORCE

Representative Joe Green

Sponsor Statement

CSHB 330 (Tra)

Use of Natural Gas as a motor fuel in state vehicles

Natural gas is being used as a vehicle fuel in several states and provinces across the continent. Yet, while supplies of natural gas are abundant, we in Alaska appear to be waiting for an answer to the question "who goes first, the public sector or the private sector"?

Private sector fleet managers have expressed interest in utilizing natural gas, which offers a number of advantages. The state already uses natural gas in a few of its "around-town" cars. The barrier to more widespread use is refueling. Presently, the range of natural gas vehicles (NGV's) is limited, and there are few refueling stations.

HB 330 answers the question "who goes first" by allowing the public and private sectors to go forward together. HB 330 allows DOT to "participate in joint ventures with public or private partners" in an effort to solve the refueling dilemma. With the development of a refueling infrastructure, both private and public sector fleet managers could utilize natural gas.

HB 330 is a first step in the effort to utilize natural gas as a motor vehicle fuel in Alaska.

Alaska State Legislature

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COMMITTEE
ECONOMIC TASK FORCE

Representative Joe Green

TO: Senator Bert Sharp, Chairman
Senate Transportation Committee

FR: Representative Joe Green 

RE: HB330

DATE: March 31, 1994

This is to request a hearing on HB330 "An act relating to the use of natural gas as a motor fuel in state-owned vehicles and to the Department of Transportation and Public Facilities' authority to participate in joint ventures related to natural gas", which has been referred to your committee.

HB330 passed the House on a vote of 37-1, has a zero fiscal note and is supported by both DEC and DOT.

I have attached a sponsor statement, zero fiscal note, and summary of House action.

Thank you for your consideration of my request.



Alaska Environmental Lobby, Inc.

P.O. Box 22151 Juneau, Alaska 99802

Phone: 907-463-3366

Fax: 907-463-3312

CSHB 330: Fuel State Auto Fleet with Natural Gas

CSHB 330 instructs the Alaska DOT to "convert or purchase vehicles to utilize natural gas whenever practicable" and to participate in joint ventures to "foster the availability of natural gas for all automotive fuel consumers." Natural gas is a cleaner burning and more abundant fuel than petroleum based fuels such as gasoline and diesel.

The Alaska Environmental Lobby supports CSHB 330. This legislation :

***Fosters improved air quality for Alaskans by promoting cleaner burning natural gas over gasoline and diesel.**

***Promotes a more acceptable alternative to oxy-fuel additives to meet federal vehicle emissions standards, given doubts about the appropriateness of oxy-fuels in the northern climate.**

***Reduces maintenance costs on state run vehicles. Cleaner burning natural gas produces less wear and tear on engines.**

***Conserves natural resources by diverting consumption from less abundant petroleum to more abundant and more widely dispersed natural gas.**

***Encourages the public conversion to cleaner, possibly more efficient, more abundant natural gas by facilitating the availability of the fuel to consumers. In combination with similar initiatives by the federal government, the state provides important leadership in creating markets for natural gas. This would provide an important precedent for encouraging emerging technologies, such as hydrogen fuel.**

The Alaska Environmental Lobby acknowledges natural gas as an important bridge fuel pending advancement of cleaner technologies such as fuel cells, hydrogen, and electric vehicle power, and improved overall energy efficiency of the economy. Though no panacea, natural gas technologies already are well developed and can accommodate a gradual addition of hydrogen fuel, the next step toward cleaner fuels. In this context, HB 330 is a significant interim step toward improving the quality of life for Alaskans, conserving natural resources, and developing a sustainable energy policy.

Art Koeninger
4/5/94

FIRST COMMITTEE OF REFERRAL

frul

DATE: 3/30/94

FURTHER: LABOR & COMMERCE

DATE TURNED INTO OFFICE: 4-5-94

The TRANSP Committee considered CS FOR HOUSE BILL NO. 330(TRA)

"An Act relating to the use of natural gas as a motor vehicle fuel in state-owned vehicles and to the Department of Transportation and Public Facilities' authority to participate in joint ventures related to natural gas."

and recommends:

[] replace with _____ CS _____ ()

[] attaches amendment(s)

[] adopts _____ Letter of Intent

[] further referral to the _____

[] do pass

[] do not pass

[] no recommendation

individual recommendations

[] same title
[] new title
[] technical title change (HB only)

FISCAL NOTE INFORMATION

Department	Date	Zero	Fiscal
<i>prev. House DOT - PF</i>	<i>3/11/94</i>	<i>X</i>	

Department	Date	Zero	Fiscal

[] Appropriation No Fiscal Note

[] Governor's Bill with Previous Fiscal Notes (enter information above)

DO PASS:

ROD E. MO...
Tom Kelly

OTHER RECOMMENDATIONS:

X [Signature]
Chair: Signature and Recommendation *DO PASS*

STATE OF ALASKA
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Copies of minutes listed below were originally included in tl.'s file. The minutes are available on the STAIRS database CMPR. In order to save space copies of minutes have not been left in the files.

Mary Van Nimwegen

HIB 330

FISCAL NOTE

Revision Date: Department Affected: DOT&PF
 Title: Fuel State Auto Fleet with Natural Gas BRU: STW Administrative Services
 Sponsor: Green, Sanders Component: State Equipment Fleet
 Requestor: Component Serial Number: #539

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY95	FY96	FY97	FY98	FY99	FY00
PERSONAL SERVICES	0	0	0	0	0	0
TRAVEL	0	0	0	0	0	0
CONTRACTUAL	0	0	0	0	0	0
SUPPLIES	0	0	0	0	0	0
EQUIPMENT	0	0	0	0	0	0
LAND & STRUCTURES	0	0	0	0	0	0
GRANTS, CLAIMS	0	0	0	0	0	0
MISCELLANEOUS	0	0	0	0	0	0
TOTAL OPERATING:	0	0	0	0	0	0

CAPITAL — INFRASTRUCTURE	0	0	0	0	0	0
CAPITAL — CONVERSION	0	0	0	0	0	0

REVENUE FUND SOURCE	0	0	0	0	0	0
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FUNDING: (Thousands of Dollars)

1002 FEDERAL RECEIPTS	0	0	0	0	0	0
1003 GF MATCH	0	0	0	0	0	0
1004 GF	0	0	0	0	0	0
1005 GF/PROGRAM RECEIPTS	0	0	0	0	0	0
1006 GF/MHTIA	0	0	0	0	0	0
OTHER	0	0	0	0	0	0
TOTAL FUNDING:	0	0	0	0	0	0

POSITIONS

FULL-TIME	0	0	0	0	0	0
PART-TIME	0	0	0	0	0	0
TEMPORARY	0	0	0	0	0	0

Estimate of current year (FY94) impact: \$0

ANALYSIS: (Attach a separate page if necessary)

This Committee Substitute allows natural gas to proceed as an automotive fuel on its merits. DOT&PF believes there is a growing appreciation for the fuel's advantages and expect it will rapidly enter the market in the coming years. Recent changes in DEC's State Air Plan will enable the use of federal funds targeted to air quality to be used for refueling infrastructure and vehicle modifications.

Prepared by: Jeffrey C. Ottesen

Phone: 243-7671

Division: Engineering & Operations Standards

Date: March 11, 1994

Approved by Commissioner: 

Phone: 465-3901

Agency: Department of Transportation and Public Facilities

Date: March 11, 1994

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