

**The Anthropogenic Global Warming (AGW) Imbroglia : The Con Called “Sustainable Energy”**  
**How Near-future Megatrends Will Supplant So-Called “Sustainable Energy”**

I have no intention of wasting time here, arguing the obvious cases against the notion that “sustainable energy,” sometimes promoted as “renewable energy,” will provide a . . . sustainable future. But I will make a point that is at least ironic, but probably confirmation of cognitive dissonance.

The Cornell University community cherishes the fact that our institution leads the world in ornithology. As the sign-in book will attest, when I am in Ithaca, New York, I visit the [Lab of Ornithology on Sapsucker Woods Road](#). That sign-in book will also confirm my comments of disdain for the farce called wind power.



Only cognitive dissonance explains how those of goodwill for birds could be cajoled into believing that the junk at-left will “sustain” the underlying efforts symbolized at-right. It is climate bolshevism, the lie that CO2 drives global climate, which convinced Western nations that assembly of manufactured components into giant wind farms was the path to a “sustainable future.” It is not; economically or environmentally. But for a flavor of why the junk at-left infuriates, please see: <https://www.youtube.com/watch?v=l8S7bZ7anqc>

And the same PBS News Hour, an AGW proponent, that interviewed the New York Attorney General about Exxon-Mobil, fails miserably in its effort to spin the notion that spinning knife-edged turbine blades are “sustainable” for endangered species of birds . . . this is cognitive dissonance at the institutional level:

<https://vimeo.com/149441240>





Again, Dr. Bjorn Lomborg of the Copenhagen Consensus Center is an AGW proponent. His November 2015 report 'Impact of Current Climate Proposals' from Page 18 above, quantifies the viability of "renewables":

" Subsidizing inefficient renewables is expensive and doesn't work. The IEA estimates that we get 0.4% of our energy from wind and solar PV right now, and even in optimistic scenarios the fraction will only rise to 2.2% by 2040. Over the next 25 years, we'll spend about \$2.5 trillion in subsidies and reduce global warming temperatures by less than 0.02°C. "

Of course, that last quantification is false; so-called renewables will have zero effect on global temperatures.

So, in terms of their future, what comprises the energy plans of non-Western nations, such as the population Goliaths China, Russia and India?

Do their energy plans call for trillions of dollars spent on "solar PV" panels that do not work at night?

Do their energy plans call for trillions of dollars spent on tens-of-thousands of knife-edged wind mills, that cut birds and whole economies into decoupage?

Do their energy plans call for trillions spent on the most environmentally destructive Big Oil scheme in human history, the farce called "fracking"?

The answers are both yes and no, depending on context and which taxpayer-funded global subsidy is made available. But in the context of the long-term, the answer is a resounding "No." For a quick primer on what China, India and Russia are planning, we offer the following World Nuclear Association links:

<http://www.world-nuclear.org/info/Country-Profiles/Countries-A-F/China--Nuclear-Power/>

<http://www.world-nuclear.org/info/Country-Profiles/Countries-O-S/Russia--Nuclear-Power/>

<http://www.world-nuclear.org/info/Country-Profiles/Countries-G-N/India/>



Former advisor to Al Gore, James "death trains" Hansen states:

" Nuclear power - next generation nuclear power especially - has tremendous potential to be a big part of the solution."

Former Greenpeace co-founder Patrick Moore would be proud.

But the genuine "solution" is one of true environmental protection, by drastic reductions in air and water pollutants, and the need to address in a prudent manner the burgeoning demand for power, electric power in-particular, that the megatrends of the human enterprise will make manifest. This is not to say that we should renege on the prudent practices of efficiency and waste reduction; these have had and will continue to have intrinsic benefit.

But what are the megatrends that are going to dictate my claim made above about "a burgeoning demand for power, electric power," and the most efficient pollution-free means of its generation?

In my opinion there are three major areas/needs that will implicitly “supplant sustainable energy,” and far sooner than most presume:

1. Drastic near-term increases in the fuel efficiency mandated for the light transportation fleet. This fleet includes passenger cars and light trucks.
2. The electrification of the light transportation fleet.
3. The desalination of ocean and sea water for a reliable source of clean potable water.

The first two are inter-related by virtue of the provisions of new Corporate Average Fuel Economy (CAFE) standard released on August 28, 2012. The Obama Administration enacted a combined 54.5 mile per gallon minimum, per manufacturer, for cars and light-duty trucks by Model Year 2025:

<http://www.nhtsa.gov/About+NHTSA/Press+Releases/2012/Obama+Administration+Finalizes+Historic+54.5+mpg+Fuel+Efficiency+Standards>

The year-by-year requirements will be implemented in phases. (This process is very familiar to me, shown in overleaf; in 1982/3 I was the CAFE Planning Analyst for Ford Motor Company . . . a very lonely job at that time.)

But it is these interim steps, the phase-in, contained in the Final Rule of the new CAFE that have already resulted in mechanical design revisions and improvements that are likely to become ‘standard fare’ in terms of light transportation fleet product offerings. One of the most dramatic examples of a design revision comes in the area of light weight body construction of the Ford pick-ups trucks. Lauded as the “gutsiest decision of an automaker,” the all-aluminum bodied F-150 series trucks saves up to 700 pounds, and is a good indicator of what the year 2025 may require in terms of materials selection:

<https://vimeo.com/150634382>



Relating to megatrends, extracting aluminum from bauxite, requires enormous amounts of electric energy. It is this increased demand for electricity, especially if other manufactures follow leaders Audi and Ford into aluminum usage, that evoked a similar recommendation I reported to my bosses at Chrysler in 1986: We should not plan on responding to this increased demand with increased use of coal (nor currently with “fracking”). My report in 1986 was a prelude to opinions on electrification of the light transportation fleet.

Those who know me will confirm that I have advocated electrification of the transportation fleet for decades. There are many background reasons for that advocacy, but an interesting highlight involved an assignment I fulfilled shortly after receiving the Chairman's Award from Chrysler Chairman Lee Iacocca in 1985.

Mr. Iacocca asked a fundamental question: **What is the cleanest form of automotive transportation?** The genesis of his question was the increased concerns (and rhetoric), in the 1980s and 1990s era, regarding the related issues of environmental protection and national energy security.

At that time I had many executive '*Chefs in the kitchen*' who just "knew" that the full electric vehicle was the cleanest; how could it be otherwise? It was, and my report to upper management explained why.

I did not answer the question from the narrow, vehicle-only perspective; I pursued a broad-based systems approach which, by definition, backward integrated my study into the generation and distribution of the energy per se. Whether the vehicle propulsion system was gasoline, or diesel, or methane, or electric based; my real assignment needed to include the environmental effects on a system-wide basis. My study was limited to the United States. In 1985/1986, my ranking, starting with the cleanest, was as follows:

- Full Methane Fueled
- Full Electric Vehicle (today's EV)
- Dual-fueled Gasoline and Methane
- Gasoline
- Diesel

In the 1980s the hybrid (today's "plug in hybrid") was not proposed, and was therefore not part of my study. There was measured surprise at the fact that the full electric was not the cleanest. But that surprise was quelled when I reported how the electrical charging grid (then as today essentially non-existent) was to be energized by a substantial mix of coal-fired generation plants.

As a result of this report I later took the lead introducing internal Chrysler executives and engineers to some of the sources of information for my report; the American Gas Association, the Natural Gas Vehicle Coalition, and the Southwest Research Institute. This led to a formal engineering program was released the first natural gas fueled minivan.

In the DOT/NHTSA CAFE link above you will find (underline/bolding added):

" Major auto manufacturers are already developing advanced technologies that can significantly reduce fuel use and greenhouse gas emissions beyond the existing model year 2012-2016 standards. In addition, a wide range of technologies are currently available for automakers to meet the new standards, including advanced gasoline engines and transmissions, **vehicle weight reduction**, lower tire rolling resistance, improvements in aerodynamics, diesel engines, more efficient accessories, and improvements in air conditioning systems. The program also includes targeted incentives to encourage early adoption and introduction into the marketplace of advanced technologies to dramatically improve vehicle performance, including:

**Incentives for electric vehicles, plug-in hybrid electric vehicles, and fuel cells vehicles;**

**Incentives for hybrid technologies for large pickups and for other technologies that achieve high fuel economy levels on large pickups;**

**Incentives for natural gas vehicles;**

**Credits for technologies with potential to achieve real-world greenhouse gas reductions and fuel economy improvements that are not captured by the standards test procedures. "**



Noting the underlined items of the NHTSA release above, does sensibility indicate that any of the following energy sources will comprehensively fulfill the intentions of the new CAFE: Coal? Fracking? Solar panels? Wind farms?

An indirect answer . . . my Ford Crown Victoria has a 25 gallon fuel tank. Highway mileage 25mpg; equating to a range of roughly 625 miles. So how much electrical energy equivalent is stored in a full tank? 844 kilowatt-hours, almost a megawatt-hour. Now, as a rough estimate, multiply that by the 170 million light vehicles that are currently on the highways of America . . .

A December 10, 2015 Automotive News headline: **Ford to invest \$4.5 billion in EVs, plug-in hybrids**

An enormous sum; an enormous commitment. Consistent with megatrends issues 1 & 2 above, Mr. Raj Nair, product development chief for Ford states:

“ Everything we do is first driven by the customer, but certainly the regulatory requirements influence the technologies that we’re introducing, not just in electrified vehicles but in light-weighting and EcoBoost engines, etc. ”

On a not-so-subtle level this statement confirms that the only way to comply with the combined 54.5mpg requirement is to obtain CAFE credits through sale of electric vehicles; reducing vehicle weight alone will not accomplish the arithmetic (nor will the anticipated engine technologies).

As car companies world-wide develop their strategies, in response to market and regulatory requirements, a deep frustration will emerge regarding the fact that the ‘driven by the customer’ portion depends on infrastructure; an infrastructure that the car companies do not control.

Currently it appears that the only nation pursuing a coordinated strategy for the future of the light vehicle fleet is China. Partly the result of horrific pollution problems, much borne by inefficient electrical energy generation, the nation of China appears to be moving toward an infrastructure that will accommodate an electrified fleet. And the marketplace for such is increasingly not merely based on financial incentive, but participation at the consumer level; an all-around carrot approach. This national environment justifies so much of the global automotive companies’ focus on China.

But the key word is ‘coordinated.’ Merely issuing edicts that appease selected single-issue pressure groups, such as exemplified by the climate bolsheviks and the process that led to the new CAFE, continues to ignore (i.e. exclude) the fact that the ‘driven by the customer’ portion of any strategy depends on a national and coordinated plan. In its current form, the new CAFE is just another mandate from Washington. The typical American consumer of transportation would happily participate in a modernization of their mode, but that will never happen if the infrastructure is as antiquated, irrelevant and socially incompetent as the “us versus them” of climate bolshevism (and its Malthusian fetish with wind mills and the like).

The drive to the electrification of the light transportation fleet will require a coordinated approach to phasing out coal, quashing the din of the “sustainable energy” choices dictated by climate bolsheviks, and a renewal of the relationship between the automotive companies (as providers of transportation, not merely “cars”) and government. The old antagonistic format has failed repeatedly in every area ranging from safety to environmental protection, and at everyone’s expense especially the taxpayer. (On a professional/personal level, the electrification of the light duty fleet will eliminate a horrific safety hazard of the current dominant modes of transportation: The on-board breach-prone fuel tanks, storing combustible fuel, and therefore the hazard of collision-induced [severe fire injury and/or death](#).)

The modern “next generation nuclear power” and the infrastructure that is being implemented in China is one example of a coordinated approach.

But competent coordination will include care for the generations of American coal work families, an issue I addressed in 1986 in my report to Lee Iacocca; one that France addressed twenty years later in its drive to nuclear power. I have never heard a so-called environmentalist mention this human issue:

<http://news.bbc.co.uk/2/hi/europe/3651881.stm>

The image is a screenshot of a BBC News website page. At the top, there is a navigation bar with links for Home, News, Sport, Radio, TV, Weather, and Languages. Below this, a red banner contains the BBC NEWS logo and a 'Watch One-Minute World News' button. A message in the top left corner reads '[an error occurred while processing this directive]'. The main content area features a 'News Front Page' section with a world map and a list of regional categories: Africa, Americas, Asia-Pacific, Europe (highlighted), Middle East, South Asia, UK, Business, Health, Science & Environment, Technology, and Entertainment. Below this is a section titled 'Also in the news' with a link for 'Video and Audio'. The main article is titled 'France closes its last coal mine' and includes a sub-headline: 'The final shovelful of coal has been mined in France, bringing to an end an industry nearly 300 years old.' An accompanying photograph shows a miner in a hard hat and safety glasses working in a dark underground setting. The article text states: 'A last, symbolic block of coal was dug out at the La Houve mine, kicking off three days of events to mark the end of coal mining in France. Around 400 miners at La Houve will lose their jobs. The mine, near the town of Creutzwald on the German border, is the last of an industry that once employed 300,000 and fuelled France's industrial revolution. Nuclear power now provides 80% of the country's energy needs.' A separate text box at the bottom of the article provides further context: 'The industry's fate was sealed in the 1960s when France committed itself to a nuclear future. The 400 miners of La Houve will lose their jobs, but under a special deal, those who have served more than 20 years in the mine will have their salaries and housing paid by the state until they reach the age of retirement.'

As I reported in 1986, the way that the electrification of the light transportation fleet will be made viable, and the electric vehicle attain the "cleanest" rating systems-wide, is by implementation of modern nuclear power.

Item 3 in the megatrends is the desalination of ocean and sea water for a reliable source of clean potable water. What source of potable water does Commanding Officer Captain Christopher Bolt of the USS Ronald Reagan rely on for his crew of 5000? The Pacific Ocean. But the oceans are not potable; their waters are saline, and needs to be desalinated.

This vessel is stationed at Yokosuka, Japan, about 225 miles from Fukushima. Desalination of salt water has two major requirements: A process called reverse osmosis, and a reliable energy source to drive its chemical reactions. Since the controllers for the two nuclear power reactors aboard the USS Ronald Reagan have never been [infected by STUXNET](#), Captain Bolt can rely on reactor output, especially while at sea, to supply the energy to desalinate all the drinking, cooking and shower water his crew will need.



President John Kennedy once said:

"I have said, that I thought that if we could ever competitively, at a cheap rate, get fresh water from salt water that it would be, in the long range, in the interests of humanity, which would really dwarf any other scientific accomplishment. And I am hopeful that we will intensify our efforts in that area."

One of the most salutary contributions to advancing the human condition comes from the Israeli company, IDE Technologies. They are partners for the largest desalination plant in the western hemisphere. Opened on December 15, 2015, the Carlsbad Desalination Project will provide on-average 50 million gallons of fresh water per day, with a contracted yearly maximum of over 18 billion gallons:

<https://www.youtube.com/watch?v=VksL53YLqO0>



However, the IDE website <http://www.ide-tech.com/blog/case-study/carlsbad-california-project/> makes the following claim about the Carlsbad, California desalination plant:

**“Environmental breakthrough - first major California infrastructure project to eliminate its carbon footprint”**

First of all, as we have frequently discussed above, there is no such thing as a “carbon footprint,” and deployment popular culture marketing vernacular such as that belittles these topics. But the IDE claim is absurd given that the adjacent plant is methane and oil fueled, and as such emits carbon dioxide.

IDE has also partnered with China’s State Development and Investment Corporation for their desalination plant in Hangu, Tianjin. Regarding this plant the IDE flyer claims:

**“Footprint: 125m x 160m . . . “IDE’s MED technology has enabled us to realize an environmentally-friendly power-seawater desalination-salt production model. This helps us to minimize our environmental footprint while reducing our costs. We are proud of this world-class design and believe that it will serve as a model for other power plants throughout the world.”**

Footprint, what type of footprint? Then IDE/SDIC claims “minimize(ing) our environmental footprint”? Would it not be ethical for both to openly state that the Tianjin desalination plant is powered by coal? Perhaps IDE/SDIC should review Attachment 8 and its embedded video.

### **Conclusions:**

The three megatrends focused on in this attachment:

1. Drastic near-term increases in the fuel efficiency mandated for the light transportation fleet. This fleet includes passenger cars and light trucks.
2. The electrification of the light transportation fleet.
3. The desalination of ocean and sea water for a reliable source of clean potable water.

are most efficiently, reliably and safely accommodated by a coordinated energy plan involving modern nuclear power.



One of the most important contributions of Megatrend #3, and of a plan that includes modern nuclear power, is the sustaining effect of having potable water made reliably available in arid and/or drought stricken regions. The Carlsbad, California facility is highlighted above as a modern forward-looking approach, but such is not the only example of benefits to large scale desalination.

In current affairs, rather than deploying the “regime change game” in Syria (ala The Grand Chessboard of Zbigniew Brzezinska), a better plan would have been to subvert the dire consequences the drought has had on Syrian farmers, and its refugees. Even Prince Charles managed to fumble his way into the consequences of the drought on Syria, but rather than “subduing Her,” His Majesty decided that reducing everyone else’s “carbon footprint” is the proper choice (ala his mentor Thomas Malthus and the latter’s protégé the backward looking climate bolsheviks). Charles goes so far as to bring up the Pentagon in his “solution” for Syria: <https://vimeo.com/150787043>

It is possible that a properly executed subpoena served upon defendant Exxon-Mobil would produce files that contain studies that arrive at or support these conclusions.



September 27 1983

Dept. #K2740  
Loc. Code: 5061  
Payroll Code: 5131

ADVANCED CAR, BUSINESS AND POWERTRAIN PLANNING DIRECTOR	
Rm 3030	41470
J. D. DONALDSON	

Denise Cwik

POWERTRAIN PLANNING MANAGER	
Rm 3102	30745
M. J. BERNIA (Mel)	

Barb Vicary-Sec.

CAFE, CERT., F.M. AND ELECTRONICS PLANNING MANAGER	
TBD	

ADVANCED PROGRAMS & BUSINESS PLANNING MANAGER	
Rm 3232	33652
R. L. LANDGRAFF (Dick)	

Elaine J. Moore-Sec.

TRANSMISSION PLANNING MANAGER	
Rm 3170	34640
BOB (R.) W. HARRIS	

Carol Richardson-Sec.

Paul V. Sheridan 33985  
(Rm 3129)

TBD

Tom A. Smart 79142

CAR BUSINESS & PRODUCT STRATEGY PLANNING MANAGER	
Rm 3092	75707
RON A. OYE	

Diane Horschak-Sec.

Ron M. Muccioli - 41437  
Joe M. Funchess - 31268  
Ben W. Murray 33984  
Chuck E. Teske - 31203

4 CYLINDER ENGINE PLANNING MANAGER	
Rm 3190	76066
DAVE A. BROCKMAN	

Pat D. Littlefield-Sec.  
Karl F. Fiegenschuh - 75272  
Andy D. Sarkisian - 75088  
Pravin N. Shah - 76264

CAR CONCEPT PLANNING MANAGER	
Rm 3149	22377
JOHN B. ONKEN	

B. Gail Wujcik-Sec.  
Dick (R.) G. Morrissett - 79756  
Larry L. Schey - 43017  
John F. Wolkonowicz - 79135

6/8 CYLINDER ENGINE PLANNING MANAGER	
Rm 3126	22502
RICH L. PETTIT	

Madeline C. Merdianian-Sec.  
Terry P. Jain - 76516  
John M. Warren - 76512  
Al D. Almon - ~~33985~~ (T)

33390

ADVANCED VEHICLE PLANNING MANAGER	
Rm 3092	28058
BRUCE M. KOPF	

Lana K. Simpson-Sec.  
John S. Dallas - 33373  
Tom J. Hughes - 30758  
Chris K. Hostetter - 25394  
Larry T. Singleton - 34618

DIESEL ENGINE PLANNING MANAGER	
Rm 3112	76140
BRIAN J. GERAGHTY	

Eddie Lechowicz-Sec.  
Walt F. Clark - 40284  
J. Craig Bonk - 75215

ADVANCED P/T & VOLUME ANALYSIS PLANNING MANAGER	
Rm 3080	23465
PETE E. TREES	

Diane M. Dewar-Sec.  
Jim F. Rafferty - 40649  
Tim J. Kramer - 41548  
Scott S. Turner - 79352

IN RECOGNITION OF  
EXCELLENCE IN ACHIEVING



*“Your Personal Best”*

1985

Advance Product Planning Office  
to be the Best Goals

PAUL V. SHERIDAN

*L. A. Iacocca*

L. A. Iacocca

*E. A. Reickert*

E. A. Reickert

*Peter C. Badore*

P. C. Badore

*J. M. Hossack*

J. M. Hossack

*H. E. Cook*

H. E. Cook

*K. S. Mack*

K. S. Mack

# SOUTHWEST RESEARCH INSTITUTE

6220 CULEBRA ROAD • POST OFFICE DRAWER 28510 • SAN ANTONIO, TEXAS, USA 78228-0510 • (512) 684-5111 • TELEX 244846 <sup>210</sup>

ENGINE AND VEHICLE RESEARCH DIVISION  
TELECOPIER: 512/522-2019

13 July 1990

Mr. Paul V. Sheridan  
Chrysler Corp.  
Code 514-17-15  
14250 Plymouth Road  
Detroit, MI 48232

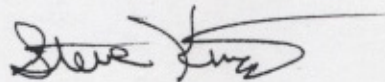
**Subject: Information on Gas Engine Technology Project**

Dear Mr. Sheridan:

Enclosed is information on the Gas Engine Technology Advancements project being conducted at Southwest Research Institute for the Gas Research Institute. Your name has been added to the mailing list to receive future releases and information concerning this project. The gas engine workshop is scheduled for September 27 and 28. We will send you more information as it becomes available.

Thank you for your interest.

Sincerely,



Steven R. King  
Group Leader  
Gas Engine Technology  
Department of Engine Research

/jg

Enclosure



SAN ANTONIO, TEXAS  
DALLAS / FT. WORTH, TEXAS • HOUSTON, TEXAS • DETROIT, MICHIGAN • WASHINGTON, DC

## MEETING NOTICE

**DAY:** Wednesday, June 12, 1991

**TIME:** 10:00 a.m.  
(Duration 1 ½-2 hours)

**PLACE:** WPC Information Center Conference Room

**SUBJECT:** GENERAL REVIEW OF CURRENT DEVELOPMENTS IN  
NATURAL GAS VEHICLES

**INVITEES:**

Harold L. Barton	460-01-00	948-3600
Robert L. Davis	418-04-07	956-0047
Arnold J. Dejong	418-31-15	956-3952
Thomas E. Edson	418-12-34	956-0204
Thomas B. Gage	415-04-07	956-0790
Richard O. Geiss	514-17-15	493-2309
Joseph F. Goulart	550-00-00	523-2700
Robert J. Holdreith	418-36-36	956-4453
Thomas L. Kizer	463-00-00	583-5210
Douglas D. Teague	418-35-23	956-4968
Warren C. Tiaht	460-01-00	948-3630
Richard A. Winter	414-01-21	956-1731

**PURPOSE:** The purpose of this meeting is to provide a forum for representatives of the Natural Gas Vehicle Coalition (of the American Gas Association) to update key members of Chrysler on the overall status of NGV programs. Discussion will include vehicle-specific issues such as emissions, fuel economy, range, packaging, engine system modification, etc. General issues such as the Clean Air Act Amendment of 1990, public sector support, fleet sales implications, O.E.M. programs funding, Coalition membership, etc., will also be discussed. (Although an emphasis will be placed on the implications for the AS/NS-Body [minivan], a general participation/discussion is encouraged.)

**CALLED BY:** Paul V. Sheridan      415-03-19      956-6318

## MEETING NOTICE

**DAY:** Friday, September 20, 1991

**TIME:** 10:00 a.m.  
(Duration 1 ½-2 hours)

**PLACE:** WPC Information Center Conference Room

**SUBJECT:** GENERAL PRODUCT AND MARKET RESEARCH  
PRESENTATION ON NATURAL GAS VEHICLES

**INVITEES:**

Harold L. Barton	460-01-00	948-3600
David P. Bostwick	414-03-45	956-5201
Robert L. Davis	418-04-07	956-0047
Arnold J. Dejong	418-31-15	956-3952
Thomas E. Edson	418-12-34	956-0204
Thomas B. Gage	415-04-07	956-0790
Richard O. Geiss	514-17-15	493-2309
Joseph F. Goulart	550-00-00	523-2700
Robert J. Holdreith	418-36-36	956-4453
James C. Lanigan	232-02-48	519-973-2715
Dennis C. Malecki	415-03-19	956-4560
Douglas D. Teague	418-35-23	956-4968
Warren C. Tiaht	460-01-00	948-3630

**PURPOSE:** Provide a forum for the Natural Gas Vehicle Coalition (NGVC) to respond to Chrysler's request (Attachment I) for information ranging from NGV market data to additional details on existing and future CNG-prepped vehicle configurations/specifications. An update on NGVC's legislative prognosis relating to CNG vehicles is also expected. This is a follow-up to the June 12, 1991 meeting (Attachment II).

**CALLED BY:** Paul V. Sheridan      415-03-19      956-6318

**cc:** Richard A. Winter      414-01-21      956-1731  
John L. Mann      232-02-48      519-973-2719

Attachments

**Chrysler to sell natural-gas minivans, pickups**

JOSEPH BOHN; Staff Reporter

03/01/1993

Automotive News

(Copyright 1993 Crain Communications Inc.)

AUBURN HILLS, Mich. -

Chrysler Corp. will offer natural-gas-powered minivans in January.

The company also plans a natural-gas version of its new Dodge Ram pickup in the 1997 model year, according to Richard Geiss, executive engineer of engine systems in Jeep/truck engineering.

Chrysler has been building natural-gas vehicles for a year. It has produced about 1,000 natural-gas-powered full-sized Ram vans.

About 30,000 natural-gas vehicles are on the road, according to Stephen Ban, president and chief executive officer of the Gas Research Institute in Chicago.

Federal and state clean-air requirements are expected to swell the total to more than 1 million vehicles by the end of the decade and to 4.7 million by 2010, Ban said.

The Energy Policy Act requires federal fleets to begin buying alternative-fuel vehicles this year. In the 1996 model year, state fleets and alternative-fuel providers must begin buying them. And the law may require private and municipal fleets to buy alternative-fuel vehicles as early as the 1999 model year, according to Ban.

The Clean Air Act amendments of 1990 require fleets of 10 or more vehicles operating in 21 urban centers to buy a percentage of alternative fuel vehicles beginning in 1998. And bus operators are buying natural gas-powered buses to meet more stringent 1993 emissions requirements.

Chrysler's full-sized vans are priced about \$4,500 higher than comparable gasoline-engine models - but federal and state tax incentives wipe out most of that difference, Ban said.

**Chris Theodore**, Chrysler general manager of **minivan** platform engineering, said he does not expect that large a price gap on the natural-gas minivans.

Chrysler officials said market demand will dictate how many natural-gas minivans will be built.

**Theodore** said customers called the full-sized natural gas vans a little too big, so the **minivan** "was the next obvious choice.

"We're laying seeds for the future," **Theodore** said.

"We have the incentive to build ultra-low-emissions vehicles for California," he added.

California state law requires that 2 percent of a manufacturer's sales to be zero-emissions vehicles beginning in 1998. That threshold limit increases to 10 percent by 2003.

The California Air Resources Board certified Dodge's full-sized natural-gas van as the cleanest truck engine in the state and as capable of meeting its 1998 standards. Chrysler plans to further reduce emissions of its natural-gas vans.

Chrysler and gas industry officials hope with further emission reductions California will let natural gas-powered vehicles be used toward meeting the zero-emissions requirement.