Nowakowski, Sonja

From: Marcia Youngman [marciay@mcn.net]
Sent: Friday, August 22, 2008 4:44 PM
To: Nowakowski, Sonja
Subject: climate change

August 22, 2008

Sonja Nowakowski
Legislative Environmental Policy Office
and
Environmental Quality Council

Dear Ms. Nowakowski:

I am writing to urge the EQC to go much further in its proposals to address climate change. We can't afford bland, toothless political compromise on an issue this important. We need to rise to the challenge now if we care at all about our children's future in Montana. The 11 proposals EQC currently plans to put forward are disappointingly trivial in comparison to the magnitude and urgency of the challenges (and opportunities) climate change represents for Montana's economy, environment, wildlife habitat, way of life, and future. We need to take far more significant actions than EQC proposes, and swiftly, or Montana will face changes that will dramatically alter the state as we know it and will cause hardship, difficult adjustments, and shocking expenses. Any delay in action because of short-term expenses is penny wise and many dollars foolish. The proposals EQC is ignoring may in some cases cost money upfront but will reap far greater economic gains and savings for the state.

As a former Bozeman mayor and current active participant in my community, I support the 54 recommendations of the Governor's Climate Change Advisory Committee. Individuals, government agencies, businesses, and industry all must share in actions to reduce greenhouse emissions. From energy providers to appliance stores to homeowners, we all have an important part to play. Voluntary measures are not enough to turn the tide. Do we really prefer to let folks continue to emit as they please than to set reasonable standards, if the cost is more forest fires and more property loss, no glaciers, game and other species threatened due to loss of habitat, less water, etc., etc.? Let's make it as appealing as possible to reduce emissions—far better tax credits and rewards for clean energy choices such as wind and solar for individuals, businesses, and energy providers—but let's also require emissions reduction through reasonable regulations and standards changes for vehicles, for appliances, for building codes, and so forth.

I don't understand people who for political reasons still question global warming. There is a scientific consensus, with some debate about details but not about the fundamental concept, the role of human-caused emissions, and the urgent need for massive action. Sure, there are a few naysayers, but anyone who says there isn't a scientific consensus is ignoring the conclusions of a staggering multidisciplinary array of scientists and scientific organizations. Nevertheless, it doesn't even really matter if people believe in human-caused global warming. They should still find the economic advantages appealing of many of the proposals you are not recommending action on. There's no excuse for doing so little at this critical point for our state.

When I visited a friend who moved to Colorado recently from Montana, he mentioned how pitiful Montana's approach is to such subjects as tax credits for personal investments in energy-efficient appliances, machines, and wind and solar power, in comparison to his new state. He is able to afford to do the right thing for the climate in his new state, whereas he couldn't in Montana. Let's change that. Please strengthen your recommendations. Montana's future as a thriving state with an appealing natural environment for summer and winter tourism, skiing, wildlife, hunting and fishing, investment, and business relocation requires far broader actions than your current minor proposals represent.

Respectfully,

Marcia Youngman
1214 W. Koch, Bozeman, MT 59715

(406) 587-5704 (home/work)
marciay@mcn.net

Nowakowski, Sonja

From: The S.A.V.E. Foundation, 501(c)(3) [Recycle@Savemobile.org]

Sent: Friday, August 22, 2008 4:58 PM

To: Nowakowski, Sonja

Subject: Comments on ECQ Draft Legislation / Climate Change

In Support of Recycling Legislation

August 22, 2008

Dear Members of the Environmental Quality Council,

The S.A.V.E. Foundation is a non-profit recycling and conservation organization based in Helena. Our efforts include education and direct recycling operations, including Helena's primary plastics recycling operation.

As you know, many communities are working to bring forward recycling. We appreciate your interim work on legislation that has great potential to boost recycling across the state. We applaud the drafts LC 6000, 6001, 6002, and 6003. These partnerships, loans, and grant programs all have potential to bring forth infrastructure, innovation, and partnerships that will yield substantial return for our environment, economy, and communities with increased recycling activity and reduced waste costs. Now is the right time for this legislation:

* Recycling provides jobs and service to our communities.

* A 2003 DEQ report found that the recycling industry created over 300 full-time jobs and supported $9 million in wages.

* Recycling provides material for reuse and infrastructure for communities at a time when fuel and commodities prices have increased greatly.

* To quote DEQ's report, "recycling activity in Montana is a model point for the interplay between private sector activity and social concern—between economic incentive and environmental responsibility."

* Montana's current recycling goal from the Integrated Solid Waste Management Plan is to divert 22% of the state's solid waste by 2015. Last year, 222,088 tons (15%) were recycled or composted.

* Recycling is an investment into our communities and will payback to urban and rural economies and environments.

Additionally, we appreciate your recommendations to expand local consumption of Montana crops (LC 6004), to address transportation for seniors (LC 6005 & 6006), to create a weatherization account (LC 6007), to increase the energy conservation tax credit (LC 6008), to evaluate biomass (LC 6009), and to require energy efficiency in new state buildings (LC 6011). These recommendations will lead to wise investments in the future and help meet Montanans' needs.

Thank you for your time and effort during the interim. We look forward to working with you on your recommendations and other legislation in the coming year.

Sincerely,

Matthew A. Elsaesser, Executive Director
The S.A.V.E. Foundation, 501c3
Recycle @ SAVEMOBILE.ORG
Phone: (406) 449 - 6008
Fax: (406) 443 - 7144
P.O. Box 1481
Helena, MT 59624

The Student Advocates for Valuing the Environment Foundation is dedicated to promoting environmental stewardship with daily habits and environmental awareness. Learn more at SAVEMOBILE.ORG

If you have received this message in error, please let us know.

Nowakowski, Sonja

From: marlee ostheimer [marleerose@live.com]
Sent: Friday, August 22, 2008 3:41 PM
To: Nowakowski, Sonja
Subject: climate change

Member of the EQC,

I would like to encourage the Council to move on draft bill LC6004. Local food is an indispensible tool in greenhouse gas mitigation. If Montana had the means to process whole foods in-state, we could circumvent the needless, and costly, cycle of processing Montana grown foods out of state, and then shipping back the finished product. This shipping back and forth is an enormous source of greenhouse gases.

I am an Americorp VISTA volunteer working with Gallatin County Farm to School to incorporate whole and local foods into Gallatin County's elementary school lunch programs. One of the biggest issues we are facing in this effort, and in other efforts to support locally grown foods across the State, is the lack of food processing infrastructure in Montana. This is because Montana producers, who often do not have the capacity to process foods, have a difficult time competing with subsidized national food suppliers like FSA and Sysco, who can provide value-added products at artificially cheaper prices. This cheaper price tag does not realize the shipping and transportation costs. By subsidizing the processing infrastructure in Montana, this bill would give Montana processed foods a competitive advantage to other subsidized national food companies.

Without food processing infrastructure, Montana businesses which would otherwise purchase locally grown foods, are not able to do so. And without support in the first phases of bringing processing infrastructure back into the State, producers who would otherwise process their raw Montana grown products, are not going to be able to do so. This bill is key in providing Montana producers the support to begin taking steps towards processing food in-state, the missing link that will help connect local farms with consumers, thereby reducing Montana's contribution to transportation related greenhouse gas emissions.

Thank you for your time and consideration.
Sincerely,

Marlee Ostheimer
GVF2S VISTA
Bozeman, MT
406.274.0489

Nowakowski, Sonja

From: Neva Hassanein [hassaneinneva40@montana.com]
Sent: Friday, August 22, 2008 4:12 PM
To: Nowakowski, Sonja
Subject: Climate Change

Members of the EQC:

I strongly support the EQC's LC6004 which would give property tax breaks to Montana food processors for their use of Montana grown ingredients.

For the last eight years, I have worked in my capacity as a professor at the University of Montana and as an agricultural sociologist to develop local food systems in our state. For example, my students and I have been deeply involved in the creation of UM's Farm to College program, which purchases Montana food products to serve in campus dining halls. Since its inception in 2003, Farm to College has re-directed some $2 million into the state and regional economy.

In 2006, ten graduate students and I studied the impact of Farm to College on the state. One part of our research focused on assessing the reduction of "food miles" associated with Farm to College; the term refers to the distance between where food is grown to where it is consumed. Specifically, we looked at the basic ingredients in a hamburger and French fries meal served at UM because these are produced and processed in Montana. We gathered data on a year's supply of these ingredients used by Dining Services (e.g., amounts used, weights of product, number of deliveries, types of trucks and fuel used, and distances traveled). For comparison, SYSCO kindly gave us information on where these products would have been sourced had they been sourced conventionally.

Our analysis showed that a year's supply of conventionally-sourced products would have traveled 2.8 times further than they did when purchased through Farm to College (393,930 vs. 141,252 miles). The conventionally-sourced ingredients would have used 43,000 gallons more fuel and emitted 2.9 times more CO2 in a year. [Note that actual data tracing the food back to the farm/ranch was not available, so these figures only account for the distance from processing to consumption.]

Clearly, we can have a tremendous impact by eating closer to home (and this is not to mention the many economic and social benefits that we documented).

We also concluded that Montana needs to greatly expand its capacity to process foods locally in order to meet the opportunities that institutional and other local markets create. In other words, demand is exceeding supply; for example, the institutional market at UM would purchase more if the product were available in an appropriate form (which is often processed to some degree). The same has been true for restaurants in the Missoula area that have sought to expand local food offerings on their menus through a "Buy Fresh, Buy Local" campaign.

The proposed LC6004 would help expand the state's capacity by giving incentives to existing Montana processors to switch over to Montana-grown raw ingredients and, potentially, to nascent processing businesses that need an extra bit of support as they develop. Further, this seems to be a good, discrete piece of legislation that would benefit Montana's commodity growers in particular. Commodity growers cannot take advantage of the burgeoning local food movement if they cannot have the raw materials that

they produce processed in state.

Thank you for recognizing that how we structure our food systems has a direct impact on addressing climate change. I greatly appreciate your work on this vitally important problem. Feel free to contact me should you have any questions or comments.

Sincerely,

Neva Hassanein, PhD
124 Strand Ave.
Missoula, MT 59801
406-543-3635
hassaneinneva40@montana.com

Nowakowski, Sonja

From: Holly Heinzmann [hghw@earthlink.net]
Sent: Friday, August 22, 2008 9:43 PM
To: Nowakowski, Sonja
Subject: climate change

I am writing to voice my support for the bill allowing Montana food processors a tax reduction for using Montana raw ingredients.

Holly Heinzmann
Norris Hot Springs
Water of the Gods
www.norrishotsprings.com

Nowakowski, Sonja

From: Bonnie Buckingham [bbuckingham@wordinc.org]
Sent: Friday, August 22, 2008 3:54 PM
To: Nowakowski, Sonja
Subject: climate change

Hello,

I am writing in support of the EQC's LC6004 bill to award tax breaks for MT food processors using Montana-grown ingredients. It is important both for our environment, and for our economy. The shorter the distance between producer and processor, the less fuel will be consumed. Also, helping local companies access local foods keeps money circulating through our economy. I strongly support this effort.

Thank you,

Bonnie

Grow MT member

Bonnie Buckingham
Executive Director
Women's Opportunity & Resource Development, Inc.
2525 Palmer Street, Suite 1
Missoula, MT 59808
406-543-3550
www.wordinc.org

Nowakowski, Sonja

From: LORETTA MILLER [grnmeadw@mt.net]
Sent: Friday, August 22, 2008 4:46 PM
To: Nowakowski, Sonja
Subject: FW: proposed recycling program

Sonja I just reread the last email I sent. Please replace it with this one in their packets. I made a few grammatical type corrections. Thanks Loretta

---

From: LORETTA MILLER [mailto:grnmeadw@mt.net]
Sent: Friday, August 22, 2008 2:30 PM
To: 'mtheisen@mt.gov'; 'snowakowski@mt.gov'
Subject: proposed recycling program

Good afternoon. I am Loretta Miller with the Montana Automobile Dismantlers and Recyclers Association. We have just been informed of the proposed program to fund a new loan program to help various government entities and non-profit organizations purchase equipment to start recycling programs. We want to be on record as opposing this on several points.

The first point of opposition comes from the fact that there are already recycling programs in each county funded by the junk vehicle program. It would make more sense to use the structure that is already in place than to create another bureaucracy. Maybe a new mechanism can be added to this program if somebody would like a grant or loan to increase the recycling at these facilities.

There is a large balance in the junk vehicle program presently because the value of the crushed cars is at an all time high. But at the same time so are the costs of doing business on every level. The junk vehicle program pays the counties based on a formula. Perhaps that formula should be changed to allow more of that money back into the counties' hands. It is already earmarked for the junk vehicle programs so the counties can use that increase in funding to expand their programs.

Another point of contention with this program is that it is only available to government entities and non-profits. To those of us who are in the for profit businesses that generate that funding, it feels like direct competition with someone who doesn't have to have all the fiscal responsibilities that we have. I believe that there is a precedence in Montana that keeps the government from competing directly with those of us in business. This money is not available for loan to those of us who would like to venture into a new area of recycling or expand our present operations.

Another item paid for by the junk vehicle program is the towing of abandoned vehicles. That program pays the towers less than the cost of operating the towers to haul those cars. The per car rate was set long before the price of fuel skyrocketed. This program needs to increase the payment to the towers for this service that keeps all the cars from piling up on the sides of the roads when people walk away from them.

We very strongly disagree with this program. Thanks for reading my reasons. Please send any questions to me at grnmeadw@mt.net.

Loretta A Miller
406-458-9204

National Parks Conservation Association®
Protecting Our National Parks for Future Generations®

August 22nd, 2008

Environmental Quality Council
Montana State Legislature
P.O. Box 201704
Helena, MT 59620-1704
Attn: Sonja Nowakoski

Senator Wanzenried:

On behalf of the National Parks Conservation Association (NPCA) and our 1,681 Montana members, I appreciate the opportunity to submit comments on the Environmental Quality Council's (EQC) Draft Report on Climate Change and related legislation.

Since 1919, NPCA has worked to protect and enhance America's National Park system for present and future generations. NPCA is deeply concerned about the impacts that climate change will have on our treasured national parks, and the ecological and economic implications this will have for the state of Montana and its citizens.

While the EQC's Draft Report on Climate Change, and associated legislation, are a step in the right direction, they are simply too small an effort to address a challenge as great as climate change. Indeed, human induced climate change is already doing irreversible damage to two of Montana's treasures: Yellowstone and Glacier National Parks. From melting glaciers, to increased fire activity, to the potential loss of treasured wildlife species – climate change threatens many of the things that Montanans value most.

The original 54 recommendations in the Montana Climate Change Advisory Council's report represent a pathway for Montana to take meaningful steps toward addressing climate change. However, the 15 recommendations that the EQC has chosen to pursue are only minimally impactful. NPCA urges the EQC to return to the original recommendations and pursue those that would significantly move Montana toward the goal of a return to 1990 greenhouse gas emission levels by 2020.

In addition, we would like to offer the following comments on specific findings in the report:

1) " Study Task: Review how other state's are addressing climate change.
Draft Finding: As federal climate change policies unfold, it will be imperative that Montana be proactive in protecting its resources, including the economy and quality of life enjoyed by all Montanans."

   NPCA agrees with this finding, noting that Montana's national parks are anchors of the our state's vibrant tourism industry and the quality of life we enjoy as Montanans. In the

National Office
1300 19th St. NW, Suite 300 - Washington, D.C. 20036
202.223.6722 - fax: 202.659.0650 - toll-free: 800.628.7275
www.npca.org

state's efforts to be proactive, we recommend preparation for the potential influx of dollars to help wildlife adapt to climate change that could accompany a cap and trade agreement either through the Western Climate Initiative (WCI) or at the federal level.

2) "Study Task: Evaluate the Montana Climate Change Action Plan: Report of the Governor's Climate Change Advisory Committee (MCCAC). Draft Finding: There is considerable variation in the costs and benefits of implementing each of the 54 recommendations. The potential long-term economic impacts of some recommendations remain unclear."

While the costs of some greenhouse gas reduction measures remains unclear, we urge the EQC to recognize that the costs of climate change *inaction* are very real, and could have devastating impacts to Montana. We are just beginning to quantify what these costs would be, but as you point out in your report, climate change will mean:

- Increased intensity of fire season
- Increased insect outbreaks and tree mortality
- Increasing drought
- Increases in invasive plant (weed) species
- Reduced mountain snow pack

We urge the EQC to consider the grave economic implications of these consequences for Montana's tourism, outdoor recreation, forestry, and agriculture industries.

NPCA strongly supports the EQC's efforts to help secure a healthy future for the state of Montana. However, the legislation put forward for comment is simply insufficient to help us avoid the most serious impacts of climate change. If Montana wishes to protect its treasured outdoor heritage and world-class national parks, our state must lead by pursuing a stronger course of action for reducing our greenhouse gas emissions.

Sincerely,

Danielle Blank
Senior Outreach Coordinator
NPCA
109 W. Callender, Suite 3E
Livingston, MT 59047
406-222-4478
dblank@npca.org

CC:
Governor Brian Schweitzer
Senator Mike Cooney
Representative Scott Sales
Yellowstone National Park Superintendent Suzanne Lewis
Glacier National Park Superintendent Chas Cartwright

Nowakowski, Sonja

From: mary mcnally [mmcnally@bresnan.net]
Sent: Friday, August 22, 2008 12:54 PM
To: Nowakowski, Sonja
Subject: climate change

While I appreciate the time and effort the EQC put into reviewing the report from the MCCAC and developing its draft report, I am disappointed by what is contained in the draft report or, rather, what is not. Initiatives related to recycling, local food production, and weatherization are fine; they are also long overdue. The real challenges in terms of climate change - for example, getting serious about addressing carbon emissions - are totally ignored. Simply 'joining' the WCI, for example, does not really constitute an effective response to cross cutting issues, The 54 recommendations from the MCCAC were the result of painstaking (and at times painful) effort on the part of a large group of diverse individuals. To have them so watered down and/or ignored in the end is a real disservice. I believe we - the State and people of Montana - are capable of meeting the challenge of climate change and developing some innovation solutions to a real problem. The recommendations in this report don't begin to do that.

MONTANA
Wood Products
ASSOCIATION

August 22, 2008

Sonja Nowakowski
Legislative Environmental Policy Office
P. O. Box 201704
Helena, MT 59620-1704

Dear Sonja:

The following comments are submitted on behalf of the 15 member companies of the Montana Wood Products Association. There are three bill drafts under consideration by the Environmental Quality Council that relate to the timber community that will receive further attention at the September meeting and these comments relate to those drafts.

LC6009 A Joint Resolution of the Senate and the House of Representatives of the State of Montana requesting an interim study to evaluate the feasibility of expanded use of biomass feedstocks for energy use in Montana.

Comment: The MWPA supports the idea of an interim study to evaluate possible expanded use of biomass feedstocks for energy use. The main reason we support a study is to avoid unintended consequences of re-directing materials currently used and needed by existing facilities such as Smurfit-Stone Container. There are a number of facilities in Montana that use biomass or other residuals to produce value-added products such as paper or particleboard and it is extremely crucial not to interrupt the supply chain to those entities.

We will support legislation proposing a joint resolution and would ask to be part of the stakeholder group should the study be conducted during the 2009-2010 interim.

LC6010 A Joint Resolution of the Senate and the House of Representatives of the State of Montana encouraging Congress to adopt the National Association of Counties' resolution regarding hazardous fuels emergencies.

Comment: The MWPA supports all of the Whereas clauses in the bill draft but with the elimination of "biomass" in the first two clauses. The language would substitute "hazardous fuels" in both of those sections for the term "biomass".

The extreme conditions and heavy fuel loads in Montana forests require drastic action. Millions of acres of once beautiful forests are red and dead due to insect infestation and disease. Other hundreds of thousands of acres have already burned and because of lack of clean-up and replanting are at risk of burning again.

This resolution would ask Congress to enact federal legislation granting governors authority to declare a crisis when the severity of fire danger from excessive fuels pose a significant threat to public health and safety within a State. Upon declaration of a crisis, the responsible federal agency would have the ability to fast-track mitigation planning that would be excluded under the National Environmental Policy Act (NEPA) and the Appeals Reform Act. The federal legislation would require a litigant filing a court action against such a plan to post a damage bond of ten percent of the value of the property to be protected under the mitigation plan.

Immediate action by federal agencies would benefit the forest resource, air quality concerns caused by wildfire smoke, wildlife habitat, and the economy of local communities. Montana's landscape is in dire need of active forest management and this resolution could go a long way in moving forward with prompt action on the ground.

LC6011 An Act setting energy efficiency standards for new construction of state-owned buildings; and amending section 17-7-201, MCA.

Comment: At the EQC's July 14 meeting I adamantly opposed this bill draft in its current form. We have long opposed the use of the United States Green Building Council's Leadership in Energy and Environmental Design (LEED) system because it gives credit to rapidly renewable material like bamboo, but not construction lumber milled locally and in fact discourages the use of wood in general.

The LEED system requires certification for wood under the Forest Stewardship Council which currently is the only system allowed under LEED. Montana mills, large and small, that rely on federal, state, and private lands practice sustainable forestry but are not certified under FSC and LEED. This puts our local mills and manufacturers at a severe disadvantage if LEED is mandated for either new construction or remodeling of state buildings.

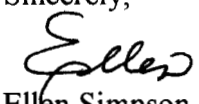
After fending off several LEED attempts in the 2007 Legislature, Julia Altemus of the Montana Logging Association and I met with University of Montana folks to develop a Montana manufactured wood products and chain-of-custody standard that could be incorporated into future campus construction projects. This is the Forest to College initiative patterned after the University's Farm to College program whereby locally grown and harvested products are used on campus. We are greatly encouraged by the progress of this initiative and will continue to work on it.

Following the July 14 EQC meeting I met with personnel from the Department of Environmental Quality and Architecture and Engineering Division to discuss bill draft language that could be used in substitution for the LC6011 language. The proposed language removes any reference to a specific wood certification system but promotes various design principles to optimize energy performance, enhance indoor environmental quality and conserve natural resources. It would require standards to be considered in both new construction and major renovations that include the use of "environmental, economic and social sustainability of materials and components". This should not only allow but encourage the use of materials acquired locally or, at least, regionally.

Passage of statutory language that is not specific to a certification system related to the use of wood products would be followed by the development of standards by the staff of the Architecture and Engineering Division for agencies to use when contemplating either new construction or major renovations. The MWPA would continue to be part of the process of developing the new standards to ensure Montana manufactured wood products are considered in state building construction.

Thank you for the opportunity to provide comments on these proposals. I look forward to future participation with the EQC in the development of possible legislation for the upcoming session.

Sincerely,



Ellen Simpson
Executive Vice President

cc: MWPA Board of Directors

Nowakowski, Sonja

From: Charlene Woodcock [charlene@woodynet.net]
Sent: Friday, August 22, 2008 12:18 PM
To: Nowakowski, Sonja
Subject: Climate Change

Sonja Nowakowski
Legislative Environmental Policy Office
Helena, MT 59620

Dear Ms. Nowakowski,

Because climate change damage to our way of life and to wildlife will be increasingly severe if we do not act quickly and effectively, I write to urge that the EQC support meaningful legislation—the 54 recommendations of the Governor's Climate Change Advisory Committee to reduce greenhouse gases. The 11 draft bills offered by the EQC are insufficient to achieve the goal of slowing and reversing human-caused climate change.

The effect of climate change in Montana on agriculture, tourism, wildlife protection—that is, on Montana's economy—will be very hurtful. We must do all in our power to counteract the consequences of Americans' careless, extravagant burning of fossil fuels. I must ask why the EQC has not adopted the Advisory Committee's recommendation for Light Duty Vehicle Clean Car Standards to increase mpg requirements? Not only would this help preserve Montana's vaunted clean air but it would save drivers millions of dollars in reduced fuel costs.

Other recommendations by the Governor's committee would raise the standards for energy efficiency in appliances and energy supply, call for industrial energy audits, reduce idling by heavy-duty vehicles, and improve building codes for efficiency and waste prevention. But the EQC has ignored these recommendations too in what seems a short-sighted, irresponsible response to the urgent need for a serious program to reduce waste and pollution and and preserve Montanans' treasured values of clean air and water and a healthy, prosperous place to live for both humans and animals.

I urge you to support the Governor's Committee's 54 recommendations and to withdraw support for the National Association of Counties' resolution regarding hazardous fuels emergencies and the EQC's draft bill endorsing "fast-track" forest planning. We need more long-term thinking about forest management, not to speed it up and prohibit citizens' scrutiny and involvement. And we need long-term thinking about how to preserve Montana's great attributes and values from degradation by pollution.

Sincerely,
Charlene M. Woodcock
32 West Main Street, #D
Bozeman, MT 59715

Nowakowski, Sonja

From: sandy courtnage [scourtnage@montanafarmersunion.com]
Sent: Friday, August 22, 2008 11:14 AM
To: Nowakowski, Sonja
Subject: Climate Change

Hello,

Montana Farmers Union supports the effort of the EQC in LC6004 to give tax breaks to Montana food processors that use Montana grown ingredients as a way to promote local food and food processing businesses.

We believe that encouraging more local food to be grown and raised and developing in-state processors and distribution makes great sense both economically and environmentally. We like the incremental approach of tying a facility's tax reduction to the amount of Montana product used. Has the committee looked at the impact of this approach being tied to the income tax rather than property tax? Our thinking is that perhaps some processors rent or lease a building and will not be able to benefit from the property tax reduction.

Thank you for your work on this important topic.

Best regards,

Alan Merrill, President
406-452-6406
amerrill@montanafarmersunion.com

Nowakowski, Sonja

From: mary.jones11@att.net
Sent: Friday, August 22, 2008 10:34 AM
To: Nowakowski, Sonja
Subject: Climate Change

Dear committee,
Though I have not kept up with all the work you've done, I would like to express to you my concern about what we are doing to the environment. Even if there were no immediate need to counter carbon dioxide generation, I feel we need to take a much stronger position on curbing our ongoing actions which have harmed the Earth and its atmosphere. It doesn't matter if other countries, China in particular, are doing more or less than we are, it is in our best interests to work on becoming more environmentally responsible.

The topics to which you've narrowed your focus: enhancing solid waste recovery, or recycling opportunities; promoting local food and fiber; improving transportation system management, or efforts to enhance mass transit and ensure adequate transportation planning; providing additional opportunities for low income and rental housing energy efficiency and weatherization; expanding biomass opportunities; and reviewing requirements that new state buildings exceed current building codes or standards are all necessary and I support the maximum requirements possible. Other areas, zoning requirements and land use plans to maximize the preservation of the landscape and keep humans inside city limits with lots, not acres for a house, would be very beneficial. Protecting our land is not a "private property" issue. There are times and situations where regulation is needed for the betterment of all as opposed to the maximization for the few. Do all you can for the future of this planet.

Thank you,
Mary V. Jones
413 Brassey Street
Lewistown, MT 59457

Nowakowski, Sonja

From: Everts, Todd
Sent: Friday, August 22, 2008 11:16 AM
To: Nowakowski, Sonja
Subject: FW: Proposed substitute language for LC 6011
Attachments: A&E LC6011 proposed language (4) .doc

From: Whaley, Jim
Sent: Friday, August 22, 2008 11:11 AM
To: Everts, Todd
Cc: Moore, Louise (DEQ); Hines, Mark; 'woodproducts@mt.net'
Subject: Proposed substitute language for LC 6011

A&E, DEQ and he Montana Wood Products Association have worked together to prepare a bill as a substitute for LC 6011. Please present this for consideration at the next EQC meeting; we will be glad to discuss this with you and answer any questions prior to the meeting.

I would appreciate it if you will keep us informed of the agenda so that we can attend and respond to and questions.

Proposed substitute LC6011 language by A&E and DEQ:

A Bill for an Act entitled "An Act establishing High Performing Building standards for state-owned buildings; and amending section 17-7-201, MCA."

Be it enacted by the Legislature of the State of Montana:

NEW SECTION. **Section 1. High Performance Building standards for building construction.**

(1) New buildings and major renovations constructed under 17-7-202 must be built and operated as high performance buildings. High performance building means a building that integrates and optimizes all major high performance building attributes including energy efficiency, durability, life-cycle performance, and occupant productivity.

(2) All new state buildings must exceed International Energy Conservation Code adopted by Montana by 20% or to the extent that is cost effective over the life of the building.

(3) The Department of Administration, in collaboration with the Montana University System and other State agencies will adopt and maintain high performance building standards. These standards must consider:

1) Integrated design principles to optimize energy performance, enhance indoor environmental quality and conserve natural resources;
2) Cost effectiveness including productivity, deferred maintenance and operational considerations;
3) Environmental, economic and social sustainability of materials and components
4) Functionality, durability and maintainability.

Section 2: This act is effective October 1, 2009.

Nowakowski, Sonja

From: Crissie McMullan [crissiemc@yahoo.com]
Sent: Friday, August 22, 2008 11:49 AM
To: Nowakowski, Sonja; nancym@ncat.org
Subject: climate change LC6004

To whom it may concern:
As coordinator of a statewide program to help public institutions buy more Montana-grown food, Grow Montana's FoodCorps, I strongly support the proposed LC6004.

Montana's institutions spend $33 million on food each year, yet most of that goes out of state. Five institutions--The University of Montana, Montana State University, Salish Kootenai college, Missoula County Public Schools, and Gallatin Valley Public Schools--are actively increasing the percentage of local food that they purchase. The hardest part? Finding food that is both grown and processed in-state. We simply don't have much food processing left in Montana, and the remaining facilities that we do have often use raw ingredients produced elsewhere. The tax breaks proposed in LC6004 can help change that.

I sincerely hope that the committee will adopt and support LC6004 throughout the upcoming legislative session. This bill will help reduce greenhouse gasses by reducing the distance between field to plate, while also boosting Montana's local economy--a win-win proposition.

Thank you for your time.

Sincerely,
Crissie McMullan
Coordinator of Grow Montana's FoodCorps
1131 Jackson Street
Missoula, MT 59802
406-531-5162

Nowakowski, Sonja

From: Nancy Matheson [nancym@ncat.org]
Sent: Thursday, August 21, 2008 2:33 PM
To: Nowakowski, Sonja
Subject: climate change draft bills, comment LC6004 and LC6000

TO: Members of the Environmental Quality Council of the Legislature
FROM: Nancy Matheson, Director, Grow Montana Coalition
RE: LC6004 and LC
DATE: Aug. 21, 2008

I'm writing on behalf of the Grow Montana Coalition to express our **support** for the EQC's draft bills to increase the use of Montana-grown ingredients by Montana food processors, and to remove the sunset clause on state programs that assist food- and agriculture-related and other Montana entrepreneurs. These draft bills are both part of the EQC's package of potential climate change legislation.

LC6004
A 2006 study conducted for Grow Montana by Dr. Fraser McLeay and funded by the state's Growth through Agriculture program, found that many of Montana's food processors are not using Montana-grown raw ingredients despite their availability. The study concluded that one of the easiest and quickest ways to increase the use of Montana-grown food in Montana would be to encourage existing, expanding and new Montana food processors to source their raw ingredients from Montana sources.* The EQC's draft LC6004 would do just that.

This draft bill is a great idea, both in its purpose and its strategy: The idea of encouraging Montana food processors to increase their use of Montana-grown raw ingredients is logical and straight forward; and basing a Montana food enterprises' property tax abatement on actual receipts for Montana-grown ingredients is simple.

Imagine every bakery in the state using Montana wheat and flour, Montana cooking oil, eggs and butter. Butte pasties made from Montana beef, potatoes and onions; bacon made from Montana hogs; jerky from Montana beef, tortillas from Montana flour. (Montana's public institutional food services are currently buying the food items mentioned above from Montana companies, but many of these companies are not using Montana ingredients!)

LC6004 has the potential to reduce the transportation-related environmental impacts of hauling food: The University of Montana conducted a study for Grow Montana to compare the fuel use and emissions from a year's worth of a SYSCO-sourced, real life hamburger and fries meal served in the UM dining hall, to a similar real life meal sourced from Montana ingredients.*

The results: the Montana-sourced meal traveled 2.8 times fewer miles and emitted 2.9 times less C02 than the same meal conventionally sourced from SYSCO-Montana. (The Montana meal: buns from Wheat Montana in Three Forks, beef from Montana Natural Beef processed in Ronan, fries from Whitehall, safflower cooking oil from Culbertson.) The study used a weighted formula that takes into account the type and size of vehicle, whether it is carrying a full load and a back-haul or not.

Clearly, sourcing food ingredients grown in Montana has an added benefit of keeping more of Montana consumers' food dollars in the pockets of Montana farmers and ranchers and their rural communities.

This bill would benefit the state's commodity growers, not only specialty crop growers.

LC6000

This draft bill to remove the sunset clause on several business assistance programs funded by the interest on the Coal Tax Trust Fund is extremely important to the continued development and growth of community-based enterprises in Montana, particularly those in our most rural areas. The Grow Montana Coalition strongly encourages the EQC, not only to introduce this legislation, but to add to it the Small Business Development Centers and the Research and Commercialization programs also slated for sunset in 2010. The need to localize Montana's food as well as other aspects of our economy will increase as fuel and energy costs continue to increase, and as the need to reduce emissions becomes ever more imperative. All of these business assistance programs are critical to the future of Montana's economy, environment and communities.

On behalf of the Grow Montana Coalition, thank you for proposing this package of legislation. We specifically encourage you to introduce LC6004 and LC6000--the latter with the additions mentioned above.

Sincerely,
Nancy Matheson
for Grow Montana
--

Nancy Matheson
Program Specialist
National Center for Appropriate Technology
Grow Montana Project Manager
www.growmontana.ncat.org
3845 Hart Lane
Helena, MT 59602
406-227-0389
nancym@ncat.org

* See the Grow Montana website for this study and data documentation: www.growmontana.ncat.org
Unlocking the Food Buying Potential of Montana's Public Institutions: Toward a Montana-based Food l

ALLEN E.BARR
3506 Holly Lane, Stevensville, MT 59870

Aug 20, 2008
406-777-5062

Sonja Nowakowski
Legislative Environmental Policy Office
P.O. Box 201704
Helena, MT 59620-1704

SUBJECT: Comments on draft climate change report.

After reviewing your draft report on climate change it appears to me that the report had a predetermined outcome – human activity is the cause of climate change. If this was so, why bother to do the report at all?

The science of climate change is very complex, but it is also more important to make sure we have the science right before any action/legislation is passed. After reviewing your draft report on climate change I am convinced that you have much of the science wrong. On page nine of your report you state: "Scientists know with virtual certainty that:

> • Human activities are changing the composition of Earth's atmosphere. Increasing levels of greenhouse gases like carbon dioxide (CO2) in the atmosphere since pre-industrial times are well-documented and understood.
>
> • The atmospheric buildup of CO2 and other greenhouse gases is largely the result of human activities such as the burning of fossil fuels.
>
> • The major greenhouse gases emitted by human activities remain in the atmosphere for periods ranging from decades to centuries. It is therefore virtually certain that atmospheric concentrations of greenhouse gases will continue to rise over the next few decades.
>
> • Increasing greenhouse gas concentrations tend to warm the planet."

I find the above statements to be pure rhetoric and not justified by meteorological facts.

The use of the term "Scientists" paints a broad picture of total agreement on the issue of climate change when in fact there are thousands of highly qualified Meteorologists and Atmospheric Scientists that don't find any scientific evidence that human activity has a major effect on our climate. Dr Reid Bryson the founder of the Department of Meteorology at the University of Wisconsin stated " you can go out side and spite and have the same effect as doubling CO2."

Further, you never say what qualifications these "Scientists" have. Therefore, I feel it necessary to list my qualifications to comment on your report. I am a retired Meteorologist with 33 plus years experience. Twenty years as an Air Force Weather Officer and 9 years as Civilian Meteorologist for the Department of the Army and 4 years as a Meteorologist for NOAA. I have a Bachelor of Arts with a double major in Physics and Mathematics, a Bachelor of Science in Meteorology and a Master of Science in Meteorology. My work towards my MS degree centered

on the study of the theory of radiation - both short wave and long wave - in the atmosphere. Now my question to you – am I a "Scientist"?

Human activity has created a small change in the composition of the atmosphere. Prior to the industrial revelation CO2 was approximately 280 parts per million (ppm) or 0.03 of a percent of the atmosphere, today CO2 is 385 ppm or 0.04 of a percent of the atmosphere. The composition of the atmosphere has been changed by 0.01 of a percent. This change is hardly large enough to even be measured, and certainly not large enough to drive atmospheric temperatures.

The statement that "the atmospheric buildup of CO2 and other greenhouse gases is largely the result of human activities such as the burning of fossil fuels" is absolutely false. Ninety seven percent of the CO2 in the atmosphere comes from natural sources: such as ocean atmosphere interface, volcanic activity, earth quakes and plant and animal decay and let's not leave out breathing. This means that of the current 385 ppm only 12 ppm come from human activity, or 0.0012 of a percent of the atmosphere is made up of CO2 from human activity.

Further, you must know that CO2 is not a major greenhouse gas. CO2 has only one moderate to strong absorption band in the infrared spectrum. That absorption band runs from approximately 13.9 microns to 15.9 microns which means CO2 absorbs in about two percent of the total IR spectrum. Water vapor is the major atmospheric greenhouse gas and together clouds and water vapor absorb 98 percent of all long wave radiation absorbed by the atmosphere.

The statement, " Increasing greenhouse gas concentrations tend to warm the planet" is an unproven theory. In fact, both the Hadley Climate Research Unit and the University of Alabama, Huntsville climate data bases now show the Earth's mean temperature has been decreasing since 1998 while CO2 measurements from Mauna Loa have show CO2 levels continuing to climb.

The IPCC has placed way too much trust in their Climate Models. These models have never shown any ability to take real world data and predict accurate temperatures. As the old saying goes: "garbage in garbage out". Recently, Christopher Monckton published scientific proof (paper found at (http://nzclimatescience.net/index.php?option=com_content&task=view&id=310&Itemid=1) that the IPCC has over estimated the effect of CO2 by 200 to 500 percent. To use the IPCC as your only source is a failure to consider that there are two sides to any argument. There are many outstanding scientists that question the motives and methods being use by the IPCC. One of these scientists is Zbigniew Jaworowski. DR Jaworowski is a multidisciplinary scientist, now a senior advisor at the Central Laboratory for Radiological Protection in Warsaw. In an article titled, *CO2: The Greatest Scientific Scandal of Our Time*, published in the Spring and Summer 2007 edition of 21st *CENTURY Science & Technology,* Dr Jaworowski is highly critical of the IPCC. (You need to read his article.)

Our understanding of the science of climate change is still evolving. The role the sun plays is critical. According to Dr Syun-Ichi Akasofu founding director of the International Arctic Research Center of the University of Alaska, Fairbanks the earth is still recovering from the Little Ice Age. The temperatures we are observing today are cooler by 1 to 2 degrees C than those found during the Medieval Climate Optimum from 900 to 1300 AD. Geologically, we are in what is called an interglacial period - between ice ages. And in fact, temperature and CO2 curves developed from the Vostok ice core samples show this current interglacial period to be **cooler** than most. In David Alt's book, *Glacial Lake Missoula and its Humongous Floods*, Alt

states on page 179: "We tend to forget about ice ages amid all the public anxiety over emissions of greenhouse gases and the prospect of the global warming they might cause. What about ice ages?"

You may know that at this time sunspot activity has all but ceased. Sunspots have been well documented throughout human history, starting in the fourth century BC, with written descriptions by Gan De, a Chinese astronomer. In 1128, an English monk, John of Worcester, was the first person known to have drawn sunspots, and after the telescope's arrival in the early 1600s, observations and drawings became commonplace, including such luminaries as Galileo. Then, to the astonishment of astronomers, they saw the sunspots diminish and die out altogether.

This was the case during the Little Ice Age, a period starting in the 15th or 16th century and lasting centuries, which links the absence of sunspots to the cold that then descended on Earth. During the coldest part of the Little Ice Age, a time known as the Maunder Minimum (named after English astronomer Edward Maunder), astronomers saw only about 50 sunspots over a 30-year period, less than one half of 1% of the sunspots that would normally have been expected. Other Minimums — times of low sunspot activity — also corresponded to times of unusual cold.

Some scientists that follow and understand sunspot activity are now saying we may be moving towards another Little Ice Age. However, there are thousands of reliable/qualified scientist that don't accept the idea of "human caused global warming" and your report fails to mention even the possibility that there are scientists that don't buy the Al Gore/IPCC version of climate change.

It is absolutely vital that we get the **science right** before any action or legislation is implemented. That means you must take a critical look at both sides of this issue.

Sincerely

Allen E. Barr
Retired Meteorologist

August 21, 2008

Senator David Wanzenried
Chairman
Environmental Quality Council
Montana State Legislature
P.O. Box 201704
Helena, MT 59620-1704
Attn: Sonja Nowakowski

EQC climate change study and recommendations

Dear Sen. Wanzenried:

We write in response to the Environmental Quality Council's solicitation of public input on the EQC's draft report, "Climate Change: An analysis of climate change policy issues in Montana," and the draft legislation that accompanies the report.

All of the organizations listed as signatories to this letter believe that climate change is a subject of utmost importance that must be addressed quickly, strongly, and comprehensively by all people and by the governments that represent them, including the State of Montana. Most signatories have attentively followed the EQC's deliberations on climate change and have engaged with the EQC whenever possible to advocate for public policy solutions that measure up to the challenge posed by climate change.

Because public policy established by legislation will define much of Montana's approach to climate change, the principal focus of this letter is the scope and content of the draft bills offered by the EQC for public scrutiny. In this regard, while we support almost any meaningful approach to reducing greenhouse gases in Montana, including most of the EQC recommendations, we are profoundly disappointed by the limited number and scope of solutions proposed by the EQC. The EQC's response to one of the most compelling issues ever faced by the State of Montana falls far short of what is needed. We urge the EQC to reconsider its underpowered package of draft bills and to construct a legislative agenda that truly measures up to the scope of the climate change problem.

By our analysis (which necessarily has been done quickly and without a great detail of data, given the nature of the proposed bills), the 11 draft bills offered by the EQC have a collective net cost of roughly $175 million to Montana taxpayers in a 12-year period and can be expected to decrease carbon emissions by 10 million metric tons. Those figures may be compared to the estimated net economic benefit of $65 million and estimated 63 million-ton reduction that would occur over the same period if all 54 recommendations of the Governor's Climate Change Advisory Committee were executed. (Though the Climate Change Advisory Committee's recommendations should not be regarded as the be-all, end-all package for Montana in confronting climate change, we will use them as a reference point for our thoughts, just as the EQC has done.)

Thus, in reducing greenhouse gases, the EQC proposals would produce a net cost to Montana, instead of an economic benefit that would result from execution of the complete Advisory

Committee package, and in the most fundamental objective of reducing pollution, the EQC proposals would have less than 16 percent of the estimated collective effect of the Advisory Committee's recommendations.

In fact, the best measure of the EQC's commitment to addressing climate change may be taken from the Advisory Committee recommendations that the EQC has chosen not to pursue. For example, the Advisory Committee's recommendation for "Light-Duty Vehicle Clean Car Standards," i.e., increasing miles-per-gallon requirements on new vehicles, would produce, if executed and as calculated by the Advisory Committee, 4.92 million tons of carbon reduction in Montana – almost half of the total pollution reduction potential of the EQC's 11 proposals – and would have an estimated net economic benefit to Montanans (through reduced fuel expenses) of $492 million in a 12-year period.

We recognize that vehicle mileage standards are established at the federal level and that a state with a relatively small population cannot expect to have inordinate influence in creating higher national standards. But why wouldn't Montana, through a strong message from its Legislature, at least lend its voice and whatever political clout it can muster to an idea that would produce such significant return – in carbon reduction and economic value – to the state's residents? In an era of formidable corporate influence and a federal government unwilling to act decisively on energy issues, how better to pursue sensible national policy than through the collaboration and full participation of states and regional constituencies? We see nothing in the EQC's draft report to explain why EQC would pass on an opportunity to cooperate with others and pick this low-hanging energy fruit.

Other recommendations absent from the EQC proposals include energy supply portfolio standards for efficiency and conservation (5.4 million tons of carbon, $79 million economic benefit), demand-side programs (6.6 million tons, $141 million benefit), and state appliance standards (1.5 million tons, $55 million benefit), to name a few.

As explained in the report that accompanies the draft bills, most of the EQC's proposals grew from the results of an opinion survey that was conducted in February. There would be a strong argument for such a representative approach to problem-solving were it not for two qualifying factors: 1) the opinion survey presented the Advisory Committee's recommendations in a technical language not easily comprehensible to many people and without easy-to-access figures for the net economic value and the carbon-reduction impact of each recommendation; and 2) some significant energy-saving and carbon-reduction measures that found favor in the survey, such as market transformation/technology development programs (1.9 million tons, $43 million benefit) and industrial energy audits (3.6 million tons, $93 million benefit), were dropped by the EQC, with no explanation provided in the draft report. Though the EQC may have eliminated these measures after committee discussion, we suggest that a rationale for the omission of recommendations that were popular with both public and committee respondents to the opinion survey be written and made part of the final climate change report.

Carbon-reduction numbers are critical because decreasing greenhouse gas production lies at the core of the climate change issue. And because some Advisory Committee recommendations would

reduce pollution to a much greater degree than others, the desirability of a particular solution is related in no small way to how much carbon reduction it can be expected to achieve. So, in addition to suggesting that the EQC beef up its climate change package by including several more of the Advisory Committee's high-impact recommendations, we urge the EQC to quantify all of its proposals, as well as its selection rationale, in terms of carbon reduction and net costs.

A central reason for the limited nature of the EQC proposals is, without doubt, the antagonism felt by some EQC members toward the idea that climate change is occurring, or that humans bear responsibility for the phenomenon, or that government efforts should be made to address it. We have little expectation, given the ever-rising mountain of evidence for a warming planet and the role of humans in the process, to change those doubters' minds, but we wonder why all EQC members – independent of their opinions on climate change and its causes – would not embrace, or at least enthusiastically investigate, the Advisory Committee recommendations that both save energy and offer significant economic value to Montanans.

By our calculation, there are 13 Advisory Committee recommendations that, collectively, offer a net economic return of more than $700 million over 12 years. That's $1,942 per Montana household. Those recommendations include higher vehicle mileage standards (discussed above), higher efficiency standards in energy supply, appliance standards, strengthened building codes, industrial energy audits, fuel-efficient replacement tires, and heavy-duty vehicle idling reduction, among others.

Thus, while one who questions the existence of climate change or the need to address it may be able to explain opposition to a mitigation measure that has a net cost to society, we ask why any proposed public policy that not only decreases greenhouse gas emissions, but simultaneously reduces energy consumption, helps to alleviate the energy crisis, and yields economic benefit on a broad scale is not aggressively pursued. At the very least, any proposal that promises such positive outcomes should be further studied to confirm or refute the economic justification for the proposal.

We therefore urge the EQC to expand its list of legislative proposals to address – either through immediate enactment or further study – all those recommendations in the Advisory Committee's report that offer both carbon reduction and net positive economic benefit to Montanans.

With regard to the 11 proposals offered by the EQC, we question why industry and major energy producers have been given no role or obligation in addressing the climate change problem. The EQC proposals lean on concepts of voluntarism (recycling), tax abatement (local food production and energy conservation), reporting (transportation), and study (biomass), but not on requiring participation from the corporations and businesses who figure centrally in so many climate change and energy issues. We urge the EQC to restructure its climate change package to allocate responsibility and obligation fairly among all constituencies.

Though we welcome most of the EQC draft bills, we take exception to the joint resolution "encouraging Congress to adopt the National Association of Counties' resolution regarding hazardous fuels emergencies." We have not fully analyzed the Association's resolution, but we note that the EQC's draft bill endorses "fast-track" forest planning that would exclude citizen

participation as otherwise required by the National Environmental Policy Act. This provision appears to constitute a curtailment of government transparency and public involvement, at a time when a problem that affects everyone will be successfully resolved only with maximum citizen participation and commitment.

Thank you for your consideration,

Sincerely,

Alternative Energy Resources Organization
Ben Brouwer, Renewable Energy & Conservation Program Manager

Clark Fork Coalition
Garrett James Budds, Conservation Director and Staff Attorney

Good Works Ventures, LLC
Mary Stranahan

Montana Audubon
Janet Ellis, Program Director

Montana Conservation Voters
Theresa Keaveny, Executive Directors

Montana Environmental Information Center
Anne Hedges, Program Director

National Wildlife Federation
Tom France, Regional Executive Director

National Center for Appropriate Technology
Kathy Hadley, Executive Director

Northern Plains Resource Council
Beth Kaeding, Chair, Board of Directors

Sierra Club
Paul H. Shively, Senior Regional Representative, Great Plains

Sustainable Obtainable Solutions
Gloria Flora, Executive Director

The Policy Institute
Bob Decker, Executive Director

Western Organization of Resource Councils
Peggy Utesch, Chair, Responsible Energy Development Campaign Team

Nowakowski, Sonja

From: Lola Raska [lraska@mgga.org]
Sent: Thursday, August 21, 2008 11:31 AM
To: Nowakowski, Sonja
Subject: Comments on proposed climate change legislation LC6004

To: Environmental Quality Council of the Montana Legislature

We respectfully submit the following comments on proposed draft bill LC6004 which would allow Montana food processing facilities to receive a tax reduction for using Montana grown raw materials.

We support the concept of this legislation to provide incentives for value added food processing facilities and encourage the EQC to make the bill more specific in order to eliminate questions regarding its application.

For example, is flour considered a manufactured food? If so, and the large Montana flour mills are allowed property tax abatement, will that cause other property owners in their counties to bear the burden of higher taxes? Agricultural producers of raw materials used for food production should not have to make up for a potential shortfall in property taxes due to tax reductions given to facilities that process these materials.

The draft language includes facilities that make beverages, but what about malt used in the production of beer and other food products? Will the ADM malt facility in Great Falls be eligible?

What about a farmer who grows fruits and vegetables? Will his farmland be eligible for tax reductions since he produces a finished food product?

Is the intent of the legislation to encourage start-up operations or will it apply to existing food production facilities that will also benefit from reduced property taxes?

An additional incentive to consider is tax reductions for those producers who grow specifically for Montana food production facilities.

Thank you for allowing the opportunity to provide comments. Montana agricultural producers provide a tremendous amount of high quality raw materials for food production and anything that adds value to the process should be carefully considered and encouraged.

Lola Raska
Executive VP - Montana Grain Growers Association
PH: 406-761-4596
lraska@mgga.org

Nowakowski, Sonja

From: langstaff [langstaf@montana.com]
Sent: Thursday, August 21, 2008 9:36 AM
To: Nowakowski, Sonja
Subject: climate change

As a Montana firefighter, I can see the obvious (and obnoxious) changes in our climate over the last 56 years. Wild fires were once an unusual and infrequent visitor to our state, but now there are four to six months that our forest fire fighters sit on pins and needles waiting for a cataclysm to rival the fires of 1910. Drought and higher temperatures have lowered the ability of our forests to stave off the attack of pine bark beetles and hotter, drier weather patterns have sucked the moisture out of our environment. Glacier Park is going to have to change it's name soon. We must change our carbon footprint, and find alternative forms of energy that don't further degrade our environment before a sh*tstorm of epic proportions kills people and razes our landscapes. Hello!- John Langstaff,

Gloria Jean Krueger Langstaff
1080 Grant Creek Rd
Missoula, MT 59808
langstaf@montana.com (note: one "f")
406/542-0720
406/370-9063 (cell)

Nowakowski, Sonja

From: Jacob Cowgill [jacobmontana@yahoo.com]
Sent: Thursday, August 21, 2008 8:30 AM
To: Nowakowski, Sonja
Subject: climate change

Sonja Nowakowski

I think it's wonderful the EQC is facing the climate change challenge and recognizing the role local food plays in that. The draft bill LC6004 is a good step in the right direction for tackling climate change in Montana and rebuilding our local food system. By encouraging food processing facilities to use ingredients from Montana's bountiful farms and ranches, we reduce the amount of miles these ingredients have to take to get to the facilities, while at the same time boosting our rural economies and recognizing the importance of our agricultural heritage. Montana can be a real leader in this regard. Thank you for your time.

Jacob Cowgill
1530 Catlin St.
Missoula, MT 59801
(406) 396-1261

Nowakowski, Sonja

From: jill davies [jill@sustainablelivingsystems.org]
Sent: Wednesday, August 20, 2008 5:22 PM
To: Nowakowski, Sonja
Cc: nmatheson@imine.net
Subject: climate change

Sonja Nowakowski,
Legislative Environmental Policy Office,
P.O. Box 201704,
Helena, MT 59620-1704.

Comments to EQC re/ draft bill LC6004

Dear Sonja -

By way of feedback to the EQC regarding draft bill LC6004, I understand that this bill would allow Montana food processing facilities to receive a tax reduction for using raw ingredients grown in Montana. The bill would reduce a facility's property tax by an increasing amount as the percentage of Montana-grown agricultural products in its manufactured food items increases. Montana food processors would apply to the Montana Department of Revenue each year, for a maximum of 10 years, and be required to provide receipts documenting their purchases of MT raw food products.

This sounds like a GREAT idea. I support any policy provisions which help to improve our communities' food security and which help to support our farmers and local food systems. My organization, Sustainable Living Systems, is also working to build a local food system here in the Bitterroot valley and this bill would help. We have lost our capacity to process and store locally grown food here so we need to encourage more processing facilities to be established and this bill would provide incentive for that to happen.

We should also be thinking of how to improve our energy security. I hope you have heard about and have studied the **NM Alliance for a Carbon-neutral Foodshed** which formed in 2007. Now ***that*** is putting it all together. **Using locally produced energy to grow, process and distribute locally grown food. This is what we should be striving for !**

Here is their url: http://www4.unm.edu/sust/index.php?page=food-shed-alliance.

best - Jill

Jill Davies - Director
Sustainable Living Systems
www.sustainablelivingsystems.org
P.O. Box 53
Victor, Mt. 59875
jill@sustainablelivingsystems.org
406/ 642-3601
We make war with our brethren
because we are incapable of making
peace with our environment

August 19, 2008

Sonja Nowakowski
Legislative Environmental Policy Office
P. O. Box 201704
Helena, MT 59620-1704

RE: LC6011 "An Act setting energy efficiency standards for new construction of state-owned buildings amending Section 17-7-201, MCA," and LC6010 "A Joint Resolution..."

Dear Sonja;

The Montana Logging Association (MLA) offers the following comments on the above referenced proposed legislation. The MLA represents approximately 600 independent logging contractors, each of which operate a family-owned enterprise that harvests and/or transports timber from forest to mill. In Montana, the vast majority of timberland is owned by government agencies; therefore the welfare of the MLA members is directly dependent upon the policies and actions of state and federal land managers.

The current national energy crisis and the ripple effect this situation has on national, state and local economies has driven many policy makers to seek out new energy efficiency and building code standards. While the review of current standards may lead to improvements, sometimes obvious solutions can be overlooked in a rush to act. As legislation moves forward amending efficiency standards for new construction of state-owned buildings we strongly encourage drafters to not only list Montana manufactured wood as a "green" building material, but to highlight and offer incentives for utilization of Montana manufactured wood in new construction of state-owned buildings.

Both the Environmental Studies Program and the School of Forestry and Conservation at the University of Montana are working in conjunction with the Montana Logging Association and the Montana Wood Products Association to develop a Montana manufactured wood and chain-of-custody standard that can be incorporated into future construction on campus. This "Forest-to-College" initiative is similar to the "Farm-to-College" program that the U of M adopted a couple years ago and has been quite successful.

Since Montana still is fortunate enough to have a manufacturing and harvesting infrastructure, we strongly believe we are poised to be a regional and national leader in the development and utilization of our vast renewable resources.

Wood is renewable, recyclable, biodegradable, energy efficient, stores carbon, has a minimal overall impact to the environment and is durable. If we didn't already have wood, someone would be trying to invent it.

Coupled with adding Montana manufactured wood to LC6011, we would like to lend our support to LC6010, a Joint Resolution of the Senate and the House of Representatives of the State of Montana encouraging Congress to adopt the National Association of Counties' resolution regarding hazardous fuels emergencies.

The red and dead forests in Montana – across all ownerships – are at historic proportions. Not since the fires of 1910 have we faced the possibility of losing so many timbered acres and municipal watersheds to catastrophic wildfire. This joint resolution gives individual Governors the

ability to declare a crisis when the severity of fire danger from fuels on identified federal lands pose a significant threat to public health and safety. The ability to expedite the environmental analysis and the appeals process will serve to fast-track mitigation plans. Forest ecosystems and local economies will benefit along with enhancing the viability of Montana's manufacturing and harvesting infrastructure.

Thank you for this opportunity to comment. Please feel free to contact the Montana Logging Association at (406) 752-3168 if you have questions or comments.

Sincerely,

Julia Altemus
Resource Specialist
Montana Logging Association

Nowakowski, Sonja

From: Jay Mennenga [wayfarer@imt.net]
Sent: Tuesday, August 19, 2008 5:13 PM
To: Nowakowski, Sonja
Subject: Climate change

Sonja:

I would like to see the 2009 legislature adopt a bill requiring a deposit on aluminum, glass, and plastic containers, similar to those of 10 other states.
This would provide a monetary incentive to encourage recyling, thus reducing CO2 emissions.

I was formerly in the Iowa legislature when that body passed a bottle bill. After initial resistance by retailers, the law was accepted by them and the public, and markedly improved the litter problem. Now Iowans simply take their containers to vending machines at grocery stores, and receive a voucher for payment, eliminating the mess and possible health hazards to the retailers.

Montana is a big state with lots of room to litter. This law would reduce this problem, and provide consumers with an incentive to recycle.

Thanks,

Jay Mennenga
RR#1, Box 2152
Roberts, MT 569070

Nowakowski, Sonja

From: Richard Thieltges [medicinewolf@earthlink.net]
Sent: Tuesday, August 19, 2008 1:57 PM
To: Nowakowski, Sonja
Subject: Climate Change

A good common-sense set of recommendations. These will help Montana save money and energy, as well as help reduce global warming emissions.

Richard Thieltges

Nowakowski, Sonja

From: Tim Davis [smartgrowth@mcn.net]
Sent: Friday, August 22, 2008 8:13 AM
To: Nowakowski, Sonja
Subject: climate change report comments

Sonja;

I am writing to comment on the EQC's draft climate change legislation. I support the fact that the improving transportation of system management, or efforts to enhance mass transit and ensure adequate transportation planning were included in list of issues to reviewed more deeply. Obviously, creating a more efficient transportation system that invests more money in giving people transportation options will have economic as well as climate change benefits – especially in an era of $4 or higher gas.

Unfortunately, the draft legislation does very little to improve transportation system management or enhance mass transit of adequate transportation planning.

What is really needed is for the state to provide more funding for local governments to work together to build efficient multimodal transportation systems – which would include helping to extend traditional city street grids that include bike, pedestrian, and bus facilities. In 2007, the Legislature passed SB 201 which provided a framework for cities and counties to plan together for efficient growth and for the extension of municipal transportation systems, but what was missing was additional money to help cities and counties to invest in the transportation systems in and around existing towns consistent with their SB 201 plans. I would encourage the EQC to direct MDT to create a fund of at least $20 million per year, using existing state and federal transportation dollars, to help local governments undertake SB 201 planning and, most importantly, to then provide local governments with new money to invest in efficient multimodal transportation systems in and around existing towns consistent with their SB 201 plans.

This type of investment would save tax payers money over time by getting ahead of the transportation systems needed to service future growth, would provide incentives for development to locate in and around towns where it can be service most efficiently, and would help to save homeowners money by being able to live where their can get around more efficiently.

Thank you for the chance to comment.

Tim Davis
Director, Montana Smart Growth Coalition
PO Box 543
Helena, MT 59624
406.449.6086

Nowakowski, Sonja

From: JoanHurdle [joanhurdle@bresnan.net]
Sent: Friday, August 22, 2008 9:12 AM
To: Nowakowski, Sonja
Subject: Re: draft legislation

Thank you very much for your response Sonja.

While special transit is very important, our bus system must be made more convenient to attract choice riders in order to alleviate traffic congestion and maintain air quality.

It is a shame that Montana Air Quality Initiative funding and other FTA funding for traffic mitigation are all being diverted to new Billings area highways to build more individual car and truck capacity! At the same time, a Billings citizen can't even catch a bus home in the evening because the buses aren't well enough funded to run after 6:30 pm!

Joan Hurdle

----- Original Message -----
From: Nowakowski, Sonja
To: 'JoanHurdle'
Sent: Friday, August 22, 2008 8:23 AM
Subject: RE: draft legislation

Ms. Hurdle,
Thank you for your comments. I will make sure they are shared with the full Environmental Quality Council. The Council requested staff put LC 6006, which increases the amount of money directed to the senior citizens and persons with disabilities transportation services account, bringing the level of funding back to the level it was at before distribution of motor vehicle revenue was altered by the Legislature in 2005.
Sonja

Sonja Nowakowski
Research Analyst
Montana Legislative Services Division
Room 171E, State Capitol
PO Box 201704
Helena, MT 59620-1704

Phone: (406) 444-3078
Fax: (406) 444-3971
Email: snowakowski@mt.gov

From: JoanHurdle [mailto:joanhurdle@bresnan.net]
Sent: Friday, August 22, 2008 7:27 AM
To: Nowakowski, Sonja
Subject: draft legislation

I don't see anything in this bill about public transportation or any serious efforts to deal with climate change, beyond using the concern to change the way the coal trust is used.
Explanation?
Joan Hurdle

Nowakowski, Sonja

From: Jenny Sabo [saboranch@gmail.com]
Sent: Friday, August 22, 2008 8:04 AM
To: Nowakowski, Sonja
Subject: Re: Local food bill in Legislature's EQC climate change draft package

Dear Sonja,

We are Grassfed Beef producers in Harrison, MT, and I write encouraging you to support LC6004.

We are currently working to develop a cooperative venture (Hollowtop Grassfed Ranchers and Farmers) focusing on locally produced foods. A bill of this sort could greatly encourage both our producers and our local food vendors to focus their efforts on Montana produced agriculture.

Thank you for working to shorten our food miles and support our local agricultural producers and food vendors.

Jenny and Mark Sabo
Sabo Family Ranch
P.O.Box 65
Harrison, MT 59735
(406-685-3248

----- Original Message -----
From: Nancy Matheson
To: Montana Food and Ag
Sent: Tuesday, August 19, 2008 12:02 PM
Subject: Local food bill in Legislature's EQC climate change draft package

Hello, Montanans for Montana food,
Here's a news item that includes something you can do:

The Environmental Quality Council of the Montana Legislature is considering a proposed policy for encouraging the use of Montana-grown ingredients by our state's food processors among its climate change legislative package of bills. The EQC is seeking feedback from the public on elements of this package **by Aug. 22**--that's this coming Friday. I've summarized below the draft bill, which is LC6004, for your convenience, as well as attached the actual draft bill.

In essence, draft bill LC6004 would allow Montana food processing facilities to receive a tax reduction for using raw ingredients grown in Montana. The bill would reduce a facility's property tax by an increasing amount as the percentage of Montana-grown agricultural products in its manufactured food items increases. Montana food processors would apply to the Montana Department of Revenue each year, for a maximum of 10 years, and be required to provide receipts documenting their purchases of MT raw food products.

The EQC is seeking Montanans' opinions on its climate change bill drafts by Aug. 22. **You may submit your comments by e-mail to snowakowski@mt.gov. Please put "climate change" in the subject line. To submit comments by mail, send to: Sonja Nowakowski, Legislative Environmental Policy Office, P.O. Box 201704, Helena, MT 59620-1704.** Your comments need not be technical in nature. The EQC wants to know if you think their proposal makes sense or not and would be good for Montana and for reducing our state's climate

impacts.

Act this week to make your voice heard! (I've pasted below the EQC's news release with more information about the whole climate change draft bills package and instructions on how to view it.)
Best,
Nancy Matheson

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Nancy Matheson
Program Specialist
National Center for Appropriate Technology
Grow Montana Project Manager
Helena, MT 59602
406-227-0389
nancym@ncat.org
http://www.growmontana.ncat.org/

Instructions for submitting comments to the EQC:

Contributed by Legislative Information Office <leginfo@mt.gov>,Internet:
NEWS FROM THE MONTANA LEGISLATIVE BRANCH
For immediate release
July 22, 2008
Contact: Todd Everts, Legislative Environmental Analyst, 406-444-3747
Gayle Shirley, Legislative Information Officer, 406-444-2957
Public Asked to Comment on Climate Change Study, Draft Bills
The Environmental Quality Council (EQC) of the Montana Legislature is seeking public comment by Aug. 22 on a draft report and a dozen draft bills related to climate change.
The EQC has been studying the topic of climate change for the past year, including a look at how other states are addressing the issue. Members also have reviewed a report released in late 2007 by the governor's Montana Climate Change Advisory Committee.
EQC members have narrowed their focus to such topics as:

* Recycling;
* **Promoting the use of raw materials from Montana in the production of manufactured items;**
* Enhancing mass transit and ensuring adequate transportation planning;
* Providing more weatherization and energy-efficiency opportunities for low-income and rental housing;
* Expanding biomass opportunities; and
* Reviewing requirements that new state buildings exceed current building codes or standards.

Public comments will be compiled and presented to the EQC at a meeting Sept. 8-9 in Helena. At that time, the council will consider revisions to the report and draft legislation and decide whether to introduce any climate change bills during the 2009 session.
The full report, "Climate Change: An Analysis of Climate Change Policy Issues in Montana," is available online at: www.leg.mt.gov/eqc. The council's web page includes all the information it has reviewed over the past year.
Copies of the draft report and legislation also may be obtained by calling the Legislative Environmental Policy Office at (406) 444-3747.
Comments may be submitted by e-mail to snowakowski@mt.gov. Please put "climate change" in the subject line. To submit comments by mail, send to: Sonja Nowakowski, Legislative Environmental Policy Office, P.O. Box 201704, Helena, MT 59620-1704.

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montanafood_ag@lists.ncat.org
http://cardinal.ncat.org/mailman/listinfo/montanafood_ag

Nowakowski, Sonja

From: Mae Woo [mwoo@imt.net]
Sent: Friday, August 22, 2008 12:19 AM
To: Nowakowski, Sonja
Subject: Climate Change
Attachments: Global Warming - Solar and Celestial Causes.rtf

Greetings,

I am the producer of a local access cable T.V. program in Billings. I am attaching a good article on real causes of "Climate Change".

I have done a lot of research on the political agenda of "Climate Change", which used to be called "Global Warming", but since last year was one of our coldest winters, we now have switched to calling this agenda "Climate Change". I am enclosing a summary of a program that I have aired on this matter. **We must NOT let a political policy dictate the best interests of the people of Montana!** "Climate Change" is based on junk or fraudulent science.

Here is summary of program that was aired:

Global Warming or Global Governance? by Michael Coffman, Ph.D.

This program was produced by Dr. Coffman, CEO of Sovereignty International. He has a Ph.D. in ecosystems analysis and has taught at universities in ecology, ecosystems, forest management, and meteorology. He has extensively researched the effects of global warming on our nation's ecosystems in the late 1980s and 1990s before starting his consulting firm, Environmental Perspectives, Inc. and also Sovereignty International to expose the global agenda.

Global warming (now called 'Climate Change', as soon it can get cold instead) is a Multi-Billion dollar industry. But only those who support the *human-caused Global warming theory* are awarded grants to study effects of 'Climate Change' and how much in taxes, subsidies and regulations are needed in order to change the climate to their liking! "Scientists who dissent from the alarmism have seen their grant funds disappear, their work derided, and themselves libeled as industry stooges, scientific hacks or worse. Consequently, lies about climate change gain credence even when they fly in the face of the science that supposedly is their basis."

This video starts by refuting the misinformation and blatant distortions of truth in Al Gore's "An Inconvenient Truth".

The most fundamental assumption of the global warming agenda, that human activity is causing global warming, is false and cannot be supported by credible scientific evidence. In fact, according to the scientific data, increased CO_2 levels is NOT a precursor to an increase in temperatures. It's the other way around, **the level of CO_2 in the air follows the rise in temperatures, lagging it by several hundred years. Therefore, the major premise of global warming alarmists, that man-made CO_2 causes an increase in temperatures, causing global warming is wrong.** That CO_2 does not drive climate change is supported by Ice Core samples, weather balloons, satellites and historical temperature records.

According to various scientists, man's actual contribution to global warming may be less than 3% or 1 %. The primary causes are solar and cosmic rays. (See attached article). **The earth has gone through numerous natural cycles of warming and cooling in the past million years, with temperatures and CO_2 levels exceeding what they are today, 3 - 10x the amount of CO_2 were present in the past.** And **CO_2 is not**

a pollutant; it is a naturally occurring gas that is of benefit to the planet, increasing plant growth and agricultural output. "CO2 is an extremely beneficial gas that could increase food production by 20 to 40 percent and dramatically improve the health of earth's ecosystems if its concentration doubled"

So why all the fear mongering about Global Warming?

"The answer is simple. It is part of an agenda to create global governance". The U.N. IPCC (International Panel on Climate Change) is a political organization set up by government to promote a political agenda. And with the proposed cap & trade policies and a carbon tax on top of such unnecessary costly technologies as sequestering CO2 back into the earth, there's lots of money to be made ..... **"Global Warming or Global Governance?"** explains why so much money is being spent advancing the man-caused global warming hysteria. Experts and politicians who are aware of the global governance agenda explain how the international cartel is using global warming, biodiversity, education and many more alleged crises to control our economy and implement global governance."

Mae

Attached: good article on the real probable causes of Climate Change.

Solar and Celestial Causes of Global Warming

by Donald W. Miller, Jr., MD

An estimated one billion people watched former Vice President Al Gore receive an Oscar for An Inconvenient Truth. In this film about global warming, Gore uses slides from lectures he gives on this subject, personal anecdotes, and footage of collapsing Antarctic ice shelves, receding glaciers, and marooned polar bears to warn us that human-made greenhouse gases are heating the planet to dangerous levels. The principle greenhouse gas that humans make, burning coal, oil, and natural gas for energy, is carbon dioxide (CO2). (In 1750, at the beginning of the Industrial Era, the earth's atmospheric CO2 concentration was 280 parts per million by volume. In 1960 it had risen to 315 ppmv, and it is now 383 ppmv.)

There is another theory of global warming and cooling that Gore does not address in An Inconvenient Truth. The Solar/Cosmic Ray Theory posits that cosmic rays, not humans, cause climate change. *The Chilling Stars: A New Theory of Climate Change* (2007) by Henrik Svensmark and Nigel Calder is the first book to be published on this subject. Svensmark proposed this theory in 1996 and supplies the scientific input for the book. Calder, a British science writer, "strung the words together," as he puts it. He does this very well and explains Svensmark's theory in an engaging and easily understandable way. It will be published in the U.S. March 25 (I obtained my copy from the UK, where it was published last month).

The Solar/Cosmic Ray Theory says that cosmic rays make clouds. Exploding stars continually spray the galaxy with cosmic rays, which consist of protons, alpha particles (helium nuclei), electrons, and muons (heavy electrons). The muons in this mix of atomic bullets make low-level (below 8,000 feet) clouds. They do this by knocking electrons off atoms and molecules in the air, and these liberated electrons seed the formation "cloud condensation nuclei." Water vapor in the atmosphere condenses on these specks to form cloud water droplets. The wet clouds thus formed block sunlight and reflect its rays back into space, which has a cooling effect. In 2006, Svensmark and colleagues showed experimentally how it is done, which involves adding sulfuric acid to these condensation nuclei. (Plankton, microscopic plants in the ocean and to a much lesser extent volcanoes and fossil fuels, continually restock the atmosphere with sulfur.)

The sun's magnetic field encloses its planets in a magnetic solar wind (the heliosphere) that shields us from many of the cosmic rays that exploding stars shoot our way. Sunspots, dark spots made by pools of intense magnetism seen through a telescope, indicate heightened magnetic activity, which deflects more cosmic rays away from Earth. During the 20th century the sun's magnetic shield more than doubled, and the sun had a lot of sunspots. Fewer cosmic rays reached Earth to make clouds, and global temperatures rose. When the sun's magnetic activity wanes and sunspots disappear, more cosmic rays hit the Earth's atmosphere to make clouds; and the globe cools. The Solar/Cosmic Ray Theory of climate change explains observations made over the last 400 years since the advent of the telescope that correlate sunspots with global warming and

cooling.

The Solar/Cosmic Ray Theory explains climate change on a geologic time scale. Our solar system in its rotation around the center of the Milky Way Galaxy passes through one of its spiral arms every 135 million years. These arms contain high levels of cosmic rays. Astrophysicist Nir Shaviv and geologist Ján Veizer in "Celestrial Driver of Phanerozoic Climate?" (Geological Society of America Today 2003;13:4-10) and Veizer in "Celestial Climate Driver: A Perspective from Four Billion Years of the Carbon Cycle" (Geoscience Canada 2005;32:13-30) show that the variability in the Earth's temperature over the past 500 million years correlates well with the intensity of cosmic rays hitting the planet when it passes in and out of the spiral arms of the Milky Way. They found that at one point atmospheric CO2 levels were 18 times higher than they are today, and they were 10 times higher when the planet was an "icehouse" during the Ordovician glacial period (450 million years ago).

During one warm period, 50 million years ago, the weather in the arctic was like that in Florida today. The Arctic Ocean was free of ice year-round and was populated by alligators and turtles. Axel Heiberg Island, in the high Canadian arctic 600 miles from the North Pole, has a well-preserved fossil forest (discovered in 1985), in what once was a semi-tropical swamp. At the other extreme, 2.2 billion years ago, and several times more recently, the planet was covered in ice down to the equator, making it a "Snowball Earth." Planetary factors that have played a role in these climate changes include the position of drifting continents and the evolving composition of the atmosphere.

Other cycles that drive climate change include the Earth's 100,000-year elliptical orbit around the sun and its 41,000-year axial tilt cycle. (In the most elliptical phase of the Earth's orbit, the sun's rays must travel 3 percent farther to reach the planet. The Earth's axial tilt ranges from 22.1 to 24.5 degrees and is currently at 23 degrees.) And then there is the 1,500-year solar cycle.

S. Fred Singer and Dennis T. Avery describe the 1,500-year solar warming and cooling climate cycle in their book *Unstoppable Global Warming: Every 1,500 Years* (2007). It has 528 references, a glossary, and an index. This well written book is arguably the best book to date on the politics and science of global warming. In addition to presenting evidence for the 1,500-year solar cycle, first proposed by European researchers in 1996, the authors address both the Greenhouse and Solar/Cosmic Ray theories of climate change.

The sun's role in climate change is due not so much to changes in intensity of its visible and/or invisible rays, or irradiance, but to its magnetic effect on cosmic rays. Changes in the sun's magnetic activity have a four-fold greater effect on the Earth's temperature than variations in its irradiance.

Today's global warming is part of a natural 1,500-year, plus or minus 500-year, solar cycle operating for at least a million years. The Earth's climate has warmed and cooled nine times in the past 12,000 years, in lock step with the waxing and waning of the sun's

magnetic activity (Science 2001;294[7 December]:2130-2136). Over the last 1,200 years there has been a "Medieval Warming" (900-1300), when Greenland was green; a "Little Ice Age" (1300-1850), when New York harbor froze, and people could walk from Manhattan across the ice to Staten Island a mile away (in 1780); and the current global warming (1850-?). Rather than "global warming," a better term for this phase of the solar cycle is "Modern Warming." Since 1850, temperatures have risen 0.8 degrees C, most rapidly in 1850-1870 and 1920-1940. Temperatures in the 1,500-year solar cycle fluctuate within a 4 degree C range – two degrees above and two degrees below the norm.

The Modern Warming is not confined to this planet. Mars, Jupiter, Pluto, and Triton (Neptune's largest moon) in the solar system are also warming.

It is not surprising that the former vice president did not address the Solar/Cosmic Ray Theory of Climate Change in An Inconvenient Truth. This "documentary," as the Christian Science Monitor notes, is really a docuganda, propaganda disguised as documentary. It manipulates the audience, with alarming images and a skewed presentation of facts, into believing that humans cause global warming and that "polluting" the atmosphere with carbon dioxide will have catastrophic consequences. Unlike a true documentary, which seeks to inform the audience about a given state of affairs in a balanced and unbiased fashion, in An Inconvenient Truth Gore ignores or misrepresents evidence that refutes the human-caused Greenhouse Theory. Addressing competing theories on global warming in an even-handed way is not his intent.

Christopher Horner, in his recently published book *The Politically Incorrect Guide to Global Warming and Environmentalism* (2007), gives a lively account of the data Gore omits that contradict his global warming alarmism, especially with regard to hurricane frequency and severity and the increase in weather-related damages. He also addresses the film's misrepresentations and some outright falsehoods.

The discredited "hockey stick" graph of the Earth's temperature over the last 1,000 years is one of them. This widely publicized and cited graph reported by Mann and colleagues in 1998/1999 expunges the Medieval Warming and Little Ice Age from the climate record. By getting rid of these two phases of the most recent solar cycle, they make the temperature for the first 900 years relatively flat and unchanged, with the rise in temperature in the 20th century on the graph made to look like the blade of a hockey stick. This graph so constructed matches that of atmospheric CO2 levels during this time period, which remained unchanged for 900 years until they began their rapid rise in the 20th century. Although now acknowledged by climate scientists to be false, Gore nevertheless makes this hockey stick graph the centerpiece of his "documentary." (Horner's colleague, Marlo Lewis, has put together an excellent critique of this film on PowerPoint slides, available here.)

Unstoppable Global Warming: Every 1,500 Years, in a tightly woven and sober manner, and *The Politically Incorrect Guide to Global Warming and Environmentalism,* with rapier wit, expose the flaws in the human-caused Greenhouse Theory. The Solar/Cosmic

Ray Theory presented in *The Chilling Stars: A New Theory of Climate Change* is more convincing.

At CERN, Europe's particle-physics laboratory in Geneva, researchers are building the world's most powerful particle accelerator, the $2.4 billion Large Hadron Collider. In the upcoming CLOUD experiment (Cosmics Leaving OUtdoor Droplets) led by Jasper Kirby, investigators will generate high-energy particle beams in this accelerator simulating cosmic rays that they will use to validate and better understand the connection between cosmic rays and clouds.

Al Gore tells us in An Inconvenient Truth that he has given this lecture more than 1,000 times around the world. To help solve the climate crisis (his term for global warming), as a "recovering politician," he has gone on a crusade against CO2. Gore and his fellow climate alarmists do not want anything to do with CLOUD and wish it would go away. As Calder recounts in *The Chilling Stars: A New Theory of Climate Change*, climate scientists wedded to the greenhouse theory were able to block it when Kirby proposed doing this experiment in 2000; but now, in 2007, with CERN's backing and funding secured, CLOUD will come online in 2010.

A basic rule of investigative journalism and criminal investigation is "Follow the Money," or as Cicero put it, "Qui bono?" ("To whose benefit?," literally, "[being] good to whom?").

Al Gore profits handsomely from his climate crisis activities. Validation of the Solar/Cosmic Ray Theory poses a major threat to this source of income. He will not disclose his speaking fees, but he reportedly received $250,000 for a speech that he gave in Saudi Arabia recently, and his average speaking fee for his global warming lectures is said to be $50,000 to $100,000. Gore is also a founding partner and Chairman of Generation Investment Management (GIM), a firm that "manage[s] the assets of institutional investors... as well as those of select high net worth individuals." [Emphasis added.] GIM invests in companies poised to cash in on CO2-caused global warming solutions, such as government subsidized solar and wind alternative-energy ventures and projects that reduce energy consumption around the globe.

The day after he won his Academy Award The Tennessean reported that Gore's electrical and natural gas bills for his home in Nashville in 2006 were $27,360. This amount of energy, all of it generated from fossil fuels, is more than 20 times than that consumed by the average American household. A spokesperson for Gore pointed out that he buys "carbon offsets" to pay for his large "carbon footprint." Gore invests these offset funds in GIM, the company he chairs; and his apocalyptic climate forecasts (reinforced by those currently being made by the UN's Intergovernmental Panel on Climate Change) scare citizens and government leaders around the world and persuade them to invest in alternative energy programs, raising the value of GIM's privately held shares.

Can an individual who stands to make millions from the CO2 global warming paradigm be trusted to present an unbiased review of this subject and view with an open mind

alternative theories of climate change?

Global warming is now a $50 billion industry, which benefits the government and its politicians and bureaucrats, environmental activists, the media, executives and shareholders of "green" industries, and climate scientists. Businesses profit by gaming the regulatory and planned "cap and trade" process rather than have to make money by producing things people want. The ("good news is no news") media shamelessly plays along and profits by frightening people. And we see how the movement's most prominent activist, former Vice President Al Gore benefits. Climate scientists are awarded $1.7 billion a year in government grants to study climate change, but under the condition that these scientists continue to support the "consensus" or lose their funding. Climate scientist Richard Lindzen, in Climate of Fear, writes : "Scientists who dissent from the alarmism have seen their grant funds disappear, their work derided, and themselves libeled as industry stooges, scientific hacks or worse. Consequently, lies about climate change gain credence even when they fly in the face of the science that supposedly is their basis."

The global warming scare enables government to intervene and extend its control over people's lives. The House Ways and Means Committee and the Senate Finance Committee, looking for ways to keep Social Security and Medicare afloat and balance the budget, are investigating proposals for a carbon tax, under the pretext of cutting down on Greenhouse emissions.

Gore barely mentions the Kyoto Protocol in his film and says nothing about what sacrifices people will have to make in order to reduce CO2 emissions. He does say, however, that combating CO2-induced global warming will take a commitment similar to what the country had to make to win World War II. At some point in this climate war the government will ration CO2 and issue "carbon credits" – CO2 ration cards. In World War II Americans had to have the appropriate ration card to purchase gasoline, tires, coffee, sugar, meat, and shoes; a certificate to purchase a stove; and an authorization for vacation travel. At the height of the War on CO2 global governance, which only a socialist state can provide, will be required to rein in CO2 emissions, with international inspectors at one's doorstep prosecuting and confiscating property of people and industries that make "greedy [CO2-producing] choices," like using an air-conditioner and driving a SUV.

Government leaders, environmental activists, and "select high net worth individuals" (including, of course, Hollywood celebrities) will not be inconvenienced by the strictures on CO2 emissions government imposes. In medieval times the nobility invoked sumptuary laws to limit what it considered to be conspicuous consumption of the bourgeoisie. Carbon offsets in the CO2 war will create a de-facto sumptuary law rendering the elite exempt from the hardships that carbon rationing will cause.

Human emissions of CO2, which account for 3 percent of the CO2 in atmosphere, may not have caused the recent rise in atmospheric CO2 levels. It is a reasonable hypothesis, but it has not been tested. Habibullo Abdussamatov postulates a different cause for the rise in CO2 levels: "Increased solar irradiance warms Earth's oceans, which then triggers

the emission of large amounts of carbon dioxide into the atmosphere. So the common view that man's industrial activity is a deciding factor in global warming has emerged from a misinterpretation of cause and effect relations." Whichever way it has happened plants thrive with rising CO2 levels. Studies show that plants and trees raise their productivity by 30-80 percent when the CO2 concentration in the atmosphere is doubled from 300 to 600 ppmv. Orange trees produce twice as many oranges. Satellite observations from 1982 to 1999 show that global vegetation increased more than 6 percent.

The Environmental establishment is able to ignore these benefits, but the Solar/Cosmic Ray Theory of climate change is another matter, particularly when validated by the CLOUD experiment. It is a paradigm shift that will topple the charade of human-caused warming. Vested interests will fight it. Too much money, power, and control are at stake.

Claims of warming due to human production of CO2 are supported only by its association with a recent rise in temperatures and on global climate models, which fail to account for past climate changes and whose future predictions have yet to be verified. Experimental evidence and empirical observations of past global warming and cooling events underpin the Solar/Cosmic Ray Theory of climate change.

One hopes that science will prevail. It is the only way people can prevent the climate alarmists, backed by the media and the state, from carrying out their plan to "save the planet." If not stopped, they will eventually establish global governance; dismantle modern technology; cripple industry; impose carbon rationing with radical reductions in the average American's standard of living and quality of life; and inflict untold misery, suffering, and death for hundreds of millions of people around the world.

March 16, 2007

Donald Miller (send him mail) is a cardiac surgeon and Professor of Surgery at the University of Washington in Seattle. He is a member of Doctors for Disaster Preparedness and writes articles on a variety of subjects for LewRockwell.com. His web site is www.donaldmiller.com

Nowakowski, Sonja

From: Mae Woo [mwoo@imt.net]
Sent: Friday, August 22, 2008 12:23 AM
To: Nowakowski, Sonja
Subject: CLIMATE CHANGE INPUT

Input: This is only one of many truthful and honest reports finally coming out from scientists who will no longer stand for these Global Warming (now Climate Change, as sun spots are decreasing) scare tactics:

Please study carefully.

U.S. Senate Report: Over 400 Prominent Scientists Disputed Man-Made Global Warming Claims in 2007

Senate Report Debunks "Consensus"

http://epw.senate.gov/public/index.cfm?FuseAction=Minority.Blogs&ContentRecord_id=f80a6386-802a-23ad-40c8-3c63dc2d02cb

Complete U.S. Senate Report Now Available: (LINK)

INTRODUCTION:

Over 400 prominent scientists from more than two dozen countries recently voiced significant objections to major aspects of the so-called "consensus" on man-made global warming. These scientists, many of whom are current and former participants in the UN IPCC (Intergovernmental Panel on Climate Change), criticized the climate claims made by the UN IPCC and former Vice President Al Gore.

The new report issued by the Senate Environment and Public Works Committee's office of the GOP Ranking Member details the views of the scientists, the overwhelming majority of whom spoke out in 2007.

Even some in the establishment media now appear to be taking notice of the growing number of skeptical scientists. In October, the Washington Post Staff Writer Juliet Eilperin conceded the obvious, writing that climate skeptics "appear to be expanding rather than shrinking." Many scientists from around the world have dubbed 2007 as the year man-made global warming fears "bite the dust." (LINK) In addition, many scientists who are also progressive environmentalists believe climate fear promotion has "co-opted" the green movement. (LINK)

This blockbuster Senate report lists the scientists by name, country of residence, and academic/institutional affiliation. It also features their own words, biographies, and weblinks to their peer reviewed studies and original source materials as gathered from public statements, various news outlets, and websites in 2007. This new "consensus busters" report is poised to redefine the debate.

Many of the scientists featured in this report consistently stated that numerous colleagues shared their views, but they will not speak out publicly for fear of retribution. Atmospheric scientist Dr. Nathan Paldor, Professor of Dynamical Meteorology and Physical Oceanography at the Hebrew University of Jerusalem, author of almost 70 peer-reviewed studies, explains how many of his fellow scientists have been intimidated.

"Many of my colleagues with whom I spoke share these views and report on their inability to publish their skepticism in the scientific or public media," Paldor wrote. ***[Note: See also July 2007 Senate report detailing how skeptical scientists have faced threats and intimidation - LINK]***

Scientists from Around the World Dissent

This new report details how teams of international scientists are dissenting from the UN IPCC's view of climate science. In such nations as Germany, Brazil, the Netherlands, Russia, New Zealand and France, nations, scientists banded together in 2007 to oppose climate alarmism. In addition, over 100 prominent international scientists sent an open letter in December 2007 to the UN stating attempts to control climate were "futile." (LINK)

Paleoclimatologist Dr. Tim Patterson, professor in the department of Earth Sciences at Carleton University in Ottawa, recently converted from a believer in man-made climate change to a skeptic. Patterson noted that the notion of a "consensus" of scientists aligned with the UN IPCC or former Vice President Al Gore is false. "I was at the Geological Society of America meeting in Philadelphia in the fall and I would say that people with my opinion were probably in the majority."

This new committee report, a first of its kind, comes after the UN IPCC chairman Rajendra Pachauri implied that there were only "about a dozen" skeptical scientists left in the world. (LINK) Former Vice President Gore has claimed that scientists skeptical of climate change are akin to "flat Earth society members" and similar in number to those who "believe the moon landing was actually staged in a movie lot in Arizona." (LINK) & (LINK)

The distinguished scientists featured in this new report are experts in diverse fields, including: climatology; geology; biology; glaciology; biogeography; meteorology; oceanography; economics; chemistry; mathematics; environmental sciences; engineering; physics and paleoclimatology. Some of those profiled have won Nobel Prizes for their outstanding contribution to their field of expertise and many shared a portion of the UN IPCC Nobel Peace Prize with Vice President Gore.

Additionally, these scientists hail from prestigious institutions worldwide, including: Harvard University; NASA; National Oceanic and Atmospheric Administration (NOAA) and the National Center for Atmospheric Research (NCAR); Massachusetts Institute of Technology; the UN IPCC; the Danish National Space Center; U.S. Department of Energy; Princeton University; the Environmental Protection Agency; University of Pennsylvania; Hebrew University of Jerusalem; the International Arctic Research Centre; the Pasteur Institute in Paris; the Belgian Weather Institute; Royal Netherlands Meteorological Institute; the University of Helsinki; the National Academy of Sciences of the U.S., France, and Russia; the University of Pretoria; University of Notre Dame; Stockholm University; University of Melbourne; Columbia University; the World Federation of Scientists; and the University of London.

The voices of many of these hundreds of scientists serve as a direct challenge to the often media-hyped "consensus" that the debate is "settled."

A May 2007 Senate report detailed scientists who had recently converted from believers in man-made global warming to skepticism. [*See May 15, 2007 report: Climate Momentum Shifting: Prominent Scientists Reverse Belief in Man-made Global Warming - Now Skeptics: Growing Number of Scientists Convert to Skeptics After Reviewing New Research – (LINK)* - In addition, an August 2007 report detailed how proponents of man-made global warming fears enjoy a monumental funding advantage over skeptical scientists. (*LINK*)]

This report counters the claims made by the promoters of man-made global warming fears that the number of skeptical scientists is dwindling.

Examples of "consensus" claims made by promoters of man-made climate fears:

Former Vice President Al Gore (November 5, 2007): "There are still people who believe that the Earth is flat." (LINK) Gore also compared global warming skeptics to people who 'believe the moon landing was actually staged in a movie lot in Arizona' (June 20, 2006 - LINK)

CNN's Miles O'Brien (July 23, 2007): The scientific debate is over." "We're done." O'Brien also declared on CNN on February 9, 2006 that scientific skeptics of man-made catastrophic global warming "are bought and paid for by the fossil fuel industry, usually." (LINK)

On July 27, 2006, Associated Press reporter Seth Borenstein described a scientist as "one of the few remaining scientists skeptical of the global warming harm caused by industries that burn fossil fuels." (LINK)

Dr. Rajendra Pachauri, Chairman of the IPCC view on the number of skeptical scientists as quoted on Feb. 20, 2003: "About 300 years ago, a Flat Earth Society was founded by those who did not believe the world was round. That society still exists; it probably has about a dozen members." (LINK)

Agence France-Press (AFP Press) article (December 4, 2007): The article noted that a prominent skeptic "finds himself increasingly alone in his claim that climate change poses no imminent threat to the planet."

Andrew Dessler in the eco-publication Grist Magazine (November 21, 2007): "While some people claim there are lots of skeptical climate scientists out there, if you actually try to find one, you keep turning up the same two dozen or so (e.g., Singer, Lindzen, Michaels, Christy, etc., etc.). These skeptics are endlessly recycled by the denial machine, so someone not paying close attention might think there are lots of them out there -- but that's not the case." (LINK)

The Washington Post asserted on May 23, 2006 that there were only "a handful of skeptics" of man-made climate fears. (LINK)

UN special climate envoy Dr. Gro Harlem Brundtland on May 10, 2007 declared the climate debate "over" and added "it's completely immoral, even, to question" the UN's scientific "consensus." (LINK)

ABC News Global Warming Reporter Bill Blakemore reported on August 30, 2006: "After extensive searches, ABC News has found no such [scientific] debate" on global warming. (LINK)

# #

Brief highlights of the report featuring over 400 international scientists:

Israel: Dr. Nathan Paldor, Professor of Dynamical Meteorology and Physical Oceanography at the Hebrew University of Jerusalem has authored almost 70 peer-reviewed studies and won several awards. "First, temperature changes, as well as rates of temperature changes (both increase and decrease) of magnitudes similar to that reported by IPCC to have occurred since the Industrial revolution (about 0.8C in 150 years or even 0.4C in the last 35 years) have occurred in Earth's climatic history. There's nothing special about the recent rise!"

Russia: Russian scientist Dr. Oleg Sorochtin of the Institute of Oceanology at the Russian Academy of Sciences has authored more than 300 studies, nine books, and a 2006 paper titled "The Evolution and the Prediction of Global Climate Changes on Earth." "Even if the concentration of 'greenhouse gases' double man would not perceive the temperature impact," Sorochtin wrote.

Spain: Anton Uriarte, a professor of Physical Geography at the University of the Basque Country in Spain and author of a book on the paleoclimate, rejected man-made climate fears in 2007. "There's no need to be worried. It's very interesting to study [climate change], but there's no need to be worried," Uriate wrote.

Netherlands: Atmospheric scientist Dr. Hendrik Tennekes, a scientific pioneer in the development of numerical weather prediction and former director of research at The Netherlands' Royal National Meteorological Institute, and an internationally recognized expert in atmospheric boundary layer processes, "I find the Doomsday picture Al Gore is painting – a six-meter sea level rise, fifteen times the IPCC number – entirely without merit," Tennekes wrote. "I protest vigorously the idea that the climate reacts like a home heating system to a changed setting of the thermostat: just turn the dial, and the desired temperature will soon be reached."

Brazil: Chief Meteorologist Eugenio Hackbart of the MetSul Meteorologia Weather Center in Sao Leopoldo – Rio Grande do Sul, Brazil declared himself a skeptic. "The media is promoting an unprecedented hyping related to global warming. The media and many scientists are ignoring very important facts that point to a natural variation in the climate system as the cause of the recent global warming," Hackbart wrote on May 30, 2007.

France: Climatologist Dr. Marcel Leroux, former professor at Université Jean Moulin and director of the Laboratory of Climatology, Risks, and Environment in Lyon, is a climate skeptic. Leroux wrote a 2005 book titled *Global Warming – Myth or Reality? - The Erring Ways of Climatology.* "Day after day, the same mantra - that 'the Earth is warming up' - is churned out in all its forms. As 'the ice melts' and 'sea level rises,' the Apocalypse looms ever nearer! Without realizing it, or perhaps without wishing to, the average citizen in bamboozled, lobotomized, lulled into mindless acceptance. ... Non-believers in the greenhouse scenario are in the position of those long ago who doubted the existence of God ... fortunately for them, the Inquisition is no longer with us!"

Norway: Geologist/Geochemist Dr. Tom V. Segalstad, a professor and head of the Geological Museum at the University of Oslo and formerly an expert reviewer with the UN IPCC: "It is a search for a mythical CO2 sink to explain an immeasurable CO2 lifetime to fit a hypothetical CO2 computer model that purports to show that an impossible amount of fossil fuel burning is heating the atmosphere. It is all a fiction."

Finland: Dr. Boris Winterhalter, retired Senior Marine Researcher of the Geological Survey of Finland and former professor of marine geology at University of Helsinki, criticized the media for what he considered its alarming climate coverage. "The effect of solar winds on cosmic radiation has just recently been established and, furthermore, there seems to be a good correlation between cloudiness and variations in the intensity of cosmic radiation. Here we have a mechanism which is a far better explanation to variations in global climate than the attempts by IPCC to blame it all on anthropogenic input of greenhouse gases."

Germany: Paleoclimate expert Augusto Mangini of the University of Heidelberg in Germany, criticized the UN IPCC summary. "I consider the part of the IPCC report, which I can really judge as an expert, i.e. the reconstruction of the paleoclimate, wrong," Mangini noted in an April 5, 2007 article. He added: "The earth will not die."

Canada: IPCC 2007 Expert Reviewer Madhav Khandekar, a Ph.D meteorologist, a scientist with the Natural Resources Stewardship Project who has over 45 years experience in climatology, meteorology and oceanography, and who has published nearly 100 papers, reports, book reviews and a book on Ocean Wave Analysis and Modeling: "To my dismay, IPCC authors ignored all my comments and suggestions for major changes in the FOD (First Order Draft) and sent me the SOD (Second Order Draft) with essentially the same text as the FOD. None of the authors of the chapter bothered to directly communicate with me (or with other expert reviewers with whom I communicate on a regular basis) on many issues that were raised in my review. This is not an acceptable scientific review process."

Czech Republic: Czech-born U.S. climatologist Dr. George Kukla, a research scientist with the Lamont-Doherty Earth Observatory at Columbia University, expressed climate skepticism in 2007. "The only thing to worry about is the damage that can be done by worrying. Why are some scientists worried? Perhaps because they feel that to stop worrying may mean to stop being paid," Kukla told Gelf Magazine on April 24, 2007.

India: One of India's leading geologists, B.P. Radhakrishna, President of the Geological Society of India, expressed climate skepticism in 2007. "We appear to be overplaying this global warming issue as global warming is nothing new. It has happened in the past, not once but several times, giving rise to glacial-interglacial cycles."

USA: Climatologist Robert Durrenberger, past president of the American Association of State Climatologists, and one of the climatologists who gathered at Woods Hole to review the National Climate Program Plan in July, 1979: "Al Gore brought me back to the battle and prompted me to do renewed research in the field of climatology. And because of all the misinformation that Gore and his army have been spreading about climate change I have decided that 'real' climatologists should try to help the public understand the nature of the problem."

Italy: Internationally renowned scientist Dr. Antonio Zichichi, president of the World Federation of Scientists and a retired Professor of Advanced Physics at the University of Bologna in Italy, who has

published over 800 scientific papers: "Significant new peer-reviewed research has cast even more doubt on the hypothesis of dangerous human-caused global warming."

New Zealand: IPCC reviewer and climate researcher and scientist Dr. Vincent Gray, an expert reviewer on every single draft of the IPCC reports going back to 1990 and author of The Greenhouse Delusion: A Critique of "Climate Change 2001: "The [IPCC] 'Summary for Policymakers' might get a few readers, but the main purpose of the report is to provide a spurious scientific backup for the absurd claims of the worldwide environmentalist lobby that it has been established scientifically that increases in carbon dioxide are harmful to the climate. It just does not matter that this ain't so."

South Africa: Dr. Kelvin Kemm, formerly a scientist at South Africa's Atomic Energy Corporation who holds degrees in nuclear physics and mathematics: "The global-warming mania continues with more and more hype and less and less thinking. With religious zeal, people look for issues or events to blame on global warming."

Poland: Physicist Dr. Zbigniew Jaworowski, Chairman of the Central Laboratory for the United Nations Scientific Committee on the Effects of Radiological Protection in Warsaw: "We thus find ourselves in the situation that the entire theory of man-made global warming—with its repercussions in science, and its important consequences for politics and the global economy—is based on ice core studies that provided a false picture of the atmospheric CO2 levels."

Australia: Prize-wining Geologist Dr. Ian Plimer, a professor of Earth and Environmental Sciences at the University of Adelaide in Australia: "There is new work emerging even in the last few weeks that shows we can have a very close correlation between the temperatures of the Earth and supernova and solar radiation."

Britain: Dr. Richard Courtney, a UN IPCC expert reviewer and a UK-based climate and atmospheric science consultant: "To date, no convincing evidence for AGW (anthropogenic global warming) has been discovered. And recent global climate behavior is not consistent with AGW model predictions."

China: Chinese Scientists Say C02 Impact on Warming May Be 'Excessively Exaggerated' – Scientists Lin Zhen-Shan's and Sun Xian's 2007 study published in the peer-reviewed journal Meteorology and Atmospheric Physics: "Although the CO2 greenhouse effect on global climate change is unsuspicious, it could have been excessively exaggerated." Their study asserted that "it is high time to reconsider the trend of global climate change."

Denmark: Space physicist Dr. Eigil Friis-Christensen is the director of the Danish National Space Centre, a member of the space research advisory committee of the Swedish National Space Board, a member of a NASA working group, and a member of the European Space Agency who has authored or co-authored around 100 peer-reviewed papers and chairs the Institute of Space Physics: "The sun is the source of the energy that causes the motion of the atmosphere and thereby controls weather and climate. Any change in the energy from the sun received at the Earth's surface will therefore affect climate."

Belgium: **Climate scientist Luc Debontridder of the Belgium Weather Institute's Royal Meteorological Institute (RMI) co-authored a study in August 2007 which dismissed a decisive role of CO2 in global** warming: "CO2 is not the big bogeyman of climate change and global warming. "Not CO2, but water vapor is the most important greenhouse gas. It is responsible for at least 75 % of the greenhouse effect. This is a simple scientific fact, but Al Gore's movie has hyped CO2 so much that nobody seems to take note of it."

Sweden: Geologist Dr. Wibjorn Karlen, professor emeritus of the Department of Physical Geography and Quaternary Geology at Stockholm University, critiqued the *Associated Press* for hyping promoting climate fears in 2007. "Another of these hysterical views of our climate. Newspapers should think about the damage they are doing to many persons, particularly young kids, by spreading the exaggerated views of a human impact on climate."

USA: Dr. David Wojick is a UN IPCC expert reviewer, who earned his PhD in Philosophy of Science and co-founded the Department of Engineering and Public Policy at Carnegie-Mellon University: "In point of fact, the hypothesis that solar variability and not human activity is warming the oceans goes a long way to explain the puzzling idea that the Earth's surface may be warming while the atmosphere is not. The GHG (greenhouse

gas) hypothesis does not do this." Wojick added: "The public is not well served by this constant drumbeat of false alarms fed by computer models manipulated by advocates."

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Background: Only 52 Scientists Participated in UN IPCC Summary

The over 400 skeptical scientists featured in this new report outnumber by nearly eight times the number of scientists who participated in the 2007 UN IPCC Summary for Policymakers. The notion of "hundreds" or "thousands" of UN scientists agreeing to a scientific statement does not hold up to scrutiny. (See report debunking "consensus" LINK) Recent research by Australian climate data analyst John McLean revealed that the IPCC's peer-review process for the Summary for Policymakers leaves much to be desired. (LINK) & (LINK)

Proponents of man-made global warming like to note how the National Academy of Sciences (NAS) and the American Meteorological Society (AMS) have issued statements endorsing the so-called "consensus" view that man is driving global warming. But both the NAS and AMS never allowed member scientists to directly vote on these climate statements. Essentially, only two dozen or so members on the governing boards of these institutions produced the "consensus" statements. This report gives a voice to the rank-and-file scientists who were shut out of the process. (LINK)

The most recent attempt to imply there was an overwhelming scientific "consensus" in favor of man-made global warming fears came in December 2007 during the UN climate conference in Bali. A letter signed by only 215 scientists urged the UN to mandate deep cuts in carbon dioxide emissions by 2050. But absent from the letter were the signatures of these alleged "thousands" of scientists. (See AP article: - LINK)

UN IPCC chairman Rajendra Pachauri urged the world at the December 2007 UN climate conference in Bali, Indonesia to "Please listen to the voice of science."

The science has continued to grow loud and clear in 2007. In addition to the growing number of scientists expressing skepticism, an abundance of recent peer-reviewed studies have cast considerable doubt about man-made global warming fears. A November 3, 2007 peer-reviewed study found that "solar changes significantly alter climate." (LINK) A December 2007 peer-reviewed study recalculated and halved the global average surface temperature trend between 1980 – 2002. (LINK) Another new study found the Medieval Warm Period "0.3C warmer than 20th century" (LINK)

A peer-reviewed study by a team of scientists found that "warming is naturally caused and shows no human influence." (LINK) – Another November 2007 peer-reviewed study in the journal Physical Geography found "Long-term climate change is driven by solar insolation changes." (LINK) These recent studies were in addition to the abundance of peer-reviewed studies earlier in 2007. - See "New Peer-Reviewed Scientific Studies Chill Global Warming Fears" (LINK)

With this new report of profiling 400 skeptical scientists, the world can finally hear the voices of the "silent majority" of scientists.

LINKS TO COMPLETE U.S. SENATE REPORT: Over 400 Prominent Scientists Disputed Man-Made Global Warming Claims in 2007

Complete Report: (LINK) - Released December 20, 2007 - U.S. Senate Environment and Public Works Committee (Minority)

Complete Report w/out Intro: (LINK)

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Related Links:

Breakdown Of Key Points Debunking Cilmate Fears

Analysis of how Hollywood Is Promoting Climate Fears to Kids

Analysis of Costly "Solutions" to Global Warming

Over 100 Prominent Scientists Warn UN Against 'Futile' Climate Control Efforts

Skeptical Scientists Urge World To 'Have the Courage to Do Nothing' At UN Conference

NEW SENATE CAP-AND-TRADE BILL CALLED ALL 'ECONOMIC PAIN FOR NO CLIMATE GAIN'

Debunking The So-Called 'Consensus' On Global Warming

Scientists Counter AP Article Promoting Computer Model Climate Fears

New Peer-Reviewed Scientific Studies Chill Global Warming Fears

Newsweek's Climate Editorial Screed Violates Basic Standards of Journalism

Newsweek Editor Calls Mag's Global Warming 'Deniers' Article 'Highly Contrived'

Latest Scientific Studies Refute Fears of Greenland Melt

EPA to Probe E-mail Threatening to 'Destroy' Career of Climate Skeptic

Prominent Scientists Reverse Belief in Man-made Global Warming - Now Skeptics

Senator Inhofe declares climate momentum shifting away from Gore (The Politico op ed)

Scientific Smackdown: Skeptics Voted The Clear Winners Against Global Warming Believers in Heated NYC Debate

Global Warming on Mars & Cosmic Ray Research Are Shattering Media Driven "Consensus'

Global Warming: The Momentum has Shifted to Climate Skeptics

Prominent French Scientist Reverses Belief in Global Warming - Now a Skeptic

Top Israeli Astrophysicist Recants His Belief in Manmade Global Warming - Now Says Sun Biggest Factor in Warming

Warming On Jupiter, Mars, Pluto, Neptune's Moon & Earth Linked to Increased Solar Activity, Scientists Say

Panel of Broadcast Meteorologists Reject Man-Made Global Warming Fears- Claim 95% of Weathermen Skeptical

MIT Climate Scientist Calls Fears of Global Warming 'Silly' - Equates Concerns to 'Little Kids'

Attempting to "Scare Each Other"

Weather Channel TV Host Goes 'Political'- Stars in Global Warming Film Accusing U.S. Government of 'Criminal Neglect'

Weather Channel Climate Expert Calls for Decertifying Global Warming Skeptics

ABC-TV Meteorologist: I Don't Know A Single Weatherman Who Believes 'Man-Made Global Warming Hype'

The Weather Channel Climate Expert Refuses to Retract Call for Decertification for Global Warming Skeptics

New UN Children's Book Promotes Global Warming Fears to Kids (11-13-2006)

Senator Inhofe Announces Public Release Of "Skeptic's Guide To Debunking Global Warming"

Nowakowski, Sonja

From: Sandra Boggs [2nmay06@gmail.com]
Sent: Thursday, August 21, 2008 8:19 PM
To: Nowakowski, Sonja
Subject: EQC Proposed legislation

Hello,

As a voting member of the public, I am providing comments regarding the recycling bills being considered by the EQC. I appreciate the opportunity to provide feedback.

LC6000 – The MMEC does not like being associated with a regulatory agency such as DEQ. I believe this attitude must change if recycling is really going to move forward in MT. Other states have successful partnerships between manufacturers, university systems, and waste management specialists. The waste management professionals, who include waste reduction and recycling specialists, work with industry and university research staff to identify alternative uses of waste products in manufacturing processes. Such activities often result in reduced costs to manufacturers, savings on materials and energy use, and reduced environmental benefits. Specialists can also work with researchers to develop new methods of incorporating recyclable materials into manufacturing processes as well. The 1991 legislature recognized that Montana is too isolated for cost-effective recycling of many materials due to our lack of industry and distance from markets. Without collaboration with researchers and manufacturing professionals, such as through partnership with MMEC, recycling will continue to struggle due to lack of markets within Montana. The MMEC should be required to work closely with the DEQ and funds should be made available to adequately fund research and partnership endeavors. I believe adequate funding would mean 100% of the funds allocated under subsection (9)(b)(iii)(A) would be required to be used in collaboration with the DEQ.

I also question the need for a separate report back to the EQC regarding the use of the funds. What will the EQC do with that report? Will it sit on a shelf and not be reviewed by EQC members? Most legislators I know are too busy to read the dozens of reports required to be prepared by state agencies. Better feedback may include requiring descriptions of projects and efforts to be summarized on DEQ and MMEC websites. The descriptions should include qualitative and quantitative summaries of resources and money saved through research and manufacturing activities. Rather than a report prepared exclusively for legislators, by putting the info on the website, it is available for review by other business interests, as well as recycling advocates, and will provide opportunities to generate increased interest and support of the efforts of DEQ and MMEC.

The MMEC should not be allowed to oppose partnership with DEQ just because DEQ is also a regulatory agency. The DEQ is the agency responsible for promoting recycling and must be given the methods and funding to create in-state markets for recyclables. I think this bill is a great idea – but only if adequately funded (I don't believe it is adequately funded as written).

LC6001 – I strongly support this legislation.

LC6002 – I strongly support this legislation.

LC6003 – I don't support this legislation as written. It will be opposed by some of the major landfills that pay tonnage fees and/or these communities will advocate that the funds generated from their landfill returns to them in the form of grants (rather than other communities). This will undermine the purpose of the legislation as the smaller, more rural communities need grants too.

An alternative method of funding grants, and one that would include a natural sunset, is to use a maximum of $1 million from the Junk Vehicle Fund to provide grants of up to $50,000 to communities. Qualified communities would provide some matching funds, and develop recycling plans which create programs that are sustainable for the long-term. When the grant balance of $1 million is completely spent (over several years), the grant program would cease to exist.

I don't believe grants should go to private businesses unless sound business plans are provided that detail financing and operating procedures that will ensure wise use of funds. Other states have experienced businesses failing after receiving grant funds. Often the businesses failed because of poor financial plans that relied on grant funds to start a new business that was otherwise unsustainable.

Nowakowski, Sonja

From: Ed Gulick [egulick@highplainsarchitects.com]
Sent: Thursday, August 21, 2008 2:59 PM
To: Nowakowski, Sonja
Subject: Climate change

Dear Environmental Quality Council,

I'm a very disappointed that the Council has put together only 11 draft bills from the 54 recommendations that came out of the Climate Change Advisory Committee (CCAC). The CCAC represented consensus from a very broad group of citizens and stakeholders. The failure of the Council to advance these recommendations is a failure of the Council to serve the citizens of Montana and our future interests.

Global climate change represents perhaps one of the greatest threats this nation has faced, and everyone needs to do their part to address it, including the State of Montana. And even if there are Council members that choose to ignore the overwhelming scientific evidence that humans are playing a role in climate change, from a purely economic perspective it makes great sense to reduce our use of fossil fuels through improved efficiency and renewable energy, particularly with the rapidly escalating cost of fossil fuels. And these fuel costs do not even include the considerable avoided costs of averting the worst of climate change problems, such as widespread drought and forest fires in our region.

Thus, I urge the Council to support legislation to adopt all 54 of the CCAC recommendations. These measures would include higher vehicle mileage standards for state vehicles, enacting stronger building codes with regard to energy efficiency, joining other states in demanding higher nation-wide vehicle mileage standards, programs to improve insulation and energy efficiency in low-income housing, and demand-side management programs that encourage the adoption of efficient lighting, appliances, and HVAC systems.

Please act to implement the CCAC recommendations and serve the interests of all Montanans in these rapidly changing times--we must act now if we dare look our children and grandchildren in the eyes. Thank you for your time and consideration.

Sincerely,

Ed Gulick
3015 10th Avenue North
Billings, MT 59101

406-259-7618

Nowakowski, Sonja

From: Moore, Kevin [km123813@grizmail.umt.edu]
Sent: Thursday, August 21, 2008 4:10 PM
To: Nowakowski, Sonja
Subject: Climate Change

Greetings Environmental Quality Council (EQC) of the Montana State Legislature,

I am writing in support of draft bill LC6004, which is a reduction in property tax for food processing facilities that use Montana-sourced raw ingredients in their products. As you know, food products travel an average of 1,500 miles from their points of production to consumption in this country. This excessive transportation is especially pronounced in Montana's vast distances, and any reduction in travel can be a significant way to reduce carbon emissions and mitigate the forces of climate change. Montana is increasingly feeling the effects of a warming climate through more severe wildfire regimes, earlier peak water flows, and other phenomenon that are changing our "Last Best Place." This bill should definitely be included as one of the EQC's legislative priorities for climate change because it is a feasible step for Montanans to help solve a complicated global issue.

Additionally, I have experience sourcing local foods in Montana's institutional setting, and can say without reservation that developing more food processing is integral to creating a Montana based food system. LC6004 provides not only an opportunity to reduce this state's contributions to climate change, but is a way to reduce financial burdens and make life easier for Montana's few food producing facilities. If you have a choice between including this bill or others, please choose LC6004 because it provides a long term (ten years) opportunity for Montanans to assuage the effects of a significant source of carbon emissions. Thank you for your consideration of these comments.

Sincerely,

Kevin Moore

University of Montana Environmental Studies Program

Nowakowski, Sonja

From: Hoss [oldhoss46@interbel.net]
Sent: Wednesday, July 23, 2008 12:23 PM
To: Nowakowski, Sonja
Subject: global warming

If in fact the globe is warming up so, I feel it is a natural happening and I sure as hell dont want to be blamed for it or have to pay for it! Let it happen. We can do nothing. It is Gods will. Ron Charlton box 129 Trego Montana 59934

Nowakowski, Sonja

From: Jim Mitchell [jim.mitchell@mainsailsoftware.com]
Sent: Wednesday, July 23, 2008 4:45 PM
To: Nowakowski, Sonja
Subject: Keep up the good work

As a graduate of the University of Montana Computer Science Graduate program, former Missoula resident (where both my children were born), and a member of the Computer Science Industrial Advisory Board, I am proud of the efforts Montana is making to address climate change issues. You efforts both from a governmental approach and your private innovation in biomass and bio-diesel, to promote alternate forms of energy are greatly appreciated. Keep up the good work!

Jim Mitchell
Sr. Software Architect
Mainsail Software
http://www.MainsailSoftware.com

Nowakowski, Sonja

From: rory Copeland [copelanr2@gmail.com]
Sent: Monday, July 28, 2008 7:19 AM
To: Nowakowski, Sonja
Subject: climate change

From the research I have done it appears to me that the climate change is a result of the sun spot cycles not c02. This make sense as the only thing that puts out enough energy to effect the entire planet is the sun. Also c02 is only.38% of the atmosphere so a large percentage change in c02 will not have much effect on the whole.

Please consider the entier story not the popular one. We need to find the correct actions to take not the sensational ones. Rory Copeland

Nowakowski, Sonja

From: Mary Stein [mstein2848@yahoo.com]
Sent: Friday, August 01, 2008 11:50 AM
To: Nowakowski, Sonja
Subject: Climate Change

To: Environmental Quality Council of the Montana Legislature

From: Mary Stein, Bozeman, Montana

I am writing to provide comments and support for the draft bill LC6004, "An Act ALLOWING TAX ABATEMENTS FOR FACILITIES THAT USE MONTANA GROWN RAW MATERIALS IN FOOD PRODUCTION; AND PROVIDING AN EFFECTIVE DATE."

This legislation will make great inroads in establishing and supporting a local, sustainable food system within the state of Montana. A healthy local food system is critical to the future of Montana (and to communities around the globe) and is a necessary to reduce consumption of fossil fuels and CO2 emissions.

Producing and consuming food products within a relatively small geographically area results in a drastic reduction in energy needed for transportation and distribution of such products. In addition, food products require less packaging and can be consumed closer to their raw form when consumed close to home.

Of course, economically this is an important bill as well. Keeping more of the food dollar within the state of Montana will serve to bolster the economies of struggling agricultural communities in the state.

LC6004, which would allow tax abatements for facilities that use Montana Grown raw materials in food production, is a sound first step in improving our state's ability to feed its own citizens with food grown in the state of Montana.

I encourage the EQC to retain LC6004 within its climate change plan for the upcoming legislative session.

Sincerely,

Mary Stein
Bozeman, Montana
mstein2848@yahoo.com
406-570-8913

Nowakowski, Sonja

From: PGFireCo@aol.com
Sent: Monday, August 04, 2008 11:52 PM
To: Nowakowski, Sonja
Subject: Climate Change

I would like to comment on the Climate Change report. I believe any taxpayer money spent toward mitigation of "greenhouse gases" is a waste of funds and misdirects attention from more pressing environmental problems. I have not seen any compelling evidence that human caused CO2 emissions are a significant contributor to global warming. I believe that natural factors are much more important and we should not be regulating natural factors.

I have a ranch with livestock. Livestock produces methane in large quantities. In order to be serious about reducing "greenhouse gases", we must seriously look at reduction of beef consumption in addition to reduction of fossil fuel usage. Either of these solutions would be devastating to Montana's economy and there is NO convincing science that either would have any effect on global climate.

If we aren't leading the world in these areas, then other countries will. I doubt China or Russia are interested in the environment. I would rather keep our economy robust, respect the land and lead the world. Implementation of any legislation designed to address "Climate Change" is counterproductive to those goals.

If CO2 is determined to be contributor to climate change then there is technology available to "scrub" CO2 from the enviroment. This is readily available and cost effective. There would be minimal effect on Montana's economy. Let's not politicize this debate and let's look at cause and effect first...then move on to solutions if necessary.

Sincerely,
David Mangold
33578 Canyon View Dr.
St. Ignatius, MT 59865
406-745-0237

MILLION DOLLAR REWARD

FOR THE SCIENTIFIC EXPERIMENT

USED TO FORM A SCIENTIFIC CONSENSUS

PROVING

CO2 CAUSES GLOBAL WARMING

manifesto

part one

unedited

By Bruce A. Kershaw

Letter to Al Gore and Max Baucus and Jon Tester June 1 2008
from Bruce Kershaw

Dear Al and Max and Jon

This is a formal request for the scientific experiment used to form a scientific consensus, proving CO2 is the cause of Global Warming, so that I may do the experiment and join the scientific consensus. Max and Jon, I have sent both of you the hard evidence and factual proof that CO2 dose not cause warming and proof positive that CO2 in fact causes cooling, which you have both ignored completely. And the only scientists that I know of that agree with the three of you are political scientists, and in my thirty two years of work and study on the subject matter, I have yet to meet any one with any proof of any kind at all, what so ever, that CO2 causes warming. All that you and they can tell me is The glaciers are melting , The glaciers are melting , and of course I have to tell them that they have been melting for over fourteen thousand years, not forty years and that they have all melted before. And it was only one hundred and thirty thousand years ago when it last occurred and that the ocean was twenty feet higher then than it is today. So Al, Max and Jon, what caused the CO2 levels to rise back then? My guess it was not cars or power plants or anything man made in any way shape or form and that it was not CO2 that caused the warming in the first place and in fact it causes cooling, CO2 is the cause of all carbon based life on this planet, and if there was no CO2 in the air, there would be no life on this planet ever with a carbon base, which is every living thing on this planet, living today. If the four of us were in front of a real Judge in a real court of Law it would be a open and shut case and guess who would win? So where's the Beef ? There have been many other scientific consensus that turned out to be anything but true, remember blood letting to cure the sick and killing all the cats because they are evil. I have been working with computers that control emission controls for over thirty two years and I knew Y2K was a farce, the very first time I heard about it. And all I heard over and over, again and again ,was how life was going to end on this planet as we know it. CO2 in its purest form is Dry Ice.

The doors to science are never closed.

Bruce Kershaw

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WASHINGTON, DC 20510-2602

July 7, 2008

Mr. Bruce Kershaw
PO Box 4664
Helena, Montana 59604-4664

Dear Bruce:

Thank you for contacting me regarding the Climate Security Act. I appreciate hearing from you on this important issue.

Montana is an outdoor state. We hunt, fish, camp and hike in Glacier National Park, in the Beartooth Mountains, and in the Yellowstone River to name a few. I believe we have a moral responsibility to preserve what we treasure in Montana for our children and grandchildren. Seven consecutive years of drought, longer and more severe wildfires, and rising temperatures in streams have taken their toll on Montana. But we have an opportunity to become a leader in developing clean energy and addressing climate change.

I have worked to find a common sense solution to climate change. America's Climate Security Act would create an economy-wide cap and trade program to create an emissions ceiling, while permitting trades for excess allowances. It would be a market based solution that would make use of American ingenuity and entrepreneurial spirit. A cap and trade program will spur cleaner technologies, and create good paying jobs. The bill would also include incentives to accelerate carbon capture and sequestration to counteract emissions, and ensure that Montana can continue to use its vast coal reserves.

This bill safeguards American economic competitiveness by requiring importers to buy carbon allowances for products imported from countries that have not made commitments to reduce greenhouse gases. We must institute any climate change provisions in a way that enhances our economic competitiveness, creates good paying green jobs and avoids harm to working families. This is an opportunity to invest in our future.

Thanks again for getting in touch. Please feel free to contact me with any additional questions or concerns you may have.

With best personal regards, I am

Sincerely,

MSB/jm2

From Webster's Concise Encyclopedia

The Definition of Dry Ice, for the last eighty years --

dry ice

solid carbon dioxide (CO2), used as a refrigerant. At temperatures above -- 79 degrees C / --110.2 degrees F, it sublimes (turns into vapor without passing through a liquid stage) to gaseous carbon dioxide .

The Cost of Carbon is the Se-question?

The amount of energy that will be needed for carbon capture and the sequestration regardless of the overwhelming cost and the poisoning of under ground drinking water, will have to be supplied by green or renewable energy. Otherwise, if you use carbon base energy you will put far more carbon back in to the air than you can possibly remove. Maybe we should just capture the CO2 and freeze it and sell it to people who can no longer afford electricity for their refrigerator to keep what little food they can still grow from the Air with little or no CO2 in it. And by then we should be running low on oxygen, because now plants and trees have nothing to turn back into oxygen for us to breathe and because we are so good at removing CO2 from the air, we can remove it faster than it can evaporate with the water from the ocean from under water volcanoes into the air on a very hot day along with all the other chemicals in the ocean we really truly dont want in the air.

If we add CO2 to the green house in your back yard, the more CO2 we add the healthier and stronger your plants and vegetables will be, and then the healthier your food will be and then the healthier you will be. And we know that after fifty plus years of experimentation, research and study. CO2 is the cause of all carbon base life on this planet.

CO2 is one one-hundredth of one percent of the air over land, So if we could add more CO2 in to the air it would be much healthier for plants and trees. So why don't we just let plants and trees absorb the carbon from CO2 so they can live and make oxygen and food so all of us creatures have something to breathe and eat too. But, if you really need to capture something from the air, try the ozone produced at ground level that is causing severe respiratory illness all around the planet and put it in the hole in the ozone.

The first air on this planet was for the most part all CO2 causing all plant life to begin on our planet , I guess we will just be the cause of ending all life on this planet.

CO2 causes extreme cooling , that is way we call it Dry Ice.

recipe

One way you can add CO2 to your green house

If? You own a newer car that is running properly ?

Take an exhaust hose long enough to cool the exhaust before it enters the green house and before pluming the hose to the green house, start the engine and let the engine warm up, and then plum the cars exhaust to the green house.
Now go to your favorite oxygen bar and relax , then ride your bicycle home, then turn the car off , now open the green house and let it air out , (so you can continue to breathe) , now go in to the green house and find something that looks really good to eat and enjoy. So don't throw away your car Yet, keep it for the green house, Just in case all the Volcanoes die.

Global Warming, scientific consensus or pathological political hearsay

A scientific consensus would mean every scientist performing the same experiment the same way and having the same results. But there is no experiment in which to form a consensus. My scientist is me, not four computers that I could program to say anything I choose. The doors to science are never closed and if they where we would still be killing cats because they are evil and bloodletting to cure the sick. I do not see a consensus. I see a naive bias paranoid media reporting only what they wish to believe and schizophrenic governments with no facts or proof of any kind. And the best the computers could do in a real court of law is political hearsay. Yes we have global warming again, but the cause is not CO2. True science is not about faith and believing.
True science is about discovery searching for the truth.
Reality is not pumping CO2 into the ground. The ocean has been rising an average of one foot every fifty years for the last fourteen thousand years. Reality is moving to higher ground.
I guess we are to busy inventing problems, we can not fix, instead of fixing the problems we can.
Keep Faith in Yourself and keep proof in your science.
CO2 in its purest form is Dry Ice.

From Here To Now

Where do I go from yesterday
So much I want to know
Yesterday will always be
but I believe in now
moment to moments
to save or throw away
another moment to now

Tomorrow is forever away
Which way do I go to now
Finding moments is hard to do
harder moments we find the truth
the Best of Life will come through faith

From here I go to now
From now, here I go

Bruce Kershaw
1998

CO2 causes Extreme Cooling

If you add one thousand degree CO2 into a running gasoline engine the explosion temperature in the combustion chamber will drop about five hundred degrees, from 3500* degrees to 3000* degrees. I believe it was 1972 the U.S. Government in-acted the Clean Air Act presenting a very big challenge to car manufactures. Car Emissions back in 1972 were about fifty percent less of what they were back in the 1940s, but the smog was getting thick and it was time to clean up the Air. So the car scientists went to work. They needed to lower (CO) [carbon monoxide] [one part carbon and one part oxygen] [carbon with no fuel or energy attached] and is the gas given off by the blue part of a flame and is at higher levels if the engine is running rich, (HC) [hydrocarbons] [carbon with fuel or energy attached] which is unburned fuel in vapor form and will be at higher levels if the engine misfires, (NOx) [oxides of nitrogen] which is produced by burning nitrogen and oxygen together at very high temperatures [above twenty-six hundred degrees]. So they reduced the CO by leaning out the air /fuel mixture and they reduced the HC levels by changing the primary ignition from a set of contact points to turn the ignition coil off and on to a electronic ignition. Next was the hard part, reducing NOx. They needed to reduce the explosion temperature in the combustion chamber a few hundred degrees under all load conditions with leaner air/fuel mixtures which will only make the engine run hotter, And what they found was by taking the exhaust gases which is for the most part water vapor and (CO2) [Carbon Dioxide] [one part carbon and two parts oxygen] [carbon with no fuel or energy attached] which is at its highest levels when the engine is operating at it's highest possible efficiency {and then plants and trees absorb it and turn it back into oxygen for us to breath} and by adding a very small amount of CO2 to the Air/Fuel mixture the explosion temperature could be lowered about five hundred degrees reducing and or eliminating NOx. So, for about the last thirty six years we have been adding CO2 back into the air/fuel mixture to reduce heat in the combustion chamber to reduce NOx coming out the tail pipe of your car. Now every one wants me to believe the four computer studies that say CO2 is the cause of global warming even though human studies disagree. Well, I have never seen a computer roll up its sleeves put on a lab coat and walk in to a laboratory fire up the Bunsen burner and start experimenting for years on one theory. But the reason CO2 cools off the combustion process is, it acts like a bunch of little heat sponges in the combustion chamber and because CO2 is the by product of burning it has already burned once so it can not burn again, so it absorbs heat during the explosion. CO2 can not produce heat, But it can lower the explosion temperature in your car's engine five hundred degrees. Yes we have global warming again, in the last six hundred million years the glaciers have melted many times before. CO2 is not the cause of warming it is the reaction to warming. We produce CO2 from heat. The four computer generated studies on global warming have yet to prove there theory with physical evidence. My human generated study shows global warming causes CO2 levels to rise which is exactly 180* [completely and totally] opposite of the computer studies. So when humans and computers do not agree on a subject matter then it is time to do nothing until we do agree. I have worked with computers with Artificial Intelligence for over thrifty years and when my computer and I do not agree, we stop going forward and back up and by the time we get to the bottom of it all, I am usually right and the dumb computer is wrong. Dry Ice is CO2, It cools anything ten times faster than frozen water can and will cool twenty times longer, That fact would mean nothing to a computer. Most of the CO2 on this planet is in the ocean, most of the active volcanoes on this planet are under current sea levels, they produce high levels of CO2 into the ocean and warming the air causes the release of CO2 from the ocean through the evaporation process, the warmer the air the greater amount of CO2 is evaporated into the air. CO2 is caused by global warming, not global warming caused by CO2. Greenhouse Gases are the corner stones of Life as we know it. No Greenhouse Gases No Life. CO2 is one-one hundredth of 1% over land and three one-one hundredths of 1% over the ocean. There is three times more CO2 over the ocean [thanks to under water volcanoes] than land. CO2 is only the thickness of a dime on the fifty yard line on a football field. That is one thousandth of the Air. Energy from the Sun is the future and the cause of global warming. We would already be energy independent today if we had spent the money on this War in Iraq on energy independence. Instead we are going to spend another trillion dollars pumping CO2 into the ground to pollute underground drinking water. All the lungs on this planet produce more CO2 than all the car's. Maybe we should remove oxygen from the air, it is a greenhouse gas and it is twenty one percent of the air. Is there enough CO2 for plants and trees to live. CO and CO2 is carbon with the fuel or energy removed, it can no longer produce heat or energy, it can only absorb heat and energy. Think of carbon as a fuel tank, when it is full, it is a hydrocarbon, when its empty, it is carbon monoxide and or carbon dioxide the aftermath of burning all the fuel and now it can be used for extreme cooling or be absorbed back in to plants and trees to become food and fuel energy once again. Carbon is like a bucket, you can use it to carry fuel for fire to burn or you can use it to carry dry ice [CO2] to cool something to -109* degrees below zero. Charcoal is carbon with fuel in it. CO2 is carbon with no fuel in it and will put out the fire or cool the flame. CO2 can not cause heat it is the by product of heat and will absorb heat very fast. CO2 in its purest form is DRY ICE

Exhaust Gas Recirculation

Exhaust Gas Recirculation (EGR) is used to reduce oxides of nitrogen (NO_x). In the heat of combustion (3500-4000°F), nitrogen combines with oxygen to form oxides of nitrogen. Combustion temperatures must be lowered to reduce formation of NO_x. Small amounts of exhaust gas are fed into the intake manifold. This recirculated exhaust lowers combustion temperatures by as much as 500°F.

EGR Valve

The heart of the EGR system is an EGR valve. This valve is located on the intake manifold near the carburetor (figure 6-18). The valve passes small amounts of exhaust gas into the intake manifold below the carburetor. Very little NO_x is formed at idle or light engine loads, but formation increases rapidly during acceleration. Therefore, the EGR valve is closed at idle. As the throttle opens, the EGR valve opens, recirculating exhaust gases to reduce NO_x. EGR valves are carefully matched to each type of engine. Use of the wrong valve may cause driveability and performance problems or increase NO_x emissions. **Recirculated exhaust may cause driveability problems on a cold engine also.**

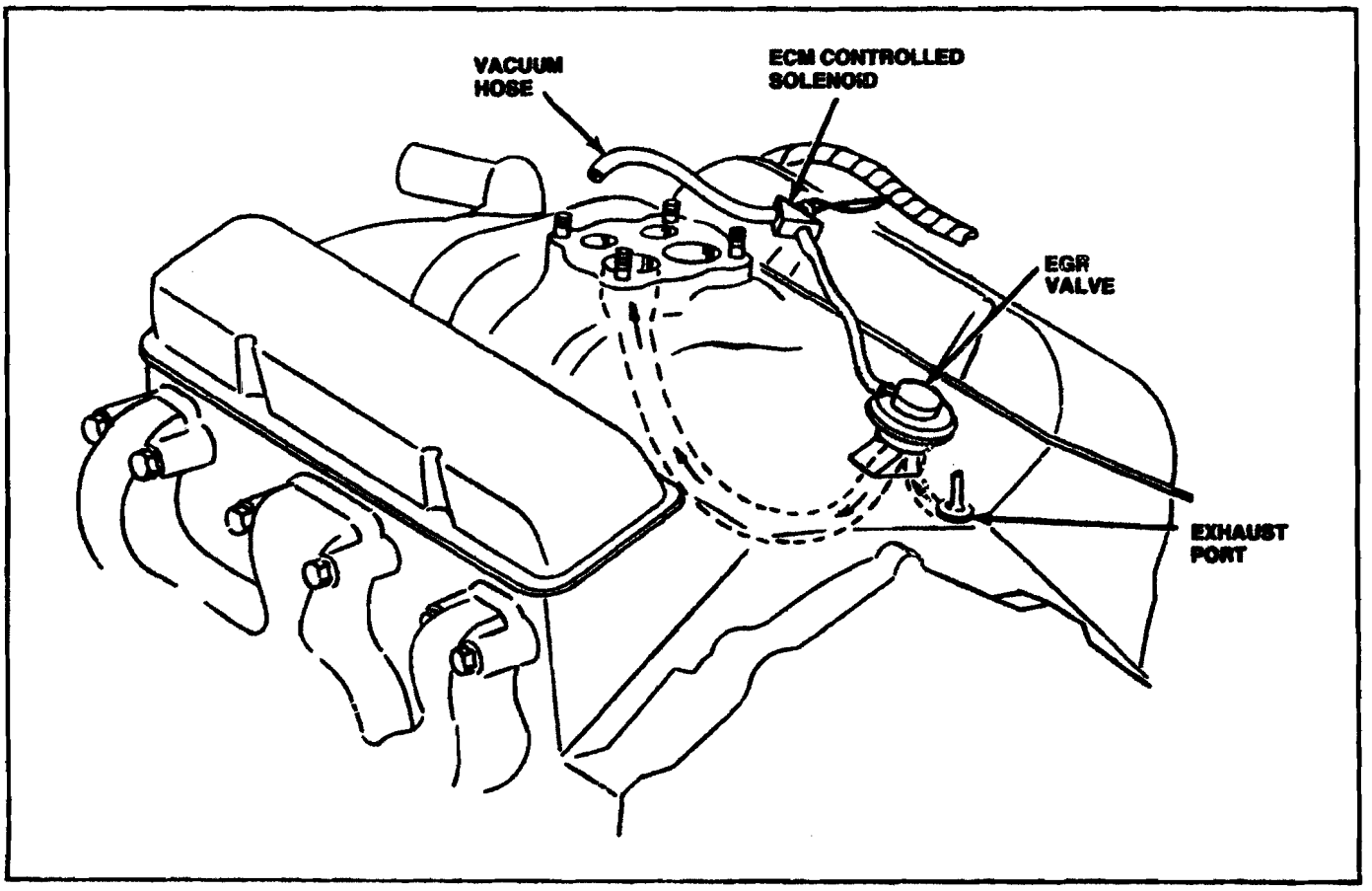


Figure 6-18, EGR System Schematic.

REFERENCE 17-23
LOCATING FUEL LEAKS

(4-GAS ANALYZER ONLY)

If the customer complaint is a fuel odor or poor fuel mileage, the problem may be a fuel leak. The **SMART ENGINE ANALYZER**, can be used to quickly locate fuel leaks anywhere on the vehicle.

Test Procedure:

1. Start engine and raise the vehicle on a hoist (If possible).
2. Hold the **SEA** exhaust gas sampling probe near potential fuel leak areas (gas tank, fuel lines, filters, connections, etc.).
3. Observe the HC display on the monitor. When a fuel leak is located, the HC reading will show an increase as the probe gets closer to the leak.
4. Repair as necessary.

REFERENCE 17-24
LOCATING EXHAUST LEAKS

Air-cooled vehicles often use air heated by the exhaust manifold to heat the passenger compartment. An exhaust leak can cause dangerous concentrations of Carbon Monoxide in the vehicle. Check the heater box/heat exchanger if the customer complains of an exhaust odor in the vehicle.

Test Procedure:

1. Remove the the metal exhaust probe from the hose (to keep the customer's interior clean).
2. Observe the CO and HC readings while the probe is open to room air.
3. Start the engine and turn the heater control and the blower on.
4. Insert the exhaust probe into the heater and defroster openings and watch for an increase in the CO or HC readings.

Any increase indicates an exhaust leak into the passenger compartment.

REFERENCE 17-25
LOCATING VACUUM LEAKS

Test Procedure:

If the engine shows an excessively lean condition (Low CO and high, wavering HC reading) there may be a vacuum leak.

1. Disable the air injection system and the closed loop system (Reference 9-01).
2. Stabilize the engine idle speed.
3. Select **#CARB ZERO** to calibrate the Carb Adjust bar graph to zero.
4. Use a propane cylinder and the valve supplied in the **SEA** accessory kit (P/N 41920). Open the valve on the propane cylinder and hold the hose near likely vacuum leak areas (carburetor base, intake manifold gaskets, EGR stem, vacuum connectors, etc.).

If a leak is located, there will be an increase in the the Carb Adjust indicator (RPMs) followed by a rise in the CO reading.

If no leak is located and the lean condition continues, check the EGR (Reference 17-26).

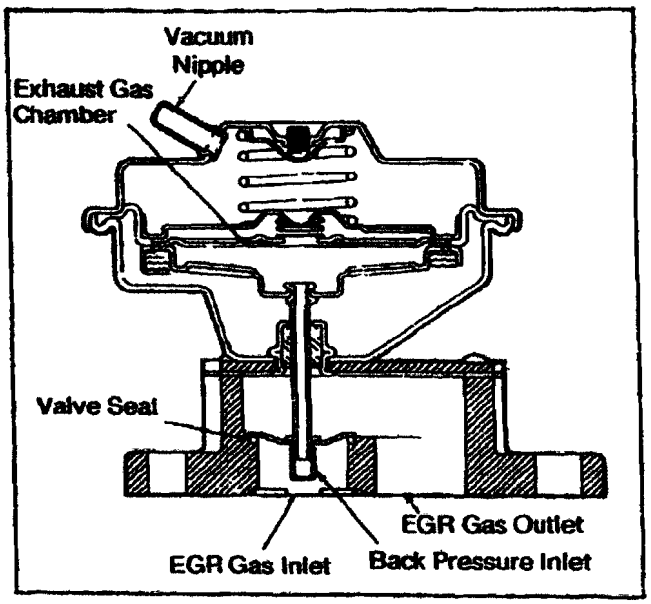
REFERENCE 17-26
EGR VALVE TEST

EGR VALVE OPERATION

The exhaust gas recirculation (EGR) valve is a device which routes a small amount of exhaust gas back into the intake manifold. These gases are mixed with the air/fuel charge drawn into the combustion chamber and tend to dilute the air/fuel mixture by a small percentage. This action reduces oxides of nitrogen (NOx) emissions.

Lean fuel mixtures being drawn into the combustion chamber burn "HOT" which tend to produce nitrogen oxides, a by-product of combustion that is very harmful to the environment and supports corrosive conditions.

The EGR valve operates by inducing a metered amount of exhaust gases into the intake manifold (usually about 7%) to cool off the combustion process and reduce NOx emissions.



No Greenhouse Gases No T-bone Steak

Greenhouse Gases are the corner stones of life as we know it. No greenhouse gases no life.

Lets build a greenhouse. The first thing we need is dirt for the nitrogen compounds containing all the minerals and carbon elements required for growth. next we need two greenhouse gases hydrogen and oxygen to make water. Now we can plant a seed in the dirt, water it and watch it grow. But it wont grow! We don't have anything for a plant to breath. We need another green house gas, CO2 carbon dioxide. So we add CO2 and it still will not grow. What is missing ?? How about a giant ball of greenhouse gas burning very hot in the Big Sky and that would be for the most part hydrogen, our star we call the sun. The sun is a Greenhouse Gas. No hydrogen, no sun, no life on this planet. No water and no carbon dioxide, no plants would grow to be food and make oxygen, cows can not eat or drink or breath , no T-bone steak. Greenhouse gases are the reason we have any life on this planet. Take away the green house or any part of it and you will have a very dead planet, no life, zero. We breath in 78% nitrogen 21% oxygen and exhale 78% nitrogen and about 16% oxygen and 5% CO2. Green house gases are not pollution, water is not pollution, carbon dioxide is not pollution , hydrogen and oxygen are not pollution. You can pollute water and carbon dioxide with a toxin or foreign substance, but greenhouse gases are not pollution they are the cause of life as we know it. Today the air we breath is 78% nitrogen and 21% oxygen and the last 1% is radiation, electricity, argon, water vapor, dirt, ash, pollen, sulfur, methane, nuclear waste, carbon monoxide, lead, carbon dioxide, neon, krypton, helium, ozone, xenon, hydrogen, hydrocarbons, nitric oxide, radon, mercury, arsenic, iridium, neutrinos and anything else you can think of floating in the air. CO2 is one-one hundredth of 1% of the Air over land and three one-one hundredths of 1% over the ocean. There is three times more CO2 over the ocean [thanks to under water volcanoes] than land. Lungs produce more CO2 than cars and volcanoes produce more CO2 than Lungs. Plants have gone from most of the Air to breath over five hundred Million years ago to only one-one hundredth of one percent today. CO2 in its purest form is Dry Ice.

Global Warming

Guess what happens between Ice Ages? The ice melts. CO2 does not cause warming , warming causes the release of CO2 from the ocean through the evaporation process into the air. So warming must occur first, CO2 is simply the reaction to heat , not the other way around. CO2 can not produce heat but heat can produce CO2. CO2 levels go up after warming ,not before. Most of the active volcanoes which are under current sea levels produce high levels of CO2 into the ocean and the warmer the air the greater amount of CO2 is evaporated into the air. CO2 is caused by global warming, not global warming caused by CO2. CO2 from heat not heat from CO2. And the greenhouse gas responsible for global warming? A giant ball of green house gas, the hydrogen Sun.
CO2 in its purest form is Dry Ice.

Global Warming Again 5-11-08

This cycle of Global Warming began fourteen thousand years ago, Not forty years ago and during the last fourteen thousand years we have had many {Little Ice Ages} and many {Mini Ice Ages} a Little Ice Age can be hundreds of years and a Mini Ice Age is more than one year with out a growing season. Major Ice Ages last for tens of thousands of years and we have had Mega Ice Ages (Snow Ball) that last over a Hundred Million years. Life as we know it began after the last Mega Ice Age Six Hundred Million years ago. The Earth has been through thousands if not millions of Global Warnings and Cooling periods. Why stop now? Prior to World War I a world wide pandemic killed about fifty million people. Years prior to the pandemic thousands died on the east coast of the U.S. from a Mini Ice Age, They had no growing season for more then a year and starved to death. and even in today's world more people die from cold weather than hot weather. CO2 in its purest form is Dry Ice.

The Carbon Circle Cycle of Life

No Carbon No Life

Life is a carbon base circle cycle and everything living has a carbon base, from plants and trees to human beings and every thing in between. We Human carbon based life get our daily intake of carbon from all those vegetables your mother was always telling you to eat. Plant and tree carbon based life get there daily intake of carbon from soil and the part of the air they absorb otherwise known as CO2, which is only one-one thousandth percent of the air. So for every thousand parts of the air only one part is CO2 and that one part CO2 is one part carbon and two parts oxygen. Not much for plants to breath. So plants absorb carbon from the air so we humans have a carbon base food to eat for our carbon base bodies. So if there was no carbon in the air, there will be no carbon base food to eat and our carbon base bodies will die. So from this carbon base life, to all the carbon base life out there in this carbon base world, My advice to all of you, do not pump what very little life giving carbon base air we still have into the ground only to contaminate what little clean life giving under ground drinking water we still have. So, we eat plants then exhale CO2 and then plants and trees absorb the carbon part of the CO2 making oxygen while growing. so we have carbon base food to eat, so we can exhale CO2 again, so plants and trees can absorb it again, so we can eat again, so they can absorb it again, so we can eat again and hopefully that circle cycle continues forever. We eat and burn carbon energy and turn it in to carbon with no energy CO and CO2 and now the carbon with no energy can absorb heat for extreme cooling or can be absorbed by plants to be turned back in to fuel or food energy once again. CO2 is the by product of heat so it can not produce heat but will absorb heat ten times faster than frozen water and stay cold up to twenty times longer. CO2 can not cause warming it is carbon with zero energy. CO2 in its purest form is Dry Ice.

Thank Goodness for Volcanoes, Most of the time, Sometimes not always 5-11-08

All life on this planet has a carbon base. Volcanoes are responsible for all of life as we know it and if we had no active Volcanoes on this planet ever, there would be no life as we know it today. All of the life giving CO2 on this planet is from Volcanoes and even today most of the CO2 we need for life to exist on this planet comes from volcanoes. Life began as we know it about six hundred million years ago after about one hundred million years of Ice Age. And trapped under that ice for a hundred million years, CO2 from very active volcanoes, so when the ice broke the air was filled with lots of CO2. The first life on this planet began with plants and later trees, they are carbon base life from CO2 and much later creatures came to life to eat the plants and like the plants they too are carbon base life No Green House gases no life, no volcanoes no CO2, no carbon base plant life no carbon base creatures to eat the plants and no carbon base life of any kind. No volcanoes no CO2 no life as we know it. But Volcanoes can also end life on this planet, as we know from a D.N.A. funnel going back seventy-four thousand years ago and as few as thirty breeding woman may be all that were left after twenty feet of ash covered much of the planet with as much ash in the air blocking the Sun. How would you like to live through a Super Volcano and then a Ice Age caused by the Volcano. So when Yellowstone Park blow's again I think we are all in very BIG trouble, and it is over due to blow, but I keep thinking about another Volcano only four miles from my front door and what is most interesting about Mt. Helena here in Helena Montana is, it is the most expense land in town. I guess living on a Volcano would make life much more exciting than just living next to it, I Guess I would rather be the first to go than the last but don't lose any sleep over it, it's been doormat about a half a million years or so, well, maybe that just mean's it's due to blow again soon too? maybe I should ask a computer, O-Well I guess we all need something to worry about, so, it might as well be something we have no control over, like Global Warming or Global Cooling or Asteroids hitting our planet or rain or sunshine. CO2 in its purest form is Dry Ice.

Our Star will not supper nova and some dying stars will. Our star the Sun will grow as it is dying, it will grow to or past the orbit of our planet. We call it our star and our planet because we live here, and of course we belong to the Sun and Earth and Moon but we might as well claim everything, nothing else has, at least, not that I know of. So from this point forward the universe is ours, but only until our star vaporizes us. I think stars are like people, so many different kinds and no two alike. A sun dying going supper nova would be trillions times the energy of our star dying. But our star is far from dying it is just warming up, every day our star is getting brighter and warmer and someday the average daily temperature on earth will be about 160* degrees or so, just give it a billion or so years to get there. And just like water evaporates, the earth will vaporize into the energy of our dying sun and never again a trace of life from here, ever again. Now take two healthy stars moving toward each other very rapidly and then sit back and enjoy the light show, it will definitely be the last thing you will ever see. When two stars collide the energy is trillions times the energy of a dying star going supper nova and the surface of every planet in that entire galaxy will be vaporized in to the energy. Maybe that is how neutrinos are made and where they come from, intense energy too small to measure or see, traveling through space and through everything. We can detect neutrinos going through heavy water after they have been through seven miles of earth.
They, being pure energy from a Plasma Burst billions of years ago. CO2 in its purest form is Dry Ice.

As The World Turns

5 - 23 - 08

The rotation of the Earth has been slowing down for billions of years. As the Moon moves further away from the Earth, it causes the Earth's rotation to slow. When the Moon was at its closest point to the Earth a full day and night only took somewhere between as little as two hours some say and as much as six hours others say, I wonder if they used different numbers or different Math or both , and It dose not matter, I will use no Math and just go down the middle and say as little as four hours for the Earth to make a full rotation, two hours of Day and two hours of Night. So a full Day then was twenty hours shorter than a full Day today and with the earth turning many times faster than today, the gravity would have been so great that a person dropped off here back then would be instantly turned into a pancake. And don't get me wrong, I like pancakes. I have never met one I did not like, very much, but can you imagine being a pancake living on our planet over four billion years ago, looking up into the sky and seeing a moon fifteen times closer and bigger than it is today, it would eclipse the sun every day. Today the sun and the moon are exactly the same size in the sky and before long the moon will be smaller than the Sun in the Bigsky and will no longer cover the Sun during an Eclipse. Along with a much slower rotation of the earth, and just about the time the Sun is ready to vaporize the Earth a day and night will last almost twice as long as today. How would you like twenty hours of day and twenty hours of night every day? Well, don't worry that won't happen for billions of years. And I can not be Certain but I believe we will all be long gone and forgotten by then, we will probably be long gone before a billion years from now, when the average daily temperature will exceed 160* degrees. Our time on this planet is just a blink of an eye in all of time, we are very lucky to be living during the gentlest weather cycles of our planets history, thanks to moon slowly moving further away. The moon does far more than just effect our ocean tides. It effects all of Life. After billions and billions of years of time there has only been life here for millions of those years. Life is just a drop in the bucket of time. I hope life is a cycle throughout the universe through all of time. We live in a very special moment in time. Life is ever changing as the cause of life is ever changing. We are a very fragile balance of carbon energy and spent carbon energy, the by product of fuel burning efficiently and the cleaner the burn the higher the level of spent carbon energy produced to make and support all of plant life. Hydrocarbons carry the energy fuel and CO2 is the spent fuel carbon absorbed by plants and trees and once again the CO2 is changed back in to carbon with energy for food or fuel.
CO2 in its purest form is Dry Ice.

14.7 to 1

The Air to fuel ratio in a gasoline engine will always be 14.7 parts Air to one part fuel. Anything over 15 parts of air to one part fuel the engine will run too lean and will misfire and produce zero energy while putting (HC) Hydrocarbons into the air. So the only way you can increase fuel efficiency is to make the car smaller and lighter and or put a smaller engine in it. CO2 in its purest form is Dry Ice.

The History of Cars and CO2 5-2-08

The very first cars built back in the late 1800's ran so rich they produced zero CO2 they had so much fuel going through the engine that the exhaust would burn your eyes and poison any one standing next to the exhaust. It was about the mid 1950's before cars started to produce low level's of CO2 and by the 1970's with more efficient engine's and pollution controls the CO2 levels went up to as much as 14% of the exhaust all the way from zero back in the 1890's CO2 in its purest form is Dry Ice.

Bi-polar Bears

The Polar Bear is a Montana Grizzly Bear that roamed north and one hundred and thirty-five thousand years ago, when the ocean was twenty feet higher the Polar Bears went south. And during the following Ice Age the Polar Bears went north again. And now the Polar Bears will soon be heading south. My guess is the Polar Bears will head north once again going into the next ice age. CO2 in its purest form is Dry Ice.

Dry Ice since 1928 4- 26-08

Guess what Dry Ice is made of ? That's right CO2, 100% pure CO2 and will cool anything ten times faster than frozen water and can stay at - 109* degrees up to ten days. So it absorbs heat ten times faster than frozen water and will last twenty times longer, so for the last eighty years, if you need to make something very cold very fast , then Dry Ice [CO2] is for you. But if you need to warm something up, CO2 is the last thing you want to use. You can put out a fire or cool a flame with CO2. CO2 is the by product of a very clean and efficient burning of most fuels that burn with oxygen and when used to dilute oxygen and fuel together in combustion, because it has already burned once it can not burn again. It absorbs heat like a sponge and will lower the explosion temperature in a gasoline engine five hundred degrees for the last thirty six years to lower NOx coming out the tailpipe of your car and will cool off just as fast as it heated. We can store heat in pretty much anything. Some things just heat and cool faster than others. So we can add one thousand degree CO2 to engines and still lower the explosion five hundred degrees. Welders use CO2, and not to make the flame hotter. For years we packed [CO2] Dry Ice all around air fuel intake manifolds to make the air and fuel cooler going in to race car engines to produce more power. So if we could produce enough CO2 and put it in the Air maybe we could reverse Global Warming for a few seconds, But be careful, maybe if you add too much CO2 to the Air you will start an Ice Age. So who or [what] knows best? Computers ? I don't think so, And even if CO2 could cause warming there simply is not enough of it to change anything. so take a thousand gallons of water and add one third gallon of Gin for the carbon part of CO2, [one part carbon and two parts oxygen] That is a thousand to one mix , just like CO2 is part of the Air. Plants and Trees love water vapor and CO2, Guess what comes out the tail pipe of your newer car? If you were to plum the exhaust from your newer car into your green house it would have the same effect as you going to a oxygen Bar.

Beginners Guide to Polluting and Poisoning Underground Drinking Water 5-2-08

One way to poison underground drinking water is pump CO2 into the ground and maybe with the CO2 a virus or bacteria or some other toxin or foreign substance. Today we already pump CO2 into the ground into oil wells to extract more oil from older wells. But if you start randomly pumping CO2 into the ground you will only do harm. The right amount of CO2 could turn water into acid. The best way to deal with CO2 is let the plants and trees breath it and turn it back into fresh oxygen for all of us to breath. What is poisoning underground drinking water today is used anti-freeze and nuclear waste as well as other toxins from the industrial age dumped into the ground and rivers and streams or left to evaporate into the air. CO2 in its purest form is Dry Ice.

Where did all the Montana Camels go?

Long time past seen,

That's right, Camels in Montana fourteen thousand years ago. Hard for most to believe but true. We had all kinds of strange creatures running around Montana back then. Like the Lion much larger than the African Lion along with the Sloth and Mastodon wondering around, I am trying to picture a Camel much larger than the Arabian Camel in my garden eating away at my carbon intake or maybe the Bear that stood 14 to 15 feet tall. and sadly they all disappeared about fourteen thousand years ago. For years we have believed man hunted them all out of existence but after close examination we now know from the Iridium lodged in there bones that a asteroid must of wiped them all out and with no evidence of a Asteroid hitting the ground because the asteroid would of hit thick Ice or Glaciers back then and so the evidence would have all melted away.
Most of man kind back then lived close to the ocean shore which would have been many miles further away, with the ocean being hundreds of feet lower than it is today. Like Atlantis most of the evidence of mankind fourteen thousand years ago would be under hundreds of feet of water today. On the East cost the floor of the gulf stream was two hundred feet above sea level and the gulf of Mexico was all a giant land mass so going to Africa from South America would have been a very easy and short trip on the water. Which would help explain pyramids on both continents with seemlier design. CO2 in its purest form is Dry Ice.

Computers are Stupid

Artificial Intelligence Program Computers have a very limited ability to reason, through a process of elimination. They have no awareness of anything at all. Computers can not consider or ponder thought or truly think or sort through and filter the good from bad information or even know what good from bad information even means or is. Computers can not think about it off and on all day or sleep on it and wake up with a new answer to the same old problem. Computers can not invent, or think of new ideas, you know, like that light bulb turning on in or head. Computers can not see, feel or smell a problem or have any intuition. about a problem.
So here we are basing the future of man kind on computer generated studies, that's dumb.
When I and my computer do not agree in diagnostic mode that is a red flag, not a green light to go forward, but only I know that, the computer does not know that we do not agree. And in most cases I am right and the computer is wrong. A computer can be in conflict with it self and not know it. A computer can not decipher or contemplate the history of a subject or problem. Computers have no common sense or the means of knowing what means is, or what "is" is and never will. A computer only knows what you tell it, Bad or incomplete information in, and you get bad or incomplete information out. Computers are limited to what you already know. Yes they are faster but not smarter. so they make faster mistakes. They are only as smart as the persons pushing the right buttons, my dogs are smarter than my computers and sometimes smarter than me, but one thing computers will never know
CO2 in its purest form is Dry Ice. or
REALITY OF Anything .

SHADE TREE MECHANICS OF GLOBAL WARMING
JUST THE FACTS NO PARAGRAPHS

Thank goodness for clouds, as they block the energy from the Sun and super novas from millions and billions of years and miles away, just like shade trees. But oceans too are a major factor of daily Global Climate change. Every second the oceans and clouds are changing the Climate. 95 million years ago, most of Montana was under water. 135,000 years ago, many Ice Ages ago, the ocean level was 20 feet higher than today as we know from the dead coral reef twenty feet above sea level all around this planet. 24,000 years ago the ocean was 350 feet lower than today, Back then we could see what most people would call Atlantis. The ocean level goes up down between Ice Ages. But regardless of the oceans, the mountains rise and fall too. There are many reasons for Ice Ages, changing global orbits, asteroids, volcanoes, cloud cover, oceans and maybe one day nuclear winter, but the number one reason ? The SUN. In changing orbits the earth can be three million miles further or closer to the sun. The sun has a 11 year cycle and is getting brighter and warmer and some day the sun will vaporize the earth, but not for a few billion years. In about one billion years the earth should reach a very warm 160 degrees. and when the Suns energy drops only 3%, we have an Ice age. The greater number of sun spots, the warmer it is. The earth is wobbling on it's axis, so the planet's poles are ever changing , causing ever changing weather patterns. natures normal cycle, but mankind will be the gentlest cycle to hit this planet. We can't stop the cycles of the universe, or the cycles of the earth, much less the cycles of mankind. So as the moon continues to slowly move further from the earth and the earth's rotation continues to slow, the powers of the universe will continue far beyond the powers of man, and with *Global Warming*, the earth will not dry up and blow away, just the opposite will occur. Water does not expand when it warms, it is the only thing that expands when you freeze it. When water warms, it evaporates into the air, and before you know it, you have a lot of rain everywhere and the next thing you know, Montana is a jungle again. Today, 2/3 of women on this planet spend up to 5 hours a day looking for clean drinking water. Only 12% of us on the planet drive cars. I own six cars but I can only drive one at a time, about one or less hours a day. All the breathing creatures and Volcanoes produce more CO2 than cars, so let the plants and trees breathe. Now what is making a lot of us and our children sick is a ozone produced at ground level in large cites all around the world, causing severe respiratory illness. Ice Ages kill millions of all species. *Global Warming*, means you are going to get some exercise moving to a higher ground and if you get too warm, you can dig a hole or carve out a cave and enjoy the 40 degree temperature. So, do you want to live under two miles of ice, or enjoy the warmth of the sun, which can power all of our energy needs for as long as we are here. 74,000 years ago as few as 5000 people were left on our planet as we know from a D.N.A. funnel just after a supper volcano. We live with thousands of dormant Volcanoes and about three hundred very active ones. They spew water vapor and sulfur making acid rain and a bunch of CO2 which plants breath. About fifty times a year, or once a week, one of them spews many times over its daily amount of gases and ash. But for the sake of knowledge, the more efficient your gasoline engine, the more C02 greenhouse gas your vehicle produces. So, the next time you are sitting in a Honda, next to a 1978 Chevy Suburban that only gets 6 m.p.g., you can smile and wave at each other, because both produce the same volume of C02. Now I can fix the Honda, put the engine computer into limp mode and it will produce half the CO2 and half the M.P.G. The air we breath is 78% nitrogen and 21% oxygen, That's 99% of the air we breath, CO2 is 1/ 100 to 3/100 of 1 Percent of the air, The thickness of a Dime on a Football field, not much for plants to breath . Now add the 26 plus other things in the air and CO2 is just a few P.P.M. (parts per million) of the air. So buy and sell carbon credits and remove all the CO2 from the air, then watch all the plants and trees die, then all breathing creatures too. The record temperatures of today, are the temperature records set in the 1890's before cars. So the next time your in Montana and it's only -39* below zero,[71 degrees below freezing] , If not for 14,000 years of *Global Warming* it would be much colder than today. 1,000 years ago it was warmer than today as we know from ice core samples going back 8 Ice Ages. Like the rings of a tree, they tell us time and temperatures as well as Asteroid and Volcanic activity. Planet earth has healed from worse things than man. We have had five mass extinction's on this planet, none of them from *Global Warming*. But we do have 40,000 plus dying of hunger every day. This planet will be here long after we are all gone, that is, if the planet doesn't blow up, split in half, or something the size of Mars hits us again. So don't be angry! Do what I'm going to do, install Solar Panels, buy an Electric Car and save $120,000.00 over the next 20 years. But if you need something to worry about, try overpopulation and nuclear waste. We have over 6 billion people exhaling Greenhouse Gases. And after many years we still have nuclear waste leaking into the Columbia river and now in cows milk in Nevada. It's time to use the energy from the SUN. 1999 was a record cold year in Alaska, The Farmers Almanac says 2008 will be the Hottest year in a century and I will try to remember that when it's -20* this winter here in Helena Montana. Global Warming, it is no ones fault, it is a normal cycle. I am thankful we are not in a Ice Age. Otherwise we could be under two miles of ice. CO2 in its purest form is Dry Ice.

To Al Gore

Dear Al :

Now that you have Brain-Washed a lot of people into believing Cars are the cause of Global Warming , Maybe you can tell me what kind of cars we were driving Fourteen Thousand years ago, at the end of the last Ice Age, when Global Warming began, back when the ocean level was hundreds of feet lower than today.

{* I called G.M. Ford and Chrysler , they told me they did not make any cars back in Twelve Thousand B.C. I asked them if they knew who did, they told me they did not have that information, but to call Al Gore that he would know. Well, I keep calling you Al, but you don't answer the phone, *}

Maybe your outside putting Christmas lights up around the house,
breathing in 21 percent oxygen and exhaling 5 percent CO2 . Both are Green House Gases.

By the way I did the math, Lungs produce more Greenhouse Gases than Cars and Volcanoes produce far more CO2 than Lungs. Plants make oxygen from CO2 and we make CO2 from oxygen. sounds fair to me. So plants were here first, we humans are number two in the food chain . Now the air is, (hopefully I don't have to explain what" Is" is) 78 percent nitrogen and 21 percent oxygen with the last 1 percent' radiation, electricity, argon, water vapor, dirt, ash, pollen, sulfur, methane, nuclear waste, carbon monoxide, lead, carbon dioxide, neon, krypton, helium, ozone, xenon, hydrogen, hydrocarbons, nitric oxide, radon, iridium, neutrinos, mercury, arsenic, and any thing else you can think of floating in the air .
CO2 is one- one hundredth of one percent of the air over land and three-one-one hundredths of one percent over the ocean.
There is three times more CO2 over the ocean than the land .
Well Al , I have to go, it's very cold today here in Helena Montana and I need to put some more wood on the fire.

P.S.

Congratulations on your Award!
Now you have something in common with Yaser Arafat, maybe I'll write you again , you have a lot to learn.
Like, one hundred and thirty five thousand years ago the ocean level was twenty feet higher than today,
I wonder what kind of cars we were driving back then. and dont forget, CO2 in its purest form is Dry Ice.
Bruce Kershaw
{* that part I made up *} Just for the record.

Government religion to sacrifice all life in the name of political science 6-7-08

Summery

CO2 causing Global Warming is a religion, it is a bad theory with no scientific proof or evidence of any kind. I have been searching for any proof from any where for over two years , and all I can prove is CO2 is with certainty with overwhelming evidence causes extreme cooling and that Global Warming causes CO2 levels to rise from the Ocean through the evaporation process and that CO2 is one of the causes of all life on this planet. And if we get rid of all the CO2 on this planet every living thing on this planet will die. And with forty thousand people dying of hunger every day, we can go one step further and do something real stupid and start turning Food in to Fuel. And why not go all the way, and while pumping CO2 in to the ground we poison the under ground drinking water, well that should do it , we killed our selves trying to save our selves, once again.
The U.N. Panel on climate change (UN IPCC) released a report in February 2007 stating with over 90% certainty that climate change is caused by human action but with 0% proof ? So we have 90% certainty and 0% proof. Lets see what Noah Webster has to say about the word certain. CERTAIN, Sure; true; undoubted; unquestionable; that cannot be denied; existing in fact and truth; So what exactly is 90% certainty with 0% proof I guess the Political Scientists have there own dictionary. In the real world of science 0% proof means 0% certainty. In science there is no 99% or 1% certainty its all or nothing with words like certainty and you can not even say maybe 90% with 0% proof. So we have a scientific consensus of 90% certainty with 0% proof ?
Only Political Scientists could make that scientific statement, to a real scientist , it is the words of fools.
Religion is 100% certainty with 0% proof. That is very good Faith and very bad Science. CO2 in its purest form is DRY ICE

The truth shall set thee free!

But only if the government has not already Executed me.

Is putting innocent humans to death reason enough to end the death penalty? Sadly, we have lowered ourselves to the same level as the criminally insane murderer. Killing people is wrong! And we all know that and it is against the Law. Not to mention the five to seven million dollars we spend on every automatic appeals process in every death penalty conviction in the USA. Maybe, we should just put innocent people in jail for life instead of killing them, so when it comes time to let them out of jail in ten or twenty or thirty years after DNA evidence proves they are innocent, they are still alive. I wonder how many innocent people we have put to death in the U.S of A. in the last two hundred and thirty-two years.

There are Spiritual people in all religions and Fanatic people in all religions and it is easy to tell them apart. The Spiritual ones [don't] need a straight-jacket and a Prozac.
The Fanatic ones are very angry and violent and want to kill you if you dont think just like they do. I wish them no harm and at the same time they want to blow my brains out.
The number one cause of death, more than old age and disease, religious Fanatics.
I will stay at home and be Spiritual. and stay away from the Hypocrites and Fanatics.
and sadly the same can be said of the political world.

As religions build alters through the sky hungry children simply die

The Separation of church and State

The Federal Government will not be responsible for education and Welfare
that is the responsibility of Family,Community and Church.
Guess who said that ? Thomas Jefferson

Robert Kennedy said he hated our welfare system,
He said it was wrong.,
Soon after he was assassinated by a Palestinian man from Jordan
and thirty years later Yaser Arafat receives the Nobel Peace Prize.

WE are A Government of Law and Rights
But the Laws have been changed and the rights have been taken away
It is no longer We, now it is entities who own and control WE ,

George Washington was right, totally and completely, George thought political parties were a very bad Ideal and I can see where he was coming from. Do you want to be a small part of something very big or something all of your own, a little small insignificant piece of the pie or a completely independent whole self person of your own. A very small part of a large entity or be a very big person of Consonance, Mind, Heart, Sprit and Soul with a voice all of your own. Instead of being what the leader of a political party tells you, you are going to be and believe. Thomas Jefferson's biggest fear was entities controlling the government above and beyond We The People and that is why there is no mention of any entities of any kind in the Constitution or The Bill of Rights and sadly his greatest fear still came true. In 1850 a group of railroad barons bribed everyone in Washington D.C. and very soon after the U.S. supreme court granted constitutional rights to entities, now corporate entities run and control the government and all of our life in every way.

A true Patriot is one who protects his country from the government,
someone who will fight for the rights of We The People
rather than Fascist Traders who will take them away
and then grant them to corporate entities
and government corporate entities

God Bless the Universe, not just We.
Life is the smallest fraction of time

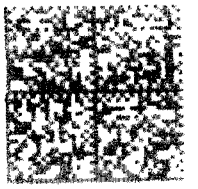
To Brian Schweitzer Govenor of Montana

Alternative Legislative Energy

Fuel for thought
for legislators and cars
all in one shot
Bathtub Gin is answer I say
we can make it in the blink of an eye
we have the finest juniper berries to be found all around
cars would burn clean
but a test must be found
Brian, call a joint session!
and we shall see
I'll bring a case of the bathtub gin
and give it to all of our Legislative Friends
we will walk across the street
and first do the listen test
with one song together they sing
they pass the first test with glee
now we do the marching test
and here they come
parading and singing in harmony
down the capital steps they go
they pass the second test
now with another shot of gin in mind
will they pass the third and final test we will find
and yes they do as we can see
as they are brawling to their knees
and pass out to our please
they will be humble about a week
and the gin we can see
should burn very clean
safe for our cars
what we can't burn
we can drink

From Bruce, Holley, Buster & Hemi

National Geographic Society
WASHINGTON, D.C. 20036



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BRUCE KERSHAW
PO BOX 4664
HELENA MT 59604

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National Geographic Society
WASHINGTON, D.C. 20036

OFFICE OF THE EDITOR

Thank you for your recent correspondence. The comments and opinions of our readers are important to us, and yours will be shared with our senior editorial staff.

We appreciate your interest in NATIONAL GEOGRAPHIC and the Society's work.

To : National Geographic Society May 29, 2008
From : Bruce Kershaw

Dear National Geographic

Thank You very much for responding to the information I sent you on Global Warming. I thought it would be best if I followed up with a little more information and some of my background which you will find with this letter.
I am currently out-lining a book on Global Warming and sharing my thoughts with all levels of government and if I can be of any service to National Geographic Society it would be a great honor for me.
Thank You again

Sincerely

Bruce A. Kershaw

References included and not included from :
The Allen Group
The Allen Institute
SPX
Alan Walter
The Encyclopedia Americana
Webster's 1828 Dictionary
Webster's New Collegiate Dictionary
National Geographic Society
National Geographic Magazine
National Geographic Channel
The Science Channel
The History Channel
CBS News 60 Minutes
NBC News
ABC News
PBS
A.P.I.
A.P.
Several other studies on Global Warming
Working with the subject matter professionally and daily for thirty two plus years with continued study in earth and life science and history, I schooled at: Fountain Valley High, Fountain Valley CA. and Helena High, Helena MT. and from 1976 through 1978 at Ford Motor Co. at the Pico Rivera Training Center in Southern California and then at the Chrysler Training Center in Fullerton California and at the General Motors Tech Training Center in Burbank California along with other continued education and training for the last thrifty-two years with over twenty certifications.
I have evaluated school training programs in my field of work and study as a volunteer.
I am the proprietor of Auto Tech for the last twenty five years here in Helena Montana.
Every day I test and diagnose and repair or modify and or improve computers and emission control systems
I have been studying constitutional History and constitutional Law since 1980 and theology since 1983

My Grandfather Leo C. Yeoman
and all the National Geographic Magazines he handed down to me.
And my father Mel
and all the family and friends and all the wisdom they have shared with my life
and my wife Holley

I live for the truth
it is all I can be and do

B.A.Kershaw POBox 4664 Helena Montana 59604 406-449-7987

NATIONAL
GEOGRAPHIC

June 13, 2008

Bruce A. Kershaw
P.O. Box 4664
Helena, MT 59604

Dear Bruce A. Kershaw:

Thank you for contacting the National Geographic Society.

We appreciate the information you sent in concerning global warming. While we wish you every success with your upcoming book, the Society is unable to express an interest in your work at this time, nor can we think of a way that you might be of service to us.

It was a pleasure to hear from you.

Sincerely,

L.T. Walker
Communications

1145 17th Street N.W. Washington, D.C. 20036-4688

OFFICE OF THE GOVERNOR
STATE OF MONTANA

BRIAN SCHWEITZER
GOVERNOR

JOHN BOHLINGER
LT. GOVERNOR

March 26, 2007

Bruce Kershaw
2097 Euclid
Helena, MT 59601

Dear Bruce,

Thank you for your letter expressing your perspective on global climate change theories. I appreciate the views you have formed during your lifetime.

I will take your comments on global warming being a natural, cyclical process in to consideration. Your description of weather fluctuations in your area provides valuable insight on decades of varying temperatures and precipitation in eastern Montana.

I am currently working with members of my cabinet, and private investors, to develop the potential wealth of energy in eastern Montana, including our oil and gas reserves. Creating cleaner, renewable forms of energy from Montana's resources will provide quality jobs for Montanans and will move us closer to the goal of energy independence.

Thank you again for taking the time to contact me with your concerns. Please do not hesitate to contact me with further input, or other issues of concern.

Sincerely,

BRIAN SCHWEITZER
Governor

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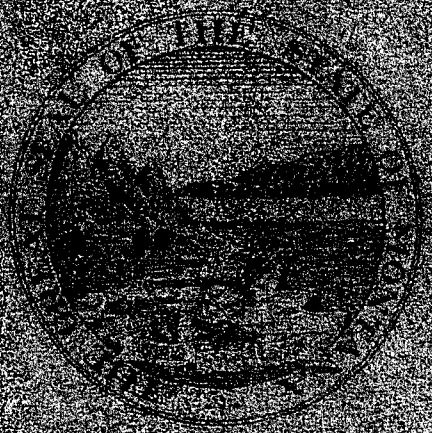
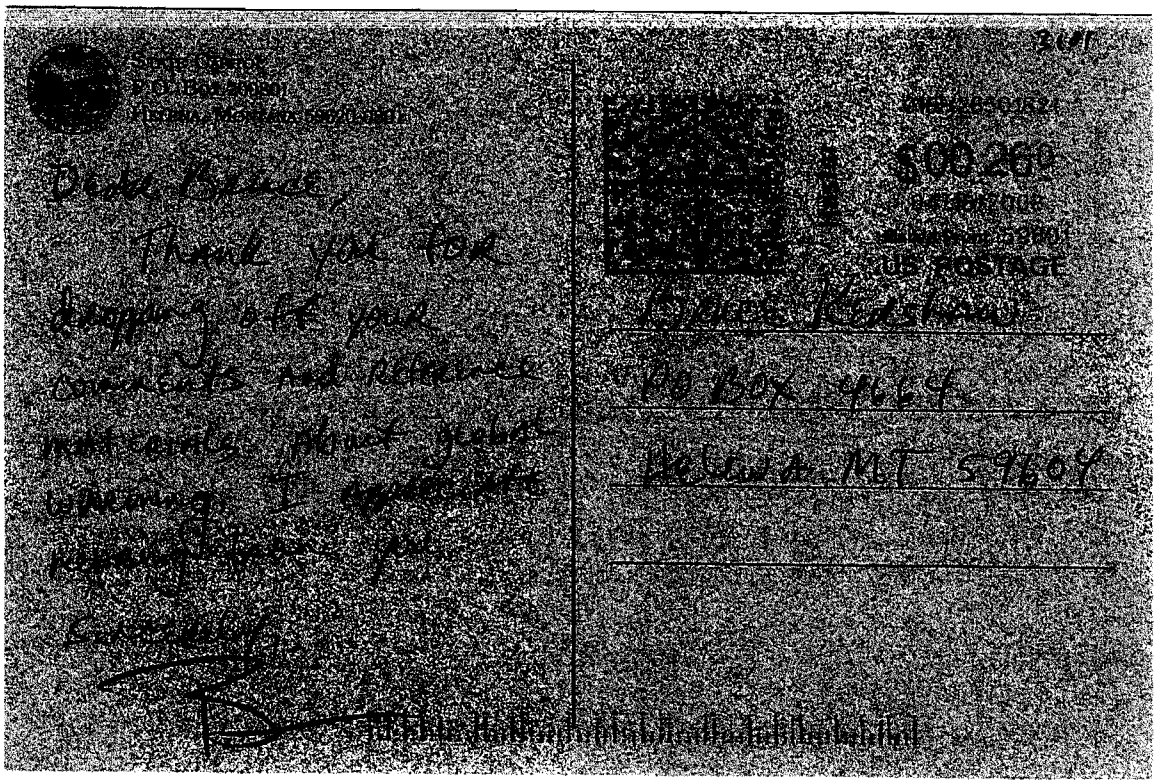
OFFICE OF THE GOVERNOR



STATE OF MONTANA



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United States Senate

WASHINGTON, DC 20510-2602

May 16, 2007

Mr. Bruce Kershaw
2097 Euclid Avenue
Helena, Montana 59601-1505

Dear Bruce:

Thank you for writing to me with your concerns regarding America's national energy policy. I appreciate hearing from you on this important issue.

We must invest in the development of clean, renewable energy sources. As Chairman of the Senate Finance Committee, I will continue to promote tax incentives for energy research and development of resources such as wind, biofuels, clean coal and energy efficient technologies. There are many promising possibilities for Montana in these sectors of the energy industry. Abundant resources will help our state play an important role in a cleaner energy future.

In 2005, as part of the energy bill, I authored language for Clean Renewable Energy Bonds (CREBS) as part of a package of energy tax incentives. That legislation secured $72 million for 34 new wind energy projects in Montana. Those projects, in every corner of the state, will help provide good paying-jobs and local power to Montana's homes, Main Streets and businesses.

On March 8, 2007, I introduced the On-Farm Energy Production Act. This proposal is the first of its kind. It would encourage installing renewable resource technology on Montana's farms and ranches by paying up to fifty percent of the overall cost, up to $50,000, of installing windmills and other renewable energy generators on their property.

This bill will help farmers and ranchers cut their energy costs and contribute to American energy independence. Wind energy in particular is a booming industry for Montana. According to the Department of Energy, Montana wind energy production has increased 73-fold since 2004. It is important that we continue to take advantage of this valuable resource.

Wind energy is only the beginning of Montana's potential for new renewable energy sources. Biofuels are another means by which Montana can contribute to the national energy portfolio. Montana has the potential to use switchgrass, camolina, agricultural byproducts and more in the production of cellulosic ethanol and biodiesel as a clean, renewable and domestic fuel product.

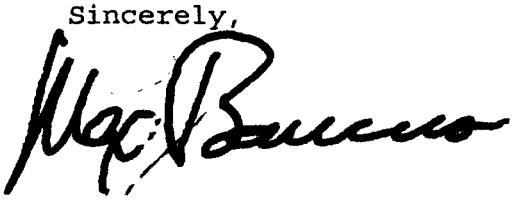
Montana should also play a role in responsibly developing fossil fuel resources. Our coal reserves are some of the largest in the world. Deploying tax incentives for clean coal technologies and carbon sequestration is important to the development of this valuable resource. The future is bright for Montana as a leader worldwide in clean coal technology.

It is important to consider every way of increasing American energy independence. Montana is the Treasure State. We are fortunate to have a wealth of energy resources we can develop to help secure our nation's energy independence.

Rest assured, I will keep your thoughts in mind as future energy legislation comes before the Senate. Thanks again for writing in with your concerns on this topic.

With best personal regards, I am

Sincerely,



MSB/ws

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United States Senate

WASHINGTON, DC 20510-2602

May 23, 2008

Mr. Bruce Kershaw
2097 Euclid Avenue
Helena, Montana 59601-1505

Dear Bruce:

Thank you for contacting me with your concerns on climate change. I appreciate hearing from you on this important issue.

As you may know, the United Nations Intergovernmental Panel on Climate Change (UN IPCC) released a report in February 2007 stating with over 90% certainty that climate change is caused by human action. This panel was composed of leading scientists from around the world. Their findings indicate serious risk for the future, but allow for the possibility that climate change can be controlled with strong actions to decrease emissions. America has a moral obligation to lead a global effort in this area working together with China, India and other rapidly developing nations.

Seven consecutive years of drought, longer and more severe wildfires, and rising water temperatures in streams have taken their toll on Montana. Under current conditions, all of the glaciers in Glacier National Park will have disappeared by 2030. Climate change is a real threat. The good news is Montana is on track to being part of the solution. In the last two years, Montana has increased its wind generating capacity over 70 fold. Montana has the opportunity to become a leader in developing and applying clean energy sources to address the challenge of global climate change.

As a supporter of America's Climate Security Act, I have worked to find a common sense solution to climate change. America's Climate Security Act would create an economy-wide cap and trade program to create an emissions ceiling while permitting trades for excess allowances. The bill would also include incentives to accelerate carbon capture and sequestration to counteract emissions and ensure that Montana can continue to use its vast coal reserves.

Climate change is an issue I take very seriously. Montana has an opportunity to be a leader in addressing climate change, and developing the clean energy sources of the future. I will keep your thoughts in mind as I consider future climate change legislation.

Thanks again for getting in touch. Feel free to contact me with any additional questions or concerns.

With best personal regards, I am

Sincerely,

MSB/jm2

JON TESTER
MONTANA

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NATURAL RESOURCES
HOMELAND SECURITY AND
GOVERNMENTAL AFFAIRS

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February 19, 2008

Bruce Kershaw
PO Box 4664
Helena, MT 59604

Dear Bruce:

Thank you for taking the time to contact me with your skepticism regarding global warming. I appreciate your perspective on this important issue facing our nation, but respectfully disagree with your conclusion.

I believe that climate change is causing devastating effects on our environment. In Montana, we are witnessing the disappearance of the glaciers in Glacier National Park, a lengthy drought, and wildly shifting weather patterns.

In north central Montana, we haven't had a "Montana" winter in nearly 30 years. Worldwide, the increased frequency and intensity of wildfires, hurricanes, tornados, and snow storms threatens our safety and burdens global economies as we witness irregular precipitation patterns.

Because of my concern for our safety, economic well-being, and environment, I am committed to reversing the effects of climate change.

Congress will consider several important pieces of legislation this year on global warming, and I intend to be a part of the solution to global climate change. Promoting conservation efforts, reducing emissions from industrial sources and developing renewable fuels are just a few of our options, and I will look closely at all of them.

Your input is an incredibly important part of the process. I hope that you will contact me again in the future if you have any further questions or concerns.

Sincerely,

Jon Tester
United States Senator

JON TESTER
MONTANA

COMMITTEES

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INTERNET
http://tester.senate.gov/contact

May 21, 2008

Bruce Kershaw
PO Box 4664
Helena, MT 59604

Dear Bruce:

Thank you for taking the time to contact me with your comments about capital punishment.

As you may know, the U.S. Supreme Court reinstated the death penalty in 1976, allowing each state to set its own laws regarding capital punishment. I believe capital punishment cases must be considered very carefully. There have been three executions in Montana since the death penalty was reinstated.

Last year, the Montana Senate passed a bill that would have abolished the state's death penalty, but it failed in the House. The American Civil Liberties Union recently brought a lawsuit against our state's lethal injection policy. As a former State Senator and President of the Montana Senate, I believe in our system of government in Montana. Since capital punishment is regulated by the state, I encourage you to contact your state legislators to assist you with this matter. If you are unsure of who your state legislators are, please refer to this website for more information:

http://nris.mt.gov/gis/legislat/2007/

You can also reach your state legislators by calling (406) 444-3064.

I appreciate the time that you have taken to be involved and informed about this matter. Please do not hesitate to contact me again if I can be of further assistance.

Sincerely,

Jon Tester
United States Senator

BOZEMAN (406) 586-4450
BUTTE (406) 723-3277
GLENDIVE (406) 365-2391
GREAT FALLS (406) 452-9585
HELENA (406) 449-5401
KALISPELL (406) 257-3360
BILLINGS (406) 252-0550
MISSOULA (406) 728-3003

The VECI label is usually located in or around the engine compartment. On some vehicles, the decal will be found directly under the hood. Others may have it on the strut tower or radiator support.

For complete information on VECI labels for your specific vehicle, consult a 'Chilton Total Car Care (TCC) Manual'.

AIR POLLUTION

The earth's atmosphere, at or near sea level, consists approximately of 78 percent nitrogen, 21 percent oxygen and 1 percent other gases. If it were possible to remain in this state, 100 percent clean air would result. However, many varied causes allow other gases and particulates to mix with the clean air, causing the air to become unclean or polluted.

Certain of these pollutants are visible while others are invisible, with each having the capability of causing distress to the eyes, ears, throat, skin and respiratory system. Should these pollutants become concentrated in a specific area and under certain conditions, death could result due to the displacement or chemical change of the oxygen content in the air. These pollutants can also cause great damage to the environment and to the many man made objects that are exposed to the elements.

To better understand the causes of air pollution, the pollutants can be categorized into 3 separate types, natural, industrial and automotive.

Natural Pollutants

Natural pollution has been present on earth since before man appeared and continues to be a factor when discussing air pollution, although it causes only a small percentage of the overall pollution problem existing in our country today. It is the direct result of decaying organic matter, wind born smoke and particulates from such natural events as plain and forest fires (ignited by heat or lightning), volcanic ash, sand and dust which can spread over a large area of the countryside.

Such a phenomenon of natural pollution has been recently seen in the form of volcanic eruptions, with the resulting plume of smoke, steam and volcanic ash blotting out the sun's rays as it spreads and rises higher into the atmosphere. As it travels into the atmosphere the upper air currents catch and carry the smoke and ash, while condensing the steam back into water vapor. As the water vapor, smoke and ash traveled on their journey, the smoke dissipates into the atmosphere while the ash and moisture settle back to earth in a trail hundreds of miles long. In some cases, lives are lost and millions of dollars of property damage result. Ironically, man can only stand by and watch it happen.

Industrial Pollution

Industrial pollution is caused primarily by industrial processes, the burning of coal, oil and natural gas, which in turn produce smoke and fumes. Because the burning fuels contain large amounts of sulfur, the principal ingredients of smoke and fumes are sulfur dioxide and particulate matter. This type of pollutant occurs most severely during still, damp and cool weather, such as at night. Even in its less severe form, this pollutant is not confined to just cities. Because of air movements, the pollutants move for miles over the surrounding countryside, leaving in its path a barren and unhealthy environment for all living things.

Working with Federal, State and Local mandated regulations and by carefully monitoring the emissions, big business has greatly reduced the amount of pollutant emitted from its industrial sources, striving to obtain an acceptable level. Because of the mandated industrial emission clean up, many land areas and streams in and around the cities that were formerly barren of vegetation and life, have now begun to move back in the direction of nature's intended balance.

Automotive Pollutants

The third major source of air pollution is automotive emissions. The emissions from the internal combustion engine were not an appreciable problem years ago because of the small number of registered vehicles and the nation's small highway system. However, during the early 1950's, the trend of the American people was to move from the cities to the surrounding suburbs. This caused an immediate problem in transportation because the majority of suburbs were not afforded mass transit conveniences. This lack of transportation created an attractive market for the automobile manufacturers, which resulted in a dramatic increase in the number of vehicles produced and sold, along with a marked increase in highway construction between cities and the suburbs. Multi-vehicle families emerged with a growing emphasis placed on an individual vehicle per family member. As the increase in vehicle ownership and usage occurred, so did pollutant levels in and around the cities, as suburbanites drove daily to their businesses and employment, returning at the end of the day to their homes in the suburbs.

It was noted that a fog and smoke type haze was being formed and at times, remained in suspension over the cities, taking time to dissipate. At first this smog, derived from the words 'smoke and fog', was thought to result from industrial pollution but it was determined that automobile emissions shared the blame. It was discovered that when normal automobile emissions were exposed to sunlight for a period of time, complex chemical reactions would take place.

It is now known that smog is a photo chemical layer which develops when certain oxides of nitrogen (NOx) and unburned hydrocarbons (HO) from automobile emissions are exposed to sunlight. Pollution was more severe when smog would become stagnant over an area in which a warm layer of air settled over the top of the cooler air mass, trapping and holding the cooler mass at ground level. The trapped cooler air would keep the emissions from being dispersed and diluted through normal air flows. This type of air stagnation was given the name 'Temperature Inversion'.

Temperature Inversion

In normal weather situations, the surface air is warmed by heat radiating from the earth's surface and the sun's rays and will rise upward, into the atmosphere. Upon rising it will cool through a convection type heat exchange with the cooler upper air. As warm air rises, the surface pollutants are carried upward and dissipated into the atmosphere.

When a temperature inversion occurs, we find the higher air is no longer cooler but warmer than the surface air, causing the cooler surface air to become trapped. This warm air blanket can extend from above ground level to a few hundred or even a few thousand feet into the air. As the surface air is trapped, so are the pollutants, causing a severe smog condition. Should this stagnant air mass extend to a few thousand feet high, enough air movement with the inversion takes place to allow the smog layer to rise above ground level but the pollutants still cannot dissipate. This inversion can remain for days over an area, with the smog level only rising or lowering from ground level to a few hundred feet high. Meanwhile, the pollutant levels increase, causing eye irritation, respiratory problems, reduced visibility, plant damage and in some cases, disease.

This inversion phenomenon was first noted in the Los Angeles, California area. The city lies in terrain resembling a basin and with certain weather conditions, a cold air mass is held in the basin while a warmer air mass covers it like a lid.

Because this type of condition was first documented as prevalent in the Los Angeles area, this type of trapped pollution was named 'Los Angeles Smog', although it occurs in other areas where a large concentration of automobiles are used and the air remains stagnant for any length of time.

Gasoline Engine Pollutants

Consider the internal combustion engine as a machine in which raw materials must be placed so a finished product comes out. As in any machine operation, a certain amount of wasted material is formed. When we relate this to the internal combustion engine, we find that through the input

of air and fuel, we obtain power during the combustion process to drive the vehicle. The by-product or waste of this power is, in part, heat and exhaust gases with which we must dispose.

Heat Transfer

The heat from the combustion process can rise to over 4,000°F (2,204°C). The dissipation of this heat is controlled by a ram air effect, the use of cooling fans to cause air flow and having a liquid coolant solution surrounding the combustion area to transfer the heat of combustion through the cylinder walls and into the coolant. The coolant is then directed to a thin-finned, multi-tubed radiator, from which the excess heat is transferred to the atmosphere by 1 of the 3 heat transfer methods, conduction, convection or radiation.

The cooling of the combustion area is an important part in the control of exhaust emissions. To understand the behavior of the combustion and transfer of its heat, consider the air/fuel charge. It is ignited and the flame front burns progressively across the combustion chamber until the burning charge reaches the cylinder walls. Some of the fuel in contact with the walls is not hot enough to burn, thereby snuffing out or quenching the combustion process. This leaves unburned fuel in the combustion chamber. This unburned fuel is then forced out of the cylinder and into the exhaust system, along with the exhaust gases.

Many attempts have been made to minimize the amount of unburned fuel in the combustion chambers due to the snuffing out or quenching, by increasing the coolant temperature and lessening the contact area of the coolant around the combustion area. Design limitations within the combustion chambers prevent the complete burning of the air/fuel charge, so a certain amount of the unburned fuel is still expelled into the exhaust system, regardless of modifications to the engine.

EXHAUST EMISSIONS

Composition Of The Exhaust Gases

The exhaust gases emitted into the atmosphere are a combination of burned and unburned fuel. To understand the exhaust emission and its composition, we must review some basic chemistry.

When the air/fuel mixture is introduced into the engine, we are mixing air, composed of nitrogen (78 percent), oxygen (21 percent) and other gases (1 percent) with the fuel, which is 100 percent hydrocarbons (HC), in a semi-controlled ratio. As the combustion process is accomplished, power is produced to move the vehicle while the heat of combustion is transferred to the cooling system. The exhaust gases are then composed of nitrogen, a diatomic gas (N_2), the same as was introduced in the engine, carbon dioxide (CO_2), the same gas that is used in beverage carbonation and water vapor (H_2O). The nitrogen (N_2), for the most part passes through the engine unchanged, while the oxygen (O_2) reacts (burns) with the hydrocarbons (HC) and produces the carbon dioxide (CO_2) and the water vapors (H_2O). If this chemical process would be the only process to take place, the exhaust emissions would be harmless. However, during the combustion process, other compounds are formed which are considered dangerous. These pollutants are carbon monoxide (CO), hydrocarbons (HC), oxides of nitrogen (NOx) oxides of sulfur (SOx) and engine particulates.

HYDROCARBONS

Hydrocarbons (HC) are essentially fuel which was not burned during the combustion process or which has escaped into the atmosphere through fuel evaporation. The main sources of incomplete combustion are rich air/fuel mixtures, low engine temperatures and improper spark timing. The main sources of hydrocarbon emission through fuel evaporation on most vehicles used to be the vehicle's fuel tank and carburetor bowl.

To reduce combustion hydrocarbon emission, engine modifications were made to minimize dead space and surface area in the combustion chamber. In addition, the air/fuel mixture was made leaner through the improved control which fuel injection offers and by the addition of external controls to aid in further combustion of the hydrocarbons outside the engine. Two such methods were the addition of an air injection system, to inject fresh air into the exhaust manifolds and the installation of a catalytic converter, a unit that is able to burn traces of hydrocarbons without affecting the internal combustion process or fuel economy. The vehicles covered in this manual may utilize either, both or none of these methods, depending on the year and model.

To control hydrocarbon emissions through fuel evaporation, modifications were made to the fuel tank to allow storage of the fuel vapors during periods of engine shut-down. Modifications were also made to the air intake system so that at specific times during engine operation, these vapors may be purged and burned by blending them with the air/fuel mixture.

CARBON MONOXIDE

Carbon monoxide is formed when not enough oxygen is present during the combustion process to convert carbon (C) to carbon dioxide (CO_2). An increase in the carbon monoxide (CO) emission is normally accompanied by an increase in the hydrocarbon (HC) emission because of the lack of oxygen to completely burn all of the fuel mixture.

Carbon monoxide (CO) also increases the rate at which the photo chemical smog is formed by speeding up the conversion of nitric oxide (NO) to nitrogen dioxide (NO_2). To accomplish this, carbon monoxide (CO) combines with oxygen (O_2) and nitric oxide (NO) to produce carbon dioxide (CO_2) and nitrogen dioxide (NO_2). ($CO + O_2 + NO = CO_2 + NO_2$).

The dangers of carbon monoxide, which is an odorless and colorless toxic gas are many. When carbon monoxide is inhaled into the lungs and passed into the blood stream, oxygen is replaced by the carbon monoxide in the red blood cells, causing a reduction in the amount of oxygen being supplied to the many parts of the body. This lack of oxygen causes headaches, lack of coordination, reduced mental alertness and should the carbon monoxide concentration be high enough, death could result.

NITROGEN

Normally, nitrogen is an inert gas. When heated to approximately 2,500°F (1,371°C) through the combustion process, this gas becomes active and causes an increase in the nitric oxide (NOx) emission.

Oxides of nitrogen (NOx) are composed of approximately 97–98 percent nitric oxide (NO). Nitric oxide is a colorless gas but when it is passed into the atmosphere, it combines with oxygen and forms nitrogen dioxide (NO_2). The nitrogen dioxide then combines with chemically active hydrocarbons (HC) and when in the presence of sunlight, causes the formation of photo chemical smog.

OZONE

To further complicate matters, some of the nitrogen dioxide (NO_2) is broken apart by the sunlight to form nitric oxide and oxygen. (NO_2 + sunlight = NO + O). This single atom of oxygen then combines with diatomic (meaning 2 atoms) oxygen (O_2) to form ozone (O_3). Ozone is one of the smells associated with smog. It has a pungent and offensive odor irritates the eyes and lung tissues, affects the growth of plant life and causes rapid deterioration of rubber products. Ozone can be formed by sunlight as well as electrical discharge into the air.

The most common discharge area on the automobile engine is the secondary ignition electrical system, especially when inferior quality spark plug cables are used. As the surge of high voltage is routed through the secondary cable, the circuit builds up an electrical field around the wire, acting upon the oxygen in the surrounding air to form the ozone. The faint glow along the cable with the engine running that may be visible on a dark

night, is called the 'corona discharge'. It is the result of the electrical field passing from a high along the cable, to a low in the surrounding air, which forms the ozone gas. The combination of corona and ozone has been a major cause of cable deterioration. Recently, different and better quality insulating materials have lengthened the life of the electrical cables.

Although ozone at ground level can be harmful, ozone is beneficial to the earth's inhabitants. By having a concentrated ozone layer called the 'ozonosphere', between 10 and 20 miles (16–32km) up in the atmosphere, much of the ultra violet radiation from the sun's rays are absorbed and screened. If this ozone layer were not present, much of the earth's surface would be burned, dried and unfit for human life.

There is much discussion concerning the ozone layer and its density. A feeling exists that this protective layer of ozone is slowly diminishing and corrective action must be directed to this problem. Much experimentation is presently being conducted to determine if a problem exists and if so, the short and long term effects of the problem and how it can be remedied.

OXIDES OF SULFUR

Oxides of sulfur (SOx) were initially ignored in the exhaust system emissions, since the sulfur content of gasoline as a fuel is less than 1/10 of 1 percent. Because of this small amount, it was felt that it contributed very little to the overall pollution problem. However, because of the difficulty in solving the sulfur emissions in industrial pollution and the introduction of catalytic converter to the automobile exhaust systems, a change was mandated. The automobile exhaust system, when equipped with a catalytic converter, changes the sulfur dioxide (SO_2) into the sulfur trioxide (SO_3).

When this combines with water vapors (H_2O), a sulfuric acid mist (H_2SO_4) is formed and is a very difficult pollutant to handle since it is extremely corrosive. This sulfuric acid mist that is formed, is the same mist that rises from the vents of an automobile battery when an active chemical reaction takes place within the battery cells.

When a large concentration of vehicles equipped with catalytic converters are operating in an area, this acid mist will rise and be distributed over a large ground area causing land, plant, crop, paints and building damage.

PARTICULATE MATTER

A certain amount of particulate matter is present in the burning of any fuel, with carbon constituting the largest percentage of the particulates. In gasoline, the remaining particulates are the burned remains of the various other compounds used in its manufacture. When a gasoline engine is in good internal condition, the particulate emissions are low but as the engine wears internally, the particulate emissions increase. By visually inspecting the tail pipe emissions, a determination can be made as to where an engine defect may exist. An engine with light gray or blue smoke emitting from the tail pipe normally indicates an increase in the oil consumption through burning due to internal engine wear. Black smoke would indicate a defective fuel delivery system, causing the engine to operate in a rich mode. Regardless of the color of the smoke, the internal part of the engine or the fuel delivery system should be repaired to prevent excess particulate emissions.

Diesel and turbine engines emit a darkened plume of smoke from the exhaust system because of the type of fuel used. Emission control regulations are mandated for this type of emission and more stringent measures are being used to prevent excess emission of the particulate matter. Electronic components are being introduced to control the injection of the fuel at precisely the proper time of piston travel, to achieve the optimum in fuel ignition and fuel usage. Other particulate after-burning components are being tested to achieve a cleaner emission.

Good grades of engine lubricating oils should be used, which meet the manufacturers specification. Cut-rate oils can contribute to the particulate emission problem because of their low flash or ignition temperature point. Such oils burn prematurely during the combustion process causing emissions of particulate matter.

The cooling system is an important factor in the reduction of particulate matter. With the cooling system operating at a temperature specified by the manufacturer, the optimum of combustion will occur. The cooling system must be maintained in the same manner as the engine oiling system, as each system is required to perform properly in order for the engine to operate efficiently for a long time.

Other Automobile Emission Sources

Before emission controls were mandated on the internal combustion engines, other sources of engine pollutants were discovered, along with the exhaust emission. It was determined the engine combustion exhaust produced 60 percent of the total emission pollutants, fuel evaporation from the fuel tank and carburetor vents produced 20 percent, with the another 20 percent being produced through the crankcase as a by-product of the combustion process.

CRANKCASE EMISSIONS

Crankcase emissions are made up of water, acids, unburned fuel, oil fumes and particulates. The emissions are classified as hydrocarbons (HC) and are formed by the small amount of unburned, compressed air/fuel mixture entering the crankcase from the combustion area during the compression and power strokes, between the cylinder walls and piston rings. The head of the compression and combustion help to form the remaining crankcase emissions.

Since the first engines, crankcase emissions were allowed to vent into the atmosphere through a road draft tube, mounted on the lower side of the engine block. Fresh air came in through an open oil filler cap or breather. The air passed through the crankcase mixing with blow-by gases. The motion of the vehicle and the air blowing past the open end of the road draft tube caused a low pressure area at the end of the tube. Crankcase emissions were simply drawn out of the road draft tube into the air.

To control the crankcase emission, the road draft tube was deleted. A hose and/or tubing was routed from the crankcase to the intake manifold so the blow-by emission could be burned with the air/fuel mixture. However, it was found that intake manifold vacuum, used to draw the crankcase emissions into the manifold, would vary in strength at the wrong time and not allow the proper emission flow. A regulating type valve was needed to control the flow of air through the crankcase.

Testing, showed the removal of the blow-by gases from the crankcase as quickly as possible, was most important to the longevity of the engine. Should large accumulations of blow-by gases remain and condense, dilution of the engine oil would occur to form water, soot, resins, acids and lead salts, resulting in the formation of sludge and varnishes. This condensation of the blow-by gases occur more frequently on vehicles used in numerous starting and stopping conditions, excessive idling and when the engine is not allowed to attain normal operating temperature through short runs.

FUEL EVAPORATIVE EMISSIONS

Gasoline fuel is a major source of pollution, before and after it is burned in the automobile engine. From the time the fuel is refined, stored, pumped and transported, again stored until it is pumped into the fuel tank of the vehicle, the gasoline gives off unburned hydrocarbons (HC) into the atmosphere. Through redesigning of the storage areas and venting systems, the pollution factor was diminished, but not eliminated, from the refinery standpoint. However, the automobile remained the primary source of vaporized, unburned hydrocarbon (HC) emissions.

Fuel pumped from an underground storage tank is cool but when exposed to a warmer ambient temperature, will expand. Before controls were mandated, an owner would fill the fuel tank with fuel from an underground storage tank and park the vehicle for some time in warm area, such as a parking lot. As the fuel would warm, it would expand and should no

provisions or area be provided for the expansion, the fuel would spill out the filler neck and onto the ground, causing hydrocarbon (HC) pollution and creating a severe fire hazard. To correct this condition, the vehicle manufacturers added overflow plumbing and/or gasoline tanks with built in expansion areas or domes.

However, this did not control the fuel vapor emission from the fuel tank. It was determined that most of the fuel evaporation occurred when the vehicle was stationary and the engine not operating. Most vehicles carry 5–25 gallons (19–95 liters) of gasoline. Should a large concentration of vehicles be parked in one area, such as a large parking lot, excessive fuel vapor emissions would take place, increasing as the temperature increases.

To prevent the vapor emission from escaping into the atmosphere, the fuel system is designed to trap the fuel vapors while the vehicle is stationary, by sealing the fuel system from the atmosphere. A storage system is used to collect and hold the fuel vapors from the fuel injection system and the fuel tank when the engine is not operating. When the engine is started, the storage system is then purged of the fuel vapors, which are drawn into the engine and burned with the air/fuel mixture.

EMISSION CONTROL SYSTEMS

When viewed as a whole, emission control systems can be extremely confusing. However, it is possible to ease some of the confusion by dividing the overall emissions system into several easily understood smaller systems.

There are five popular systems used to reduce emissions: the crankcase ventilation system, the evaporative emission control system, the Exhaust Gas Recirculation (EGR) system, the air injection system and the catalytic converter system. In addition to these emission systems, some vehicles incorporate an electronically controlled fuel system (feedback system) which further reduces emissions.

➡Not all vehicles are equipped with these emission systems.

CRANKCASE VENTILATION SYSTEMS

◗ See Figures 55 and 56

Since the early sixties, all cars have been equipped with crankcase ventilation systems.

When the engine is running, a small portion of the gases which are formed in the combustion chamber leak past the piston rings and enter the crankcase. Since these gases are under pressure, they tend to escape from the crankcase and enter the atmosphere. If these gases are allowed to remain in the crankcase for any length of time, they contaminate the engine oil and cause sludge to build up in the crankcase. If the gases are allowed to escape to the atmosphere, they pollute the air with unburned hydrocarbons. The job of the crankcase ventilation system is to recycle these gases back into the engine combustion chamber where they are re-burned.

The crankcase (blow-by) gases are recycled as the engine is running by drawing clean filtered air through the air filter and into the crankcase. As the air passes through the crankcase, it picks up the combustion gases and carries them out of the crankcase, through the oil separator, through the PCV valve or orifice, and into the induction system. As they enter the intake manifold, they are drawn into the combustion chamber where they are re-burned.

The most critical component in the system is the PCV valve that controls

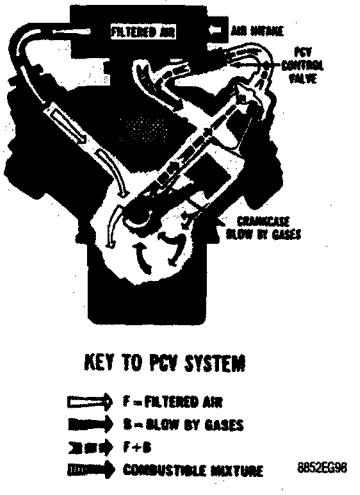


Fig. 55 The PCV system is used to capture and reburn crankcase gases

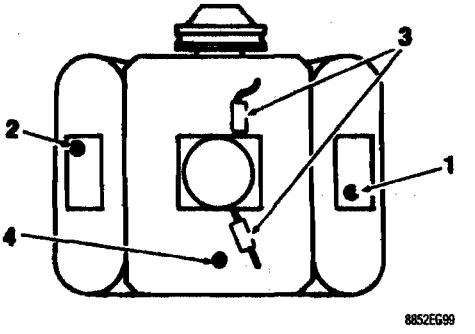


Fig. 56 Likely PCV valve locations—(1–2) in the valve cover, (3) at the carburetor/throttle body or (4) in the intake manifold.

the amount of gases that are recycled. At low engine speeds, the valve is partially closed, limiting the flow of gases. As engine speed increases, the valve opens to admit greater quantities of air to the intake manifold. Some systems do not use a PCV valve. They simply use a restrictor or orifice in the ventilation hose to meter the crankcase gases.

If the PCV valve/orifice becomes blocked or plugged, the gases cannot be vented from the crankcase. Since they are under pressure, they will find their own way out of the crankcase. This alternate route is usually a weak oil seal or gasket in the engine. As the gas escapes by the gasket, it usually creates an oil leak. Besides causing oil leaks, a clogged PCV valve also allows these gases to remain in the crankcase for an extended period, promoting the formation of sludge in the engine.

EVAPORATIVE EMISSION CONTROL SYSTEM

◗ See Figures 57 and 58

The evaporative emission control system is designed to prevent fuel tank and carburetor bowl (if equipped) vapors from being emitted into the atmosphere. Fuel vapors are absorbed and stored by a fuel vapor charcoal canister. The canister stores them until certain engine conditions are met and the vapors can be purged and burned by the engine.

The charcoal canister purge cycle is controlled different ways: either by a thermostatic vacuum switch, a solenoid or by a timed vacuum source. The thermostatic switch is installed in the coolant passage and prevents canister purge when the engine is below a certain temperature. The solenoid is usually controlled by a computer and is used on feedback controlled fuel systems. The computer determines when canister purge is appropriate. Depending on the system, this can be engine operating temperature, engine speed, evaporative system pressure or any combination of these. The timed vacuum source uses a manifold vacuum controlled diaphragm to control canister purge. When the engine is running, full manifold vacuum is applied to the top tube of the purge valve which lifts the valve diaphragm and opens the valve.

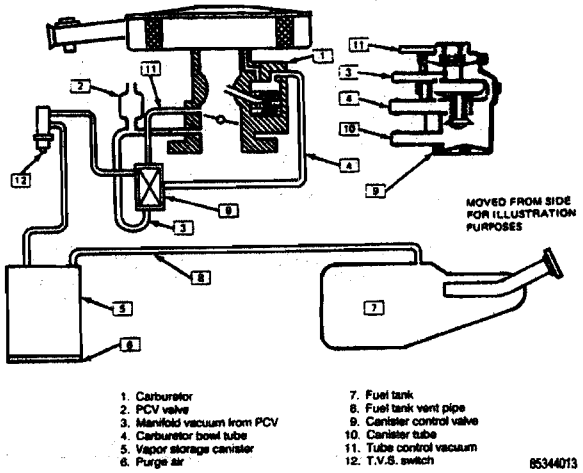


Fig. 57 Evaporative emission system utilizing a thermostatic vacuum switch

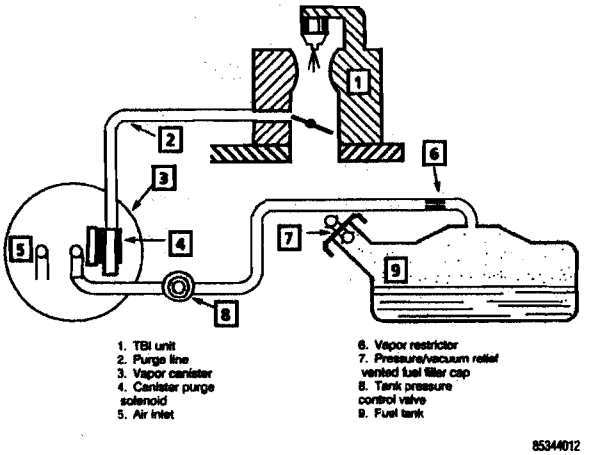


Fig. 58 Evaporative system using a purge solenoid

A vent located in the fuel tank, allows fuel vapors to flow to the charcoal canister. A tank pressure control valve, used on some high altitude applications, prevents canister purge when the engine is not running. The fuel tank cap does not normally vent to the atmosphere, but is designed to provide both vacuum and pressure relief.

AIR INJECTION SYSTEMS

See Figure 59

Introducing a controlled amount of air into the exhaust stream promotes further oxidation of the gases. This in turn reduces the amount of carbon monoxide and hydrocarbons. The carbon monoxide and hydrocarbons are converted to carbon dioxide and water, the harmless by-products of combustion. Some systems use an air pump, while other use negative exhaust pulses to draw air (pulse air).

The air pump, usually driven by a belt, simply pumps air under a pressure of only a few pounds into each exhaust port. Between the nozzles and the pump is a check valve to keep the hot exhaust gases from flowing back into the pump and hoses thereby destroying them. Most pumps also utilize a gulp valve or a diverter valve. Early systems used a gulp valve, while later systems use diverter valves. They both operate on the same principle. During deceleration, as the throttle is closed, the fuel mixture tends to get too

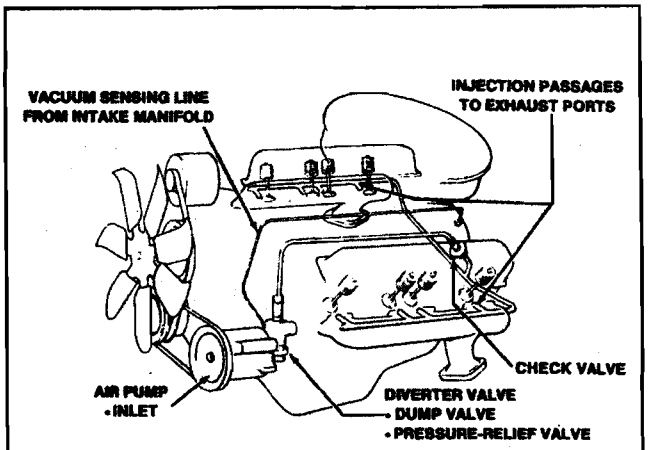


Fig. 59 Schematic of a typical pump type air injection system

rich. If the air continued to be pumped during deceleration, an explosion in the exhaust system could occur that could blow the muffler apart. During deceleration, the air is either diverted into the atmosphere or into the intake system.

On pulse air systems, clean air (from the air cleaner) is drawn through a silencer, the check valve(s) and then into the exhaust ports. The negative exhaust pulses opens the reed valve in the check valve assembly, allowing air to flow into the exhaust port.

Some feedback controlled vehicles utilize an oxidizing catalytic converter. Under certain operating conditions, the air is diverted into the catalytic converter to help oxidize the exhaust gases.

EXHAUST GAS RECIRCULATION (EGR) SYSTEMS

See Figures 60, 61 and 62

The EGR system's purpose is to control oxides of nitrogen (NOx) which are formed during the combustion process. NOx emissions at low combustion temperatures are not severe, but when the combustion temperatures go over 2500° F, the production of NOx in the combustion chambers shoots way up. The end products of combustion are relatively inert gases derived from the exhaust gases. These are redirected (under certain conditions) through the EGR valve and back into the combustion chamber. These inert

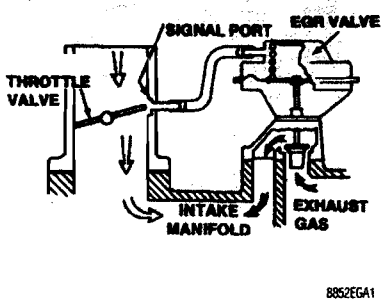


Fig. 60 The EGR system redirects exhaust gas into the combustion chamber to lower combustion temperatures—vacuum operated EGR valve

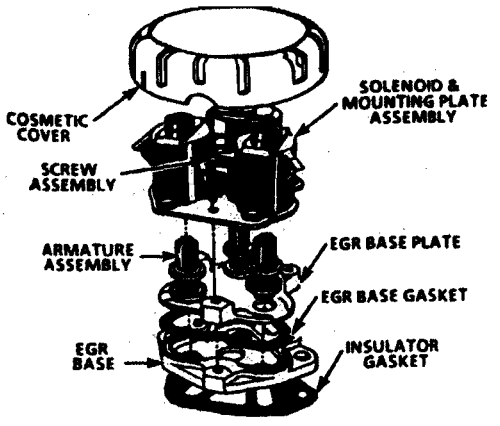


Fig. 61 Solenoid operated EGR valve

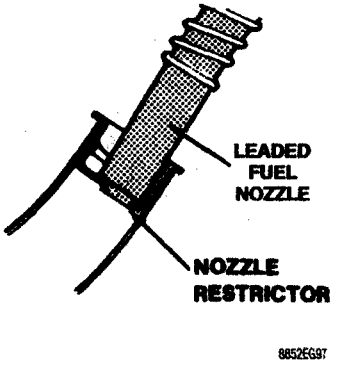


Fig. 63 Vehicles with catalytic converters have a restrictor in the filler neck to prevent filling from leaded gas pumps which have a larger pump nozzle

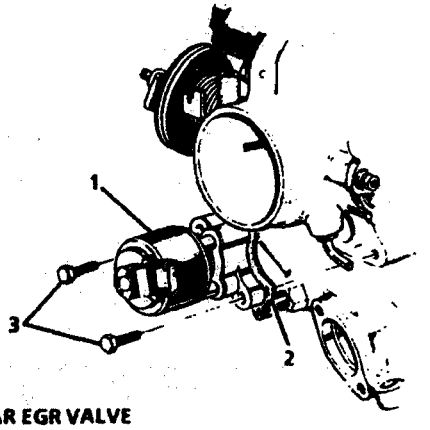


Fig. 62 Stepper motor type EGR valve

gases displace a certain amount of oxygen in the chamber. Since not as much oxygen is present, the explosion is not as hot. This helps lower peak combustion temperatures.

The EGR valve can either be actuated by a vacuum diaphragm, a solenoid or a stepper motor. On feedback controlled vehicles, the EGR system is controlled by the computer.

CATALYTIC CONVERTER

See Figure 63

The catalytic converter is a muffler-like container built into the exhaust system to aid in the reduction of exhaust emissions. The catalyst element is coated with a noble metal such as platinum, palladium, rhodium or a combination of them. When the exhaust gases come into contact with the catalyst, a chemical reaction occurs which reduces the pollutants into harmless substances such as water and carbon dioxide. Oxidizing catalysts require the addition of oxygen to spur the catalyst into reducing the engine's HC and CO emissions into H_2O and CO_2.

While catalytic converters are built in a variety of shapes and sizes, they all fall into two general types, the pellet, or bead type and the monolithic type. Construction may differ slightly, but the object is the same—to present the largest possible surface area to passing exhaust gases. Older vehicles use bead/pellet type converters. The exhaust gas must pass through a bed of these pellets. This type of converter is rather restrictive. The cross-section of a monolithic type converter resembles a honeycomb. The exhaust gases are exposed to a greater amount of surface area in these converters, as a result they are more efficient. They also tend to be less restrictive.

Catalytic Converter Precautions

1. Use only unleaded fuel.
2. Avoid prolonged idling; the engine should run no longer than 20 min. at curb idle and no longer than 10 min. at fast idle.
3. Don't disconnect any of the spark plug leads while the engine is running. If any engine testing procedure requires disconnecting or bypassing a control component, perform the procedure as quickly as possible. A misfiring engine can overheat the catalyst and damage the oxygen sensor.
4. Make engine compression checks as quickly as possible.
5. Whenever under the vehicle or around the catalytic converter, remember that it has a very high outside or skin temperature. During operation, the catalyst must reach very high temperatures to work efficiently. Be very wary of burns, even after the engine has been shut off for a while. Additionally, because of the heat, never park the vehicle on or over flammable materials, particularly dry grass or leaves. Inspect the heat shields frequently and correct any bends or damage.
6. In the unlikely event that the catalyst must be replaced, DO NOT dispose of the old one where anything containing grease, gas or oil can come in contact with it. The catalytic reaction may occur with these substances, which can start a fire.

EMISSION TESTING

In addition to mandating that vehicles must be equipped with emission controls, the law may also require that vehicles in certain areas be tested to ensure that they remain within specified limits for emissions.

This type of testing began long after emission controls were being installed, but it was discovered that some areas still had growing pollution problems. Part of the reason for this was that some vehicles had been poorly maintained, or had emission control devices altered or removed.

Early forms of testing generally involved running the vehicle at idle, or some other steady speed, and inserting the probe of the emissions analyzer into the tailpipe in order to obtain the readings. Exhaust gases such as hydrocarbons (HC) and carbon monoxide (CO) were typically measured, either as parts per million (PPM) or as a percentage of exhaust gas content. Certain information, such as the Vehicle Identification Number (VIN), vehicle type, vehicle or engine year, number of cylinders, mechanic number and inspection station number would have to be entered into the machine, in order to promote accurate and honest testing.

After the testing was completed, there was generally a printout of the results, including a Pass/Fail message. Even though this type of testing criteria goes back to the California Bureau of Automotive Repair (BAR) standard of 1979, (known as BAR 80), it is still used in some areas, with whatever variations are required by individual states or localities.

One of the newest programs is referred to as IM240. The abbreviation stands for Inspection/Maintenance 240 Seconds.

Some states require this type of emissions testing. It was mandated to begin on January 1, 1995. There have been delays and modifications to the program in some cases, and earlier program starting dates in some locations.

There are two types of IM240 tests, Basic and Enhanced. Factors such as population and pollution levels in a given area are used to determine which test will be utilized. Major metropolitan areas would be more apt to require the Enhanced test, while lightly populated rural areas may not use any type of IM240 testing at all.

The Basic test is similar to some current IM programs. The Enhanced test, which takes 240 seconds to perform, is designed to provide a more accurate picture of a vehicle's emissions during an actual operating cycle, not just at idle. This is done by testing the vehicle on a chassis dynamometer. Emissions are constantly monitored as the vehicle idles, accelerates, cruises at two different road speeds, and decelerates.

In areas using IM240, testing will be performed on 1968 and later model passenger cars and light trucks.

The following exhaust by-products are measured:

- Hydrocarbons (HC)
- Carbon Monoxide (CO)
- Carbon Dioxide (CO_2)
- Nitrogen Oxides (NOx)

The exhaust gas is more thoroughly checked for pollutants than it was with pre-IM240 testing methods. The measurements are made in grams per mile for these tests.

The following tests may be performed, depending on the model year of the vehicle:

- Evaporative Performance Test
- Evaporative System Integrity Test

The Evaporative Performance Test checks that the fuel vapors stored in the purge canister are being delivered to the engine for combustion at an acceptable rate.

The Evaporative System Integrity Test is a pressure test of all items in the fuel system, including the fuel cap, which control fuel vapors. Any loss of pressure greater than the standards permit will cause the vehicle to fail the test. Furthermore, if the pressure does not release when the fuel cap is removed, the vehicle will fail the test.

If you reside in an area where you will need to have the Enhanced Test performed on your vehicle, there are a few things you can check before you go to the test station which will expedite the testing procedure. All tires must be in good condition, with no cords or steel belts showing through the tread. The tire pressure should be at the correct level, or it will have to be adjusted before the test can be done. No space saver spare tires may be mounted on the vehicle.

Additionally, no vehicle with an exhaust leak will be permitted to test, and any vehicle which is in an overheated condition must be back at normal operating temperature before the test can be performed. Switch accessories OFF, when possible, before turning the vehicle over to the mechanic.

Should the vehicle require repair(s) to pass the test, keep in mind that basic items such as a clogged air filter or Positive Crankcase Ventilation (PCV) valve may cause an emission test failure. Therefore, it is good practice to perform preventive maintenance before taking the vehicle for the test. Preventive maintenance is discussed in Section 4 of this book. In addition to servicing items that may need attention, be sure to perform a visual inspection for anything that might cause poor running or increased emissions, such as loose connections or vacuum hoses.

MEASUREMENTS

Most of the world uses the metric system. So, if you have an imported vehicle, you can be pretty certain that it was built with metric fasteners and put together using metric measured clearances and adjustments.

In the United States, most people still use the English system, which nowadays should be called the U.S. system. However, if your U.S. made vehicle was built after 1980, most, if not all, of the fasteners and measurements are metric. So, we have included the following conversion charts for your convenience.

This ratio is referred to as "STOICHIOMETRIC" because the chemical reaction of combustion, taking place inside each cylinder, uses up virtually all the ingredients of the air/fuel mixture.

There are 3 basic types of fuel systems:
- Carburetor
- Feedback Carburetor
- Fuel Injection

Carburetor

A carburetor is a mechanical system that meters and atomizes the correct amount of fuel to the incoming air. This air/fuel charge then enters the intake manifold where vacuum further vaporizes the mixture. It is then dispersed to the cylinders. Carburetors also use a **choke** mechanism to enrich the mixture when the engine is cold, a **power** system to enrich under heavy load conditions, and an **accelerator pump** for enrichment during initial acceleration.

Feedback Carburetor

The Feedback Carburetor is similar to the conventional carburetor, but an electrical solenoid or motor regulates the AFR. The "feedback" comes from an oxygen sensor in the exhaust system. The sensor constantly measures the oxygen content of the exhaust and signals the vehicle's on-board computer to adjust the air/fuel ratio. For more information about closed loop system operation, see the introduction of the on-board diagnostic section of this manual (Section 20).

Fuel Injection

Fuel injection systems spray atomized fuel into either a throttle body on the intake manifold or just upstream of the intake valves. The vehicle's computer receives signals from a number of engine sensors that read coolant temperature, manifold pressure, intake air temperature, throttle position, etc. The computer then signals the fuel injector to spray fuel for a precisely metered time (typically 1.5 to 4 milliseconds). Fuel injectors can regulate the air/fuel ratio more precisely than conventional carburetors. Many fuel injection systems are equipped with a "feedback" system for maintaining a stoichiometric air/fuel ratio of 14.7:1.

REFERENCE 17-05
EXHAUST GAS ANALYSIS WITH THE SEA

To fully utilize the gas analysis capabilities of the **Smart Engine Analyzer** it is important to understand the nature of each gas and what the varying concentrations indicate.

The **SEA** alone is capable of measuring the concentration of Carbon Monoxide (CO) in the exhaust gas at the tailpipe. When networked with an optional 4-gas analyzer, the **SEA** can also measure Hydrocarbons (HC), Carbon Dioxide (CO2) and Oxygen (O2).

Note: All gas analysis readings in this manual are based on **steady** values. Readings that "drift" or are erratic during testing can indicate internal carburetor or fuel injector problems.

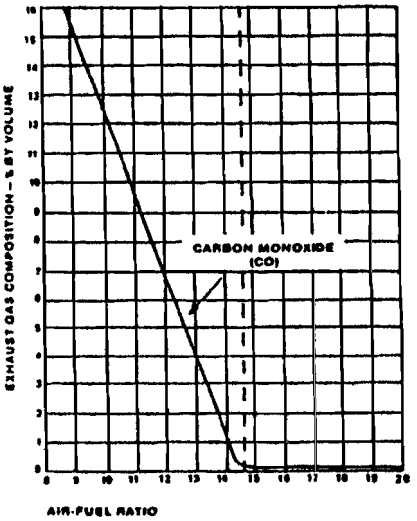
What Is CO?

Carbon Monoxide (CO), measured in percent by volume of the exhaust, is a byproduct of incomplete combustion of the fuel mixture. A rich AFR, lacking oxygen, generally causes high CO content.

CO is at its lowest when the AFR is 14.7:1 or leaner.

CO is probably the best indicator of AFR (air fuel ratio) due to its sensitivity to mixture changes.

Exhaust Gas Analysis

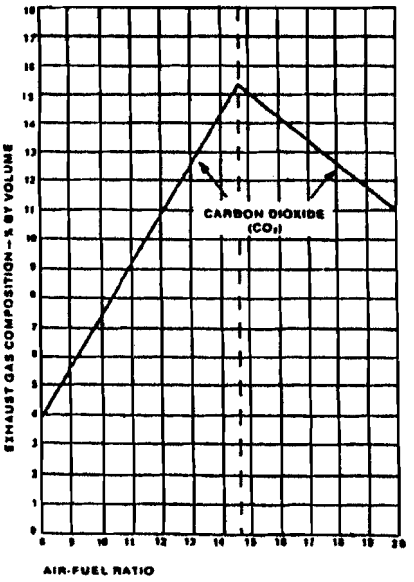


What is CO2?

Carbon Dioxide, measured in percent by volume of the exhaust, is most abundant when the engine operates at maximum efficiency.

Low CO2 readings are caused by mixtures richer or leaner than the optimum 14.7:1 ratio.

CO2 is an excellent indicator of the operating efficiency of the engine.



What is O2?

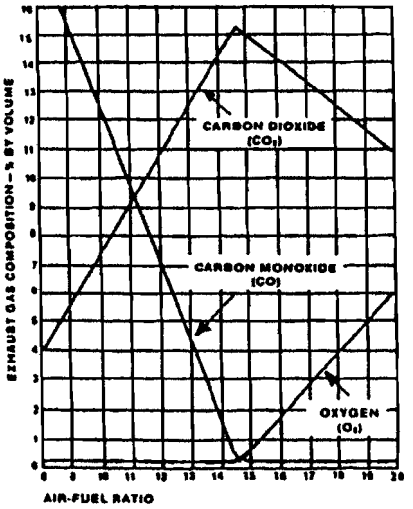
Oxygen, also measured in percent by volume of the exhaust, is a necessary ingredient for all combustion. The oxygen content of the exhaust gas indicates whether the fuel in the combustion chamber is using all the available oxygen for igniting the mixture. The O2 reading also indicates whether the exhaust gas sample is being diluted by an air injection system or a leak in the exhaust system. Diluted exhaust samples can cause incorrect CO and HC readings.

A lean AFR means the O2 reading will be high. A rich mixture causes a low O2 reading.

High O2 readings may indicate a leak somewhere in the vehicle exhaust system, the gas analysis system or the **SEA's** exhaust sample hose. Check all the equipment before continuing with gas analysis testing.

Catalytic converters can mask HC and CO readings but do not affect oxygen; therefore, O2 is valuable in diagnosing mixture problems as well as electrical or mechanical malfunctions.

The oxygen content of the atmosphere is about 21%. Exposing the **SEA**'s exhaust probe to the fresh air should give this reading. If a single cylinder misfires on an 8 cylinder engine, 1/8th of the oxygen (about 2.5%) goes directly into the exhaust system because no combustion takes place. In a 6 cylinder engine, a single misfire produces about 3.3% O2. In a 4 cylinder engine, a misfire in a single cylinder would increase the oxygen reading by about 5% (1/4th of 20%).



What Is HC?

Hydrocarbon, measured in parts per million (PPM), is unburned fuel leaving the combustion chamber. HC results when some factor does not allow the air/fuel mixture to burn completely in the combustion chamber (spark plug misfire, over-advanced spark timing, insufficient spark duration, low compression, extremely lean mixture, etc.). The maximum HC reading on the **Smart Engine Analyzer** is 2000 ppm.

HC is an excellent indicator of problems in the ignition system.

About Lean Mixtures

Excessively lean mixtures can overheat the combustion chamber and increase the potential for detonation. The CO (along with HC and O2) readings combined with the plug voltage demand and firing time (Reference 15-10, 15-70) can provide clues to lean air/fuel ratios.

CO is fuel that is only *partially* burned due to a lack of sufficient oxygen in the combustion process. With lean mixtures there is usually sufficient oxygen and the result is low CO readings; however, when too much oxygen (and, therefore, too little fuel) is present, proper combustion cannot occur. As a result, *unburned* fuel is exhausted in the form of hydrocarbons (HC). The O2 reading will be high because of the excessive amount of air in the cylinder.

Lean mixtures appear as very low CO readings, high HC, low CO2 and high O2 readings.

About Rich Mixtures

Excessively rich mixtures can cause poor mileage, fouled plugs, and may increase engine wear.

A rich fuel mixture is usually indicated by a higher CO reading since a rich mixture is starving for oxygen. HC, CO2 and O2 will all be low.

Infrared Exhaust Gas Analysis Parameters, Test Hookups, Testing Catalytic Converters

INFRARED EXHAUST GAS ANALYSIS PARAMETERS FOR HC, CO, CO2 & O2

Establishing normal readings to cover every vehicle on the road is difficult because engine systems and design characteristics can vary greatly from model to model. The values in this chart are only general indicators of normal engine performance. For the most accurate diagnosis, we recommend you keep a gas readings log for all the vehicles you test.

Gas	Idle Speed		1500 RPM		2500 RPM		Condition Indicated
	Converter	No Converter	Converter	No Converter	Converter	No Converter	
HC CO CO2 O2	0-150ppm .1-1.0% 12.0-15.0% .1-2.0%	50-250ppm .5-3.0% 10.0-15.0% .1-2.0%	0-135ppm 0-1.0% 12.0-15.0% .1-2.0%	50-200ppm .5-2.0% 10.0-15.0% .1-2.0%	0-100ppm 0-.8% 12.0-15.0% .1-1.25%	25-150ppm .1-1.5% (3% 4-cyl) 12.0-15.0% .1-2.0%	NORMAL READINGS: Stable values
HC CO CO2 O2	0-150ppm Above 2.0% 8.0-10.0% 0-.5%	100-500ppm Above 3.0% 8.0-10.0% 0-.5%	0-500ppm Above 2.0% 9.0-12.0% 0-.5	200-1000ppm Above 3.5% 9.0-12.0% 0-.5%	0-500ppm Above 1.5% 9.0-12.0% 0-.5%	200-1000ppm Above 3.0% 9.0-12.0% 0-.5%	RICH MIXTURE: • Leaking fuel injector(s) • Problem in computer-control system • Idle mixture too rich • Choke set too rich or not opening fully • Power valve leaking • Float level too high • Restricted air cleaner Restricted PCV • Fuel-contaminated crankcase
HC CO CO2 O2	0-150ppm 0-1.0% 8-10% 1.5-4.0%	75-250ppm 0-1.0% 8-11% 1.5-4.0%	0-135ppm 0-.8% 9.0-12.0% 1.0-2.5%	50-200ppm 0-.9% 8.0-11.0% 1.0-2.5%	0-75ppm 0-.25% 9.0-12.0% 1.0-2.0%	0-100ppm 0-.75% 8.0-11.0% 1.0-2.0%	LEAN MIXTURE: • Restricted or defective fuel injector(s) • Problem in computer-control system • Low float level • Idle mixture lean • Cruise mixture lean • Small air leaks • Cracked/disconnected vacuum lines • Exhaust system leak
HC CO CO2 O2	0-850ppm 0-.3% 5.0-9.0% 4.0-9.0%	400-1200ppm 0-.75% 5.0-9.0% 4.0-9.0%	0-850ppm 0-.3% 4.0-9.0%	400-1200ppm 0-.75% 2.0-7.0%	0-750ppm 0-.3% 6.0-10.0% 2.0-7.0%	400-1200ppm 0-.75% 6.0-10.0% 2.0-7.0%	LEAN MISFIRE: • Severe air leak • Defective fuel injector(s) • Problem in computer-control system • PCV stuck open • Misadjusted/defective carb
HC CO CO2 O2	0-850ppm .1-1.5% 6.0-8.0% 4.0-12.0%	Over 1000ppm .5-3.0% 6.0-8.0% 5.0-12.0%	0-850ppm 0-1.1% 4.0-12.0%	Over 1000ppm .5-2.0% 5.0-12.0%	0-750ppm 0-.8% 8.0-10.0% 4.0-12.0%	Over 1000ppm .1-1.5% 8.0-10.0% 5.0-12.0%	MISFIRE: • Overadvanced ignition timing • Fouled plug • Open spark plug wire • EGR stuck open

* Converter readings taken with air injection system disabled.

NATEF

NATIONAL AUTOMOTIVE TECHNICIANS EDUCATION FOUNDATION, INC.

presents this

certificate of appreciation

to

Bruce Kershaw

For your time and service on a NATEF evaluation team benefiting the certification of automobile training programs.

National Institute for AUTOMOTIVE SERVICE

Ronald H Weiner

ADMINISTRATOR

Consumer Affairs

BUREAU OF AUTOMOTIVE REPAIR
INSTALLER / ADJUSTER LICENSE

TYPE:	CLASS:
MVPC	A
EXPIRES: 3-31-80	RECEIPT No.: 58538

The person named below is licensed pursuant to Chapter 20.3, Business and Professions Code, and Chapter 33, Title 16, California Administrative Code.

NAME AND ADDRESS:

Bruce A. Kershaw
3510 East 2nd
Long Beach, CA

LICENSE NUMBER:

№ A50881

Signature: Bruce A. Kershaw

THIS LICENSE MAY BE USED ONLY BY THE PERSO INDICATED IN THE ABOVE SIGNATURE.

77L-5 (REV. 12-73) 20265-103 10-74 25M © DBP

DEPARTMENT OF Consumer Affairs

State of California
VEHICLE INSPECTION PROGRAM
confers this

Qualification No. QE 101707

Certificate Of Qualification

an BRUCE A. KERSHAW

this 1st day of April 19 79

For successfully participating in the orientation seminar required under Section 9889.52 (b) of the Business and Professions Code. The recipient is considered qualified under Section 9889.52 (d) of the Code to perform motor vehicle repairs and maintenance recommended as a result of motor vehicle inspections conducted under Chapter 20.4, Division 3, of the Code. This certificate expires three years after date of issue.

John H. Dolan
Program Manager

Joseph W. Todd
Training Coordinator

77M-23 (8-75)

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LITHO IN U.S.A.

CERTIFICATE

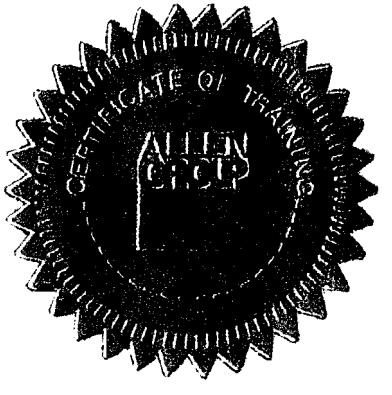
This is to certify that

BRUCE KERSHAW

has satisfactorily completed the program on

COMPUTER ANALYZER

as part of the Allen Institute Training Program



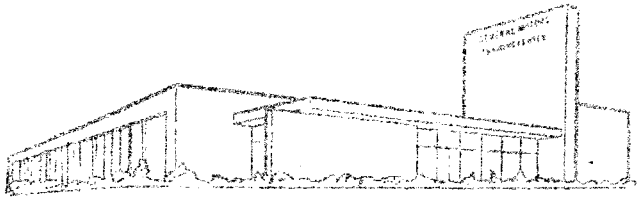
In testimony whereof I have affixed my signature

this 20 day of December 19 86.

INSTRUCTOR

NATIONAL TRAINING DIRECTOR

General Motors School Of Product Service



This Certifies That The
Undersigned Has Attended A Course On

ELECTRONIC FUEL INJECTION

At The
General Motors Training Center

MARCH 11, 1977
Dates Attended

Brian R. Wilson
Instructor

Dawn A. Teschner
Attendee

BURBANK
Location

GM School Of Product Service

atmosphere

atmosphere

mixture of gases that surrounds the Earth, prevented from escaping by the pull of the Earth's gravity. Atmospheric pressure decreases with height in the atmosphere. In its lowest layer, the atmosphere consists of nitrogen (78%) and oxygen (21%), both in molecular form (two atoms bounded together). The other 1% is largely argon, with very small quantities of other gases, including water vapor and carbon dioxide. The atmosphere plays a major part in the various cycles of nature (the water cycle, carbon cycle, and nitrogen cycle). It is the principal industrial source of nitrogen, oxygen, and argon, which are obtained by fractional distillation of liquid air.

The lowest level of the atmosphere, the troposphere, is heated by the Earth, which is warmed by infrared and visible radiation from the Sun. Warm air cools as it rises in the troposphere, causing rain and most other weather phenomena. However, infrared and visible radiations form only a part of the Sun's output of electromagnetic radiation. Almost all the shorter-wavelength ultraviolet radiation is filtered out by the upper layers of the atmosphere. The filtering process is an active one: at heights above about 50 km/31 mi ultraviolet photons collide with atoms, knocking out electrons to create a plasma of electrons and positively charged ions. The resulting ionosphere acts as a reflector of radio waves, enabling radio transmissions to "hop" between widely separated points on the Earth's surface.

Waves of different wavelengths are reflected best at different heights. The collisions between ultraviolet photons and atoms lead to a heating of the upper atmosphere, although the temperature drops from top to bottom within the zone called the thermosphere as high-energy photons are progressively absorbed in collisions. Between the thermosphere and the tropopause (at which the warming effect of the Earth starts to be felt) there is a "warm bulge" in the graph of temperature against height, at a level called the stratopause. This is due to longer-wavelength ultraviolet photons that have survived their journey through the upper layers; now they encounter molecules and split them apart into atoms. These atoms eventually bond together again, but often in different combinations. In particular, many ozone molecules (oxygen atom triplets) are formed. Ozone is a better absorber of ultraviolet than ordinary (two-atom) oxygen, and it is the ozone layer that prevents lethal amounts of ultraviolet from reaching the Earth's surface.

Far above the atmosphere, as so far described, lie the Van Allen radiation belts. These are regions in which high-energy charged particles traveling outward from the Sun (as the so-called solar wind) have been captured by the Earth's magnetic field. The outer belt (at about 1,600 km/1,000 mi) contains mainly protons, the inner belt (at about 2,000 km/1,250 mi) contains mainly electrons. Sometimes electrons spiral down toward the Earth, noticeably at polar latitudes, where the magnetic field is strongest. When such particles collide with atoms and ions in the thermosphere, light is emitted. This is the origin of the glows visible in the sky as the aurora borealis (northern lights) and the aurora australis (southern lights).

A fainter, more widespread, airglow is caused by a similar mechanism.

During periods of intense solar activity, the atmosphere swells outward; there is a 10-20% variation in atmosphere density. One result is to increase drag on satellites. This effect makes it impossible to predict exactly the time of reentry of satellites.

From: Nowakowski, Sonja
Sent: Friday, September 05, 2008 10:10 AM
Subject: FW: LC6008

Sonja Nowakowski
Research Analyst
Montana Legislative Services Division
Room 171E, State Capitol
PO Box 201704
Helena, MT 59620-1704

Phone: (406) 444-3078
Fax: (406) 444-3971
Email: snowakowski@mt.gov

From: Olsen, Brian
Sent: Thursday, September 04, 2008 1:22 PM
To: Nowakowski, Sonja
Subject: LC6008

I thought I'd pass along my unofficial comments on the proposed amendments to the energy conservation credits. They're mostly technical based on what I know from working with the current credit as well as other credits.

- Allowing the credit to be refundable if certain income levels are met is feasible but does add a degree of complexity. Additionally, the added provision that entitles a person to the credit even if they don't have to file a regular return means creating a new form that they would submit. Depending on what our tax policy folks would say in terms of how many more filings we'd see, it could require additional resources.
- The income threshold is indexed based on the "inflation factor" but that term isn't defined in chapter 32. There should probably be something either tying that term to 15-30-101(11) or defining the term in chapter 32.
- The current language expanding the credit to include amounts spent by S-corps, partnerships and other pass-through entities could use some revision to be consistent with the language in credits with similar provisions.

I don't think our leadership has had an opportunity to look at this draft so I don't know if they would have any comments pro, con, or neutral of a policy nature.

Since this appears to be modeled, at least in part, on SB 210 from last session, some of the comments from the committee hearings could be useful.

Brian Olsen
Income Tax Specialist
(406) 444-2994, fax 444-0750

Montana Tow Truck Association

PO Box 4882

Helena, Montana 59602

August 25, 2008

Environmental Quality Council

LC 6001 “Climate Change”

EQC Committee Members:

Please consider the amended section 75-10-532 which provides for the paid removal of abandoned vehicle on Montana’s highway. The Legislature provided .50 from each title and .15 from the $1.00 special junk vehicle disposal fee to go specifically to the paid removal of abandoned vehicles. If the fund runs out of money in any one fiscal year; the tower then does the tow for nothing. It seems that if this fund is put into a new revolving loan account there will be no money for the removal of abandons vehicles. The tower is not getting paid properly for the tows now; and if the fund is swept away in to the general fund it will lose its identity and the towers will be back where we were 6 years ago. The towers of Montana respond to abandon vehicles daily, with no limits on mileage or time of day for one fixed rate of $85. With this in mind I don’t see the need for a government unit to go into completion with the taxpaying private sector which seems to be doing a good job of removing and disposing of vehicles. The funding mechanism is in place and it is ear marked for the junk and abandoned vehicle programs and does not need to be put in the general fund. If there is a surplus of monies available; let’s raise the fee paid to the tower for hauling the vehicles to the recycler and try to encourage the program rather than cripple it. Please consider these thoughts, if a business is employing people and paying taxes and getting the job done, why would want to put government in competition with them and put them out of business.

Thank you for your time

Jim Dusenberry

President

Montana Tow Truck Association