

ES-3 Comments
Recommendation 16
Research and Development (R&D), including R&D for energy storage and advanced fossil fuel technologies

low priority

Technology should be able to stand on its own merits without government incentives.

Who is going to pay for this?

Don't have the target areas specified up-front - you might miss out on what is really going to provide the biggest impact. Compressed air may not work well in Montana (no salt domes!), but other technologies could show good promise. But, environmental issues will still be troubling as will heavy tax burden that exists in Montana. Make things easier and put some research on what the barriers to development truly are with regard to some of these technologies so the state will understand how to modify legislation to achieve desired goals!

This would raise our taxes.

Obviously if we don't do this, several of the other items are pointless.

This funding should come through the private sector and the federal government, not state government. I question the state's ability to decide which research to fund and also to pay for it. Also, activities funded by state government are not likely to make a significant difference. State funding should be focussed on more basic services, education, health and human services, corrections, etc.

We should not waste another dime on fossil fuel extraction, use or technology. They should be phased out, as soon as possible. We cannot afford the costs that accompany coal, oil or natural gas.

We must learn how to sequester carbon.

Don't forget the other renewables.

Research and Development Dollars should be spent in non-polluting energy not fossil fuels. Forget Fossil Fuels! Wind and Solar and GeoThermal should receive the R&D dollars.

Providing that coal does not receive a disproportionate amount of funding, and that clean coal technology R&D funding is contingent upon demonstrated cost-effectiveness, safety and long-term success, as well as real reductions in g.h. gases

Start planning on replacing fossil fuel technologies with renewable energy, efficiency and conservation. Not enough research in those areas. Tons of money spent on fossil fuels, no more!

Okay, this is necessary as we must move in a transition away from carbon fuels. If there are too few dollars, I would vote for ES2 over ES3, and require the carbon burners to fund their research and upgrades. They have the infrastructure and income, whereas the new resources are in the development stage without a steady income.

Technology to meet peak load and provide ancillary service is most in demand in MT Let's build some generators with taxpayer dollars, not talk about it or run a pilot. All the research is done - time to develop a new world of energy.

This is larger than a state issue.
Let the market decide.

Where do these monies come from?

Private enterprise has been working on this for at least a century. Let the market drive it.

This area needs a lot of research

Very expensive. and will not address the need to move away from coal.

I have a hard time supporting R&D for advanced fossil fuel technologies when fossil fuels has created so much pollution.

I definitely support government funded research in these areas (esp. given how much wind Montana receives, there is a real potential to be a leader in this technology).

Great idea!

individuals can only do so much with this issue, we need strong and numerous government action of many forms and formats...

Provide research and development funds? We don't have an unlimited funding source>

These funds could be better spent to help expand renewable energy.

I'm skeptical of a plan that relies on carbon sequestration - I think it is an important component in the long run, but in the short run, efficiency is a better focus (in my humble opinion). But I STRONGLY support R&D for new efficiency technologies.

This should be left up to industry by negative incentive legislation.

I think carbon capture and storage will be vital. I don't see how our energy needs can be met along with the needed CO2 reduction any other way. There is a lot of flat out opposition to coal, but if we are to keep the lights on, we may need to use it for the coming decades.

I would prefer these \$\$ to come from the federal gov't.

Money spent on sequestration technology is better spent on true renewable energy alternatives.

Plant trees to sequester carbon.

Clean Coal is an oxymoron!

Don't spend too much time or money on "clean coal" technologies. I believe funding for R&D toward other technologies will be a better bang for the buck.

I am specifically opposed to "Targeting R&D funding to a specific technology." This sound way to much like "Put all our eggs in that pretty basket over there, ignoring all the rest of these fine baskets." Over dependence on one technology (oil) is a big part of our current problems. We should diversify our R&D funding to multiple promising technologies.

Nothing wrong with Technology R&D. We want our state and our nation to grow and advance technology. However, technology R&D to combat "global warming" is just not needed.

And a CO2 tax with NO transferable pollution credits from other plants:

It is important to include a job creation component with all of this legislation, particularly jobs that have training available within the state.

MT too small (maybe through universities) to make major inroads in R&D -- maybe create a commission through universities to track emerging technology and report to legislature. Do not ever see MT as major R&D contributor. Seems waste of money trying.

without legislation, the government should fund RESEARCH into alternative energy. use defense budget money for this.

We need to rid ourselves of reliance on fossil fuels. Period.

As many technologies exist, there should be an emphasis on finding information and disseminating it locally.

Adds tax payer cost to the comments above.

I feel we should first focus on making the most of the renewable resources we have and know how to use (such as wind), before spending a bunch of money on new technologies that may or may not pan out. But maybe I misunderstand? I do support this as a long-term goal.

Maybe incorporate with a national plan instead of create our own?

Even disturbing the ground releases trapped carbon. As an interim--while renewables are being developed--maximizing efficiency of non-renewables may help, but such development could easily (I feel) become a crutch and hard to toss aside.

research is important, but storage technology? would it not be better to develop ways of correcting the problem and not just burying it?

Advanced fossil fuel technology is still fossil fuel technology that mines CO2.

get cracking on specific and general goals identification!!!

And research to show how damaging chemicals are to the phytoplankton that used to take up to 80% of the CO2 out of the air. Stop saying that pesticides are not harmful to all life - they are. Phytoplankton and micro-organism are the best at carbon sequestration when they are not poisoned by pesticides, stopping their ability to photosynthesize and thus sequester CO2. They also work for free if we would stop killing them. IN favor of carbon sequestration, but NOT in favor of using more coal. This should be left in the ground as carbon sequestered already.

Depends on the technology supported - clean coal does not merit support.

Does anyone understand what will happen if we inject all that CO2 into the ground?

why should the public pay for R&D then pay again from the companies that use it

What ever happened to Mike Mansfields commitment to MHD as a way to let China buy something from the US and solve a looming environmental crisis. Were is initials Governor M.R. and Senator C.B.? A history of the failure of the Republican Party to even recognize the role of energy policy in the nurturing of economic well being is a consumer education project I would support.

I support developing new technologies but technology is not the entire solution. I do not fully support this because historically we have relied too much on technology to fix inconvenient problems. We must do more in energy conservation and clean technologies.

the state should not be involved in private industry let alone R&D

Great Idea!

Lets foster business development - great idea. The incentives apply only to for-profit business

Hope this isn't just an excuse to burn more dirty coal.

Pie in the sky funding?

Funding for R&D should come from federal and private sources, not state income taxes or a state tax on energy.

Where do the R & D funds come from? I am opposed to taxpayer dollars being spent for this.

Should partner with federal government. Should be part of larger energy Marshall plan.

Strongly support geologic carbon sequestration because it is the only means known to reduce the amount of carbon in the atmosphere; all other options on the table can only reduce the rate at which atmospheric carbon volume increases.

Develop a goal.

Compressed air storage has the potential to significantly improve the capacity of wind turbines...let's figure out how to make it work in Montana.

Let the market and capitalism work. They can do it much more effectively. Maybe some tax incentives for the industry once a technology is developed.

The private sector can do this without your help

We need to get away from using fossil fuels as fast as we can.

Coal will still play an important role in the near future, so cleaning up coal is a good idea- however, it is the #1 emitter of GHG and if we are addressing global climate change from a serious stand point- coal needs to be phased out. I think R&D \$ from the state should go to efficiency, conservation, and renewables.

Geologic carbon sequestration is the only means known to reduce the amount of carbon in the atmosphere. I strongly support this proposal

There is no need for this

The Compressed air storage idea...is a fairy tale but this idea is fine.

Where will these funds come from? Increased taxes?

who pays for the research?

We need to leave fossil fuels behind. I DO NOT support my tax dollars going into research (R&D) for fossil fuels even if it is advanced technologies. Let the big oil companies pay for that.

Research and Development is a proper function of free competitive markets; NOT the government!

Not until I know more specifics. Too many pie in the sky proposals that take attention away from conserving energy and using renewable sources. (Coal and wood are NOT renewable.)

we need more information in this area, before heading down this path.

If the money for these funds came from the reduction/elimination of existing programs (what-ever they may be), I would support R&D funds.

Again, taking hard-earned money from taxpayers to give to corporations. It's uncharitable to be charitable with other people's money!

Wind is good. Liquid coal is modern-day snake oil.

Pursue grants for this research; do not pay for it with taxation.

Great but why are we still putting energy into research of fossil fuels when we know of better, cleaner and more sustainable energy sources??

Carbon sequestration is a cruel hoax.

This Action Plan was not a Montana grassroots Plan. It was the same plan written for California and other states. Montana's poor and middle class cannot pay any more for energy.

<http://www.righttalk.com/asx/ggws.aspx>

Let Free Markets do it.
They can do it better.
We are NOT NANNY STATE!

Not economically feasible at this time!

Let others spend the money on R&D if they must. We can benefit from what they learn without spending millions of our own dollars which we cannot afford.

Carbon sequestration must be brought back into context with reality here in the United States. Healthy Forests require industry and technology to insure that we maintain our ability to naturally store carbon.

Government is into in the business of building industries, that is the operation of business. Where do we think that we can do with taxpayers money what business cannot do for bigger profits. Do you not think that if business could produce a storage system that would make energy production more profit ie more efficient that it would have done so. This is arrogance on the part of government to think that it can solve all problems.

Nothing to support! No mention of advanced fossil fuel technology, no goal. why is this in here?

Carbon sequestration for what? Carbon emissions do not cause global warming.

More state dollars...

More research needed

I feel that our tax dollars are spent well with research and development.

These funds should come at the Federal level we can't fund education and now we are spending money on a dream

This could be done by removing the sunset on the Research and Development funding!!!

NO! we need to emit less carbon...not sequester it. End any new construction of fossil fuel based electric generation.

These funds should come at the Federal level we can't fund education and now we are spending money on a dream

more taxpayer support is not needed, as soon as the technology is developed the profits go to the companies and the taxpayers loose again

I like incentives to encourage new technologies, but we need to be careful not to pick specific solutions at this time. For example, I do not believe geologic sequestration is the best approach to CO2. I would rather see research on removing the CO2 as a beneficial product that can be used.

Montana does not have the funds to do this...but someone should be.

I agree with new research but some options may be not worth the pursuit.

This is a federal sized issue

"No specific Goal Identified" - meaning BS. Who picks the "specific technology"? Carbon Sequestration will not work on a large scale. Way too many obstacles. Do some homework, does anyone really comprehend the magnitude of the Carbon that will be Sequestered??

I don't know where you get the money but this is a critical area. If we are not willing to spend the money on R&D we will never make any progress.

I have extensive experience in the R&D World, Department of Energy. Government sponsored R&D is a waste of money. Government programs are far behind private research. MAYBE lower taxes for private R&D is better.

Compressed air and other energy storage -- YES. Carbon sequestration -- NO. This is a fantasy sponsored by coal interests, and the effort to build this would be better spent on renewables.

This is not the answer! Do not encourage big business and deep pockets from the coal industry. Please fund new technologies like solar, wind, biomass, geothermal. No coal, no nuclear.

R & D at the university level needs to have strict oversight!

Any coal development is bad for montana and bad for the climate change crisis. This money should go to truly clean technology research like wind and solar.

Research and implementation should be stressed heavily; the regulatory effort alone is not cost-effective.

carbon sequestration not the answer. Takes up far too much water and land.

I do not think storing carbon is the answer here. We have the potential to generate most if not all of our energy from renewable sources, so why spend money on finding ways to sequester carbon. This will only lead to less action and continued reliance on coal based power plants. Furthermore, we do not know the long term affects.

My belief is that the promotion of coal-to-liquids technology and subsidies tears the funds that renewable energy infrastructure needs. I do not support an increase in the investment taxpayers pay out to the coal industry in the name in R&D.

Coal is a trapped energy source that we are still burning much like our caveman ancestors. Over time and with proper guidance and funding i am sure we will discover her hidden treasures that will provide an unlimited source of clean and abundant energy. But, untill then let us concentrate our efforts upon developing what we know are clean and limitless sources; the sun and winds that give us life.

Montana is too small to go it alone on this.

There is ample technology from existing companies out on the market already. We do not need to give these large corporations any more money when our schools are already improperly funded.

In the case of sequestration, research in and by Montana may be redundant because the whole world is facing the same challenge. But such research would have potential if conducted in cooperation with research done by more prosperous parts of the world

wouldn't it be so much better to use funds for technologies here at home than for killing people in other countries?

raise taxes

Just see what is already there, esp. those techs being held hostage by large corporations and thus not going to the marketplace

I'm not sure that carbon sequestration is going to be a viable option. I would rather that we figure out how to move away from using coal.

Mandate use of efficiency increasing technology; replace turbine/steam coal plants with electron-stripping technology now. Fossil fuel, regardless of efficiency, should be phased out. Adding these chemicals to the global environment is negatively effecting both the climate and many ecosystems.

There is nothing wrong with Carbon hence there is no need to sequester it. Compressed air for the windmill? Who pitched this nonsense? Maybe the legislature should spend more to teach science because clearly this committee didn't learn any. It's not too late to save the children from ignorance.

Yes, as long as there are Federal Grants available

Fund with carbon tax.

yes to renewables, no to fossil fuels

The Federal government is already doing this. Tap into that program. We don't need to re-invent the wheel!!

It seems that this can feed into RCII-6. If R&D programs are set up at the major university technology campuses, outreach programs could be easily established to keep the public 'up to speed,' so to speak.

Vauge. I would not support research aimed at re-injecting CO2 back into the earth.

Advanced Fossil Fuel Technologies? Interesting. What does that mean exactly?

Again, private sector responsibility, not government.

Don't waste time or money on anything that would require or include storage and/or sequestration.

At this time I know of no "advanced fossil fuel technology that does not destroy our environment at some unacceptable level.

Think about solar and wind, real renewable energy and not so much carbon sequestration which is only a bandaid for the problem.

Again, where is the money coming from ?

Taxes spent blindly. Ridiculous to target only one alternative source when there are many out there. Just because Montana has coal and the Governor sees only that, we should look at all if any taxpayer money is spent.

Montana does not have to be putting money into this when there are private and federal funds becoming available for such projects.

Emphasis should be on renewables

Carbon sequestration is long overdue. MDT could potentially get carbon credits in addition to wetland credits for all of their wetland mitigation sites.

Let's work with technologies that are more proven than sequestration ie solar.

Not at the cost of reducing investment in renewable energy production - a proven technology with no needed additional investment other than development costs

yes, this will help grow Montana's industrial technology sector.

Carbon dioxide makes up less than 0.03 percent of the atmosphere. It's levels in the atmosphere do not lead to global temperature change, but follow it. Most CO2 will be locked up in plant life and should provide more food for the people of the world. A good thing I think.

Seems like MT plays a smaller role in funding these large-scale R&D efforts...

It is necessary to focus money and efforts on specific goals and objectives. Carbon sequestration is NOT the answer. It is a highly speculative and inaccurate means of accounting for carbon reduction and should be a far lower priority than the reduction of carbon emissions and alternative energy sources.

This needs to be better defined with public comment and professional analysis. Dumping money into the wrong sector could be worse than doing nothing at all.

Funding a "specific tecknology" indicates tha government would indicate which 'tecknology' they will tax the citizen to fund; with our without their approval. Once again ... "we will make the decision for the masses."

coal is a waste of time and \$. \$ spent on carbon sequestration could be better spent on conservation and power storage for wind (hyrdogen, compressed air)

The MDI Air car needs to be available in the US immediatley. Politicians don't want the MDI air car just as strongly as frustrated gasoline buyers want the MDI Air car. <http://www.theaircar.com/acf/>

This is not a function of the State. Let the private sector do it.

All of these are 'feel good' expensive bulls**t legislation. Global warming is NOT a fact (cold records set last winter in the southern hemisphere) so it might be Northern hemisphere warming, but not global. Secondly, latest studies of the sun spots (that control global temperatures more than humans) indicate that within 20 years we will be back in a 'mini-ice age'. Not politically correct, but MUCH more accurate.

The safety of carbon sequestration technology and potential impacts of animals and plant populations should be carefully evaluated before being deployed in Montana.

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We should focus on reducing our overall cargon usage, instead of trying to find a way to store it indefinitely.

This is stupid. Absolutely no need for this. Carbon dioxide man produced is so insignificant as compared to that formed in nature that it is laughable. Forest fires and volcanic activity far exceeds all CO2 ever produced by man.

NO FOSSIL FUEL! Spend the \$ on renewables.

THIS IS A COMPLETE WASTE OF THE TAXPAYERS MONEY AND THE PEOPLE WILL SEE IT AND HOLD THOSE RESPONSIBLE WHO ARE PUSHING THIS AGENDA.

Where are the funds to be found?

Taxpayer money?

Make coal clean, or forget it.

This would be a great boon for our economy if we were able to develop clean coal technologies and export them around the world. It's going to be expensive though.

again way to vaugh and leads to the state of Mt resticting placement ofwhere exactly generating units will be placed. this might be one of the reasons the states of N. Dak and Wyoming are cashing in big time on the energy boom needs collecting billions of tax dollars while Mt sits back gives these jobs and tax dollars to our neighboring states.

Would safety standards be set for these storages?

I'm all for new technologies, but the major emphasis should be put on reducing consumption. How about an environmental tax on all non-essential consumer items?

Why? Let the feds and energy companies do the research and make proposals to us. Questions of geology and engineering could be referred to the University.

Don't see MONTANA having the capital to invest in this at a sufficient level; other states (Calif.?) or federal gov't. may do so anyway, and our funds are better spent on other priorities right now.

We should de-emphasize fossil fuel as an energy source.

Something to think about!? cost and incentive for the environment.

Will it develop solutions cheaper than burning coal?

I don't know.

Too vague -- lots of potential here for spending lots of money for, literally, nothing.

A bit of research to get a technology off the ground, especially a technology that might serve to offset the carbon footprint of Montanans is a good idea. However, recognize that compressed air storage is not a new technology and has been implemented successfully in the southeast and in Europe. Finding suitable place in Montana is a good idea. High pressure air with a touch of natural gas is a great feed for a combustion turbine if the economics are right. Stick to researching CO2 storage technologies that will be effective over the long term such as deep geologic sequestration. The others are generally short term patches rather than long term solutions. Someone once said that nuclear waste has to be stored for 10,000 years but CO2 from fossil fuels has to be tied up forever. Think long-term and avoid the political deals associated with short term methods of sequestration. If its worth doing then do it right. Based on the long term record of pipeline leaks and spills in the petroleum industry,

Have the fossil fuel companies support this one!

If you don't have a goal, creating agencies & spending money doesn't help anyone but those employed by that agency. Get the idea first.

no goal identified? my tax dollars going to someone else to get rich on my tax/grant money? for goodness sakes, are we going to redistribute all our money to big energy corporations?

Compressed Air? Montana is not large enough to hold a storage facility.

should have mostly federal funds for this research

Private companies need to address this, not the government.

Already much being done in the U.S. on this. Montana does not need to have and fund its own program.

Let the private sector do it. No more legislation or funding with our taxes.

Montana can make only a relatively small investment in this research. Better to place our limited funds in implementation.

Set realistic and aggressive goals.

The are important, but I believe a lower priority than conservation, energy efficiency, and alternative energy options.

Would be better to look at sequestration through plants and trees.

Excellent.

With R&D the costs of alternative energy will be reduced.

Right, let's just toss money into the wind.

I don't believe the state should fund R&D. Private industry will do this as needs arise.

Since the entire concept of "carbon sequestration" is laughable, there is no need for incentives.

Again, private enterprise should do this.

Isn't this already being done by our University system and private industry? Why does the

This is small but reasonable contribution to a much larger worldwide R & D effort that is going on.

compressed air is efficient

NOT GOOD USE OF OUR MONEY. USE MONEY FOR CONSERVATION TECH OR WIND, SOLAR, GEOTHERMAL, TECHNOLOGY. LEAVE FOSSIL FUEL IN THE EARTH.

Ethanol is a classic example of alternative fossil fuel R&D that has gone nowhere even after incentives, tax breaks, tax holidays, and other attempts to promote it.

I don't see this as being within the purview of state government. I see this as a function of private enterprise to be accomplished with federal government financing or cooperation.

The state should not provide funds to research and development. Instead, it should eliminate barriers to investment and entrepreneurship to enable the private sector to carry out such activities. Moreover, the federal government is already investing massive amounts of taxpayer funds into this activity, so it seems redundant that the state should do so as well.

If "carbon sequestration" refers to burying it in the ground, I think using R&D funds for this is a waste of money. It's a technological fix for a technological problem and there are guaranteed to be unforeseen consequences. A biological solution is much smarter.

This thinking unfortunately keeps our attention and our valuable research dollars focused in a backwards direction. Any money spent on R & D could be better spent on reducing our energy needs through conservation and efficiency and then investing in already proven and clean technology such as wind and solar.

SOUNDS GREAT---WHO PAYS???

This may be beyond our fiscal reach and more appropriate for the federal government.

Respondent does not have sufficient information or knowledge to rank this recommendation.

Funding is needed to pursue technology development in general. Again, get knowledgeable people guiding this effort.

I would need to know more.

this might best be done at the National level.

this research should include finding altogether new technologies not unlike the crash program to develop the atomic bomb

Carbon sequestration should be done by using less carbon based fuels in the first place. Conserving and using non carbon based energy sources to produce power. Though I do support more oil seed fuels to bridge the gap.

energy storage yes. advanced fossil fuel technologies no. no more coal.

As long as this is existing funding that is pulled from inefficient government programs.

No funding for new tech, we have great technology already to implement with a grid that won't support it. Use gov't funds to improve the infrastructure

I don't believe focus should be on carbon sequestration. Focus should be on development of renewable energy.

Holcim supports the State's R&D efforts for new technologies, including carbon capture and sequestration.

Montana can not afford providing funds. Too small a state.

Compressed air and other energy storage technologies, for intermittent renewable sources such as wind and solar, yes. Carbon sequestration should be FAR down the list of priorities for investment: it simply may not be feasible over the long-term, and it is prohibitively expensive.

We must, absolutely must, stop the use of fossil fuels as quickly as possible.

Only if private funds are used, no tax payer dollars.

Where are these funds going to be spent. I am sure that Montana's world class research facilities need more funding, just don't believe that you will get the bang for the buck.

I do not know enough about this to comment

Why should the state pay for sequestration technologies when there are renewables energies currently in place that accomplish the same goal (clean energy) without expensive R&D costs?

A focus on increased efficiency relative to carbon emitted will allow the technologies with merit to come forward.