

I am writing in response to Frederic McDermott's letter to the editor entitled "Tire plant debate lacks balance." It should be noted that his letter was written in retort to my op-ed piece, which was written in response to another Letter to the Editor by Gary DeSantis.

I will frame my initial response point by point to several of Dr. McDermott's comments.

- *[Sherri Mason] states that pollutants can have an effect at the parts per trillion level. Really?*
Yes, really. Being as though I am an atmospheric chemist and not a toxicologist, I do not actually perform the testing to which I was referring. Nevertheless, I do keep myself apprised of the environmental impact of these species, especially since toxicity is really what most people care about when it comes to pollution sources. With regard to toxicity information, I would refer all interested readers to two notable sources (though there are many sources available for such information):

- 1) Ecological Toxicity Information, EPA Website:
<http://www.epa.gov/R5Super/ecology/html/toxprofiles.htm>
- 2) 'Dioxins & Health,' edited by Arnold Schecter, Plenum Press, NY 1994.

- *The environmentalists have made it their mission over the past 40 years to eradicate every single last molecule of pollution from our air, water and food.*

The tone of Dr. McDermott's letter would imply that this is not a noble goal. Here are some facts:

- Since 1970, owing to regulations initially established, most notably, by the Clean Air Act, the acidity of rainfall and the emissions of six principal air pollutants, including ozone and particulate matter, have declined by 60-70 percent.
- While the levels of ozone-depleting gases more than doubled between the years of 1970 and 1990, the Montreal Protocol (signed in 1989) has led to the perpetual decrease in levels since then.

While these numbers indicate some positive improvements over the last 40 years, it is important to also note that:

- While the ozone layer is slowly recovering from the damage done through our emissions of ozone-depleting substances, it is not expected to fully return to its pre-1980 state until 2050. With regard to the direct impact on human health, depleted ozone levels result in higher incidences of skin cancer, cataracts and a suppression of the human immune system. They also indirectly impact us through UV damage to agricultural crops, thus reduce food supply.
- Atmospheric levels of greenhouse gases have been rising steadily over these past forties years. Carbon dioxide levels, for example, are 19 percent higher as compared to levels in 1970. We are currently experiencing the warmest July in recorded human history. The impacts on human health range from direct effects, such as death from heat-related illnesses, to indirect effects, such as food shortages and more severe weather, most notably hurricanes.
- Since World War II, the production of industrial chemicals has risen rapidly to the point where we use some 42 billion pounds of them each day. There is mounting evidence about the impact of these chemicals on our health, most notably the Pharmaceuticals and Personal Care Products (PPCPs). Many PPCPs have been found to mimic hormones and, as such, are being implicated in the rising numbers of: cases of autoimmune disease, of men with decreased sperm concentrations, of women with polycystic ovarian disorder, the leading cause of female infertility, and in the obesity of infants under the age of two.

Thus, while certainly environmental regulations were initiated and implemented in order to address environmental pollution and its impact upon human health, and while we have made

some significant improvements, we are still a far-cry away from “eradicating every single last molecule of pollution from our air, water and food.” Nevertheless, in the United States we are certainly much better off than in third-world and developing nations owing to our environmental laws and for that I am thankful. A few images of the realities in other parts of the world with more lax environmental laws are shared in more detail below.

- *They have done so regardless of the cost to our economy.... [W]e must all understand that extreme regulation of pollutants is enormously expensive.*

Industrial pollution is more enormously expensive and the people paying that expense are the average working American, not the upper-class CEO or high-yield stockholder who should be the ones shouldering the responsibility since they are the ones profiting from it. While it is not talked about as much as it should be the simple fact is this- environmental pollution carries with it a huge financial burden. A recent study conducted by California State Fullerton linked the air pollution (and just the air pollution) that shrouds Southern California to \$21.6 billion a year in health care expenses, sick days and deaths.

The reality is that the vast majority of the expenses associated with environmental pollution are paid by the tax payers through clean-up and remediation costs, as well as through social programs and health care benefits (since the vast majority of environmental pollution occurs in the poorest regions). We must realize and full accept that degradation of the environment leads to degradation of human health. Though we seem to often think otherwise, humans are a part of the environment, not separate from it. Doing damage to the ‘outside’ world leads to damage within our very ‘internal’ selves.

In our current socio-economic structure these costs are ‘externalized’ by corporations (i.e., they are not included in their budgets, not accounted for by their profit margins), but that does not make them any less real. We pay for them, all of us, through our taxes and through our very lives, as well as through the lives of our children and their children.

- *That expense is manifest in jobs that are lost, jobs that aren't created and increased taxes. Our manufacturing base has left our shores because of massive regulation and its associated cost....*

Two points to make here:

- 1) A lot of manufacturing has moved overseas because of more lax environmental laws. And these places and its people are feeling the brunt of their ignorance. Miners in Asia, Latin America and Africa having their nervous systems ravaged by mercury exposure in order to have a job and provide for their families. Rivers in India that run different colors, depending upon the time of day, because of the industrial waste that is being disposed of in the very waters that people rely on for hydration and hygiene. Rivers in Asia that no longer flowing to the sea because of overuse by agriculture and industry in order to make such things as Coca-Cola and blue jeans. Air so filled with particulate matter that people have to wear protective masks just to leave their house or face the asthma, bronchitis and cancer that would result otherwise. Soil so contaminated by the hazardous air pollutants raining out from the local refinery that nearly all of the children in the local community have what the CDC would consider toxic levels these pollutants in their bodies simply from playing soccer in their backyards.

These are the realities of lax environmental laws. Is this the type of environment you would want to live in? One in which you cannot breathe, drink, or eat because of the totality of the contamination all around you? And here in the United States we should not only understand this best, owing to our industrial past (I am sure many readers can remember the particulate-filled, black soot skies of the steel manufacturing

heyday), but we should also understand the long-term impact of such environmental damage as we are still reeling from the degradation that was done 40-100 years ago. There are still 37 superfund sites in New York State alone simply because of damage that was done by manufacturing now gone.

It is possible to manufacture goods without this type of environmental degradation, and it is possible to do so profitably. We still have a substantial manufacturing base right here in America. And because of our environmental laws (which in many ways are more lax than those in Europe), as well as the push to become more sustainable in our overall habits, not only because of the impact upon our Mother Earth, but also because it makes sound economic sense, more and more industries are finding ways to be 'greener' everyday.

- 2) The second point to make here is that at the same time that some manufacturing jobs have moved from developed nations to developing nations (and do keep in mind that when these industries started in the United States, the United States was a developing nation), there has been an increase in so-called 'white collar' jobs, and these jobs are not being out-sourced. These are the jobs of the 'creative class', these are the jobs that form the foundation for the most desirable places to live in the United States, and these are the jobs that despite the recession have and are expected to continue to grow and be in demand. The biggest fear with regard to these jobs is that we are not graduating enough people with skills in Science, Technology, Engineering and Mathematics (STEM fields) to keep up with the demand. So the basic point here is that as we have moved from the Industrial Age to the Digital Age, it is not so much that we have 'lost' jobs, as that there has been a shift in where the jobs are at, and we as a society need to acknowledge and adapt to that shift.

To address Dr. McDermott's questions, I would say to ask any businessman or economist today and they will tell you that the future is the 'Green Economy.' There have been several studies which have concluded that renewable energy sources such as solar and wind can meet our current energy needs (see *Science*, 30 July 1999, V. 285, p. 687, for one example), especially if we make better and more complete use of energy efficiency. The HomeStar program before the House right now (modeled off of the 'Cash for Clunkers' program) is geared to make a push for more people to increase the energy efficiencies of their homes as 30% of our energy usage is lost to the environment. And these 'Green Jobs,' whether they consist of making houses more energy efficient or designing and manufacturing 'green energy' sources, are not and cannot be outsourced. Furthermore, more and more businesses are realizing that 'Going Green' is not only good for the Earth and their own PR, but saves them a lot on their bottom line. It is a win-win-win situation for everyone, and there is no need to segregate people into one 'camp' or the other. You can still be in the pursuit of profits and be working to reduce pollution as one direct links to the other.

The proposed tire-to-energy facility, however, is not part of any of this. It is not part of the 'Green Economy,' it is not renewable energy. It is simply a return to past, dirty industrial practices that in reality hurt our economy, our people, our home and our planet.

In closing, I would like to make one last point. To refer to me as 'Ms.' when given my position and my educational level is a petty, passive-aggressive and immature way in which to undermine my credibility. My op-ed piece was written in response to a letter requesting the scientific basis for the concerns expressed with regard to the proposed tire-to-energy facility. I wrote my editorial to provide that scientific basis in a readable format and offered my references to anyone who wanted them (and have provided them to the few who have written to me and would be happy to provide them to anyone else who inquires). I am once again responding to a letter using sound scientific, economic, and historic facts. I am

not attacking or undermining anyone. That is not my point. I am passionate about the environment because I live here and I have a daughter who also lives here and I want this world to be the best it can be for her and for all of us. Additionally, I am an educator. I seek out and acquire information, and I want to share that information with everyone I meet because of the urgency of where we are at right now as a society. We are at a cross-roads and to get to this point we have taken the well-traveled road, the road we have known, but now we must make a change to the road less traveled. I am not trying to be overly-dramatic here when I say that if we do not make this change as a society, we will perish. It is really that simple. 98% of the species that have ever lived on this planet are now extinct. We are the exception, not the norm, but our daily habits and our choices both as individuals and as a society will dictate which statistic we become- the exception or the rule. I would prefer us to be the exception, I would prefer us to take the road less traveled, because in the end it will make all the difference. (My appreciation to Robert Frost for the analogy.)