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Vision Statement

What world problem are you concerned about?

Arlingtoninstitute.org lists the five biggest world problems as: [possible] economic

collapse, a peak in oil production, a global water crisis, species extinction, and rapid climate

change (1). I am concerned about all of these problems. However, there seems to be one

problem that (at least partly) influences all of the above: fossil fuel usage. Even the seemingly

separate issue of water shortage is in part driven by industrial pollution and climate change.

Why is this problem important?

As I've stated, fossil fuel usage is a primary driver of several world problems.

Climatologists and environmental scientists are virtually unanimous in their assertion that rapid

climate change is a threat to human civilization (2), or perhaps to the species itself. A sharp

decrease in the availability of oil would have a lasting negative impact on an already fragile

world economy. The extinction of many species could have unpredictable and far-reaching

consequences, not the least of which is a disruption in our food supply. Add to these the fact

that international terrorism is funded in part through petroleum sales, and the bonus fact that

an individual who conserves gas and energy generally saves money as well, and it should be

apparent why energy conservation is a both worthwhile and necessary goal.

What aspect of this problem seems particularly important to you?

Many people have advocated solving this problem through legislation and government intervention, and while it is probably true that large corporations need laws that force them to behave responsibly, it is much more difficult, and perhaps even counter-productive, to try to legislate responsible behavior in individuals. Therefore, I believe that what is needed is for each individual to make a voluntary, concerted effort to reduce his/her "carbon footprint". To achieve this requires more than PSA's and civil advocacy; what is needed is a product that reduces the burden of time and effort for the would-be conservationist.

How could a new software system help to solve this aspect of the problem?

Conserving energy requires three things: knowledge, opportunity (or awareness of opportunity), and time. One must know about the various ways in which he can reduce his carbon footprint, must recognize an opportunity to do so when it presents itself, and must take the time out to actually do it. What I am proposing is a smartphone app that helps provide these things to the consumer.

For example, imagine pulling into a gas station, and your phone sounds an alert tone. You glance down at it expecting to see a text message or a tweet, but instead find a message suggesting that you fill your tires with air.   How would this work? By monitoring both data from your car's internal sensors and your location (using the GPS link on your phone), the car determined that this might be a good time for you to fill up the tires, given that the air pressure was below optimal levels, and you were already near a pump. This process could also be used to remind you when you're low on oil or need an oil change or tune up (all of these things, like

tire pressure, affect fuel-efficiency). As vehicle sensors become more sophisticated, and as comparable sensor systems become available for homes and other buildings, the app would likely have an even greater impact.

Another function of the app would be to help consumers make responsible purchasing choices. Phones can already scan barcodes of any available product and return product information such as description, pricing, and availability elsewhere. What if that functionality were extended to include some sort of "carbon index" or "eco index", which is retrieved from a third-party database that takes into account all relevant data about a product (for instance, the energy efficiency of an appliance, whether or not a produce item is locally grown, what the item is made out of, the emissions standards of the company that produces it, etc), and boils it down into a single number (the aforementioned index). What if the app then searched around looking for comparable products in the same store or somewhere nearby that had a more favorable index.

These are only two examples of functionality that could help increase energy efficiency. I have little doubt that much more is possible.

Why do you think that this idea will make a big impact on the world?

I think a product like this, if it were in the hands of millions of people, could have a lasting, positive effect on several of the problems facing humanity today. And I do think that eventually, this product would reach millions of people: not only those trying to save the earth but also to those who are merely trying to save a buck.

Works Cited

1. Staff, "The World's Biggest Problems", *The Arlington Institute,*

    www.arlingtoninstitute.org/wbp

2. ^ Climate Change 2001: Working Group I: The Scientific Basis, IPCC, January 2001,

    http://www.grida.no/publications/other/ipcc_tar/?src=/climate/ipcc_tar/wg1/index.htm