



Turning an Oil Tanker

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Change, it seems to be the word of the moment. And it seems to be one of those popular words that pop up every time there is a likelihood of a change in the Administration. But when we change we should know what to expect from that change, and that does require more than a little knowledge of the consequences. One thinks of the [Bay of Pigs debacle](#), or the politicization that led to the disaster that has been the Federal response to the damage Katrina imposed on New Orleans.

I was thinking of the ignorance of consequences as I read Baron Wormser's book [The Road Washes Out in the Spring](#). As one of the "hippy culture" of the 60's he chose to build a house in rural Maine, discovering after having put it up that they could not afford to run a power-line to the house. Thus, through the raising of a family, they did without electricity (apart from a small generator to run a hand-iron, a Skil saw for large carpentry, and a blender). Water was pumped by hand, and heating and cooking used wood stoves. But, when they first went through a winter, they had no appreciation of the amount of wood that would be required, and so, accompanied by a flash-light, he ended up sawing and splitting wood into the night, for they had no backup furnace. They also became very dependent on the condition of the road of the title, the typical rural dirt road, with culverts and infrequent maintenance.

On a small, individual level, such impacts of change can be accommodated. But on a larger scale, as changes unfold, society does not have that flexibility of the individual. What we need is proper preparation. On one of the news shows this past week I watched a correspondent trying to steer a model oil tanker. Since the turning radius and stopping distance of these behemoths is measured in miles, it required considerable pre-planning to get to where he wanted the tanker to go. It mirrors, in many ways the needs that we have for a pilot for the future of our energy program. Without recognition of the realities of societal inertia, and the length of time it is going to take to develop significant alternative approaches, we may end up, as tankers have, on the rocks.

Proper planning thus requires a certain depth of knowledge that understands what is really achievable, and which can be accomplished in a given amount of time. But, as the political hands would turn the tanker of State, its safe passage will then turn to those in the industries who must implement the changes mandated. One thing that has already become evident in the debate about the energy future is that new energy supplies cannot be created merely through passage of an act of Congress. Even with the consequently heavy Federal investment in cellulosic ethanol, the technical issues that bedevil that program will not be easily solved within the short period of time before the anticipated need for the fuel it promised arrives.

Political rhetoric and will, although important, are insufficient for the needs of the future. What is also critically important are the skills and knowledge of the workforce called upon to make the needed changes. It is easy to say that “Necessity is the Mother of Invention,” but that fails to recognize the small base of people and knowledge upon which some of that responsibility for revolution is placed.

A small personal anecdote may perhaps illustrate the point. As part of what I do with the rest of my time I have, on occasion, helped in the development of technologies that improve energy extraction from the earth. Some time ago a group of us suggested a method of improving a particular process in one such industry, but given the cost:benefits perceived at the time, the suggestion was not taken up.

Time has moved on, and now the PTB have decided that this would be a good idea, and would like to discuss it further. Unfortunately, in the meantime, three of my colleagues have moved on to greener pastures, and finding qualified faculty in our disciplines is becoming increasingly difficult, even as more of us do move on or retire. The net result is that the amount of time available for research declines, as teaching loads rise, and the ability to respond to such requests starts to vanish.

Our own local situation is not unique. Increasingly there is a concern for the future supply of scientists and engineers, even as the need for them grows. In the same way as the development of a new fuel source, creating a future supply of qualified and knowledgeable personnel requires an investment and time (on the order of ten years). And, instead of this becoming a priority, instead one hears of declining demographics, and the drop in interest in the engineering and science disciplines in schools.

Change, in other words, needs proper preparation if it is to be effectively handled. More than most others the energy field will change dramatically over the next ten years, and the impact that it will have on society will be overwhelming. We need the planning and pre-positioning of resource that will make the transition of minimal impact to society. But so far it does not look as though that is happening. Energy supplies and energy futures do not appear to have much impact in the current political debates, even though the writing is starting to appear on the wall. And thus, unprepared, we are likely to stumble into the future, which does not bode well either for us, or for the long-term health of the next Administration.

And on a small personal change, I replaced my car this week. After it being repeatedly suggested that I was being perhaps more than a tad hypocritical, I did go out and get a hybrid. I ended up with a Camry – and before anyone asks, I relied on a recent [U.S. News Report](#) that suggested it was the best of the breed. Time will tell!

P.S. Baron Wormser was Poet Laureate of Maine, from 2000 to 2005, and while the book tends to romanticize the life that the family lived for nearly twenty-five years (they then moved into a more modern (1850's) house in a nearby town - after the children left home), it is a very pleasant description of a way of life.



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