

MC2 Biofuels Summit

Attendee Evaluation & Comments

After Maine Clean Communities' Biofuels Summit in December, 2009, attendees were given the opportunity to evaluate the summit and comment on the proceedings. Of the seven attendees who chose to evaluate the summit, 100% were either satisfied or very satisfied with the overall quality of the event, the utility and relevance of the presentations and the format of the event. A sampling of their comments is included below:

What was the best part of the Biofuels Summit?	
	Gathering attendees from a wide range of backgrounds with diverse interests. Good diverse spread of subject matter from presenters
	Having the summit. It's a good foundation for understanding the status (or at least vision) of biofuels in Maine.
	Q and A with the presenters.
	the topics
	Becoming exposed to new and developing technologies.
What part of the Biofuels Summit could have been improved?	
	The room was not conducive to making a presentation. An auditorium/lecture theatre would have been better
	I don't know that the word improved is the correct word but I think (as stated below!) we need to be aware of the long term consequences of ALL developments and technological advances and take them into consideration during presentations.
	Perhaps a recognition that we may have to have a broader focus with regards to transportation fuel options. It is a regional issue, and one that we should be at least looking at others to help solve. The maritimes, other parts of Canada, and the rest of New England (northern New England at a minimum) would be a good place to start.
Please tell us your ideas for future Summits and future speakers (please keep in mind that Maine Clean Communities focuses on alternative transportation)	
	Discussions of automobile and truck engine efficiency. How is it that a Mini Cooper gets 37 mph/hi and the new Sonata, a much larger vehicle, gets 35mpg? There are many oddities of this nature as one compares autos.
	A discussion about transportation infrastructure is critical. All the alternative fuel options won't mean much if there is no way to bring it to market. - Rail as part of the conversation would be great. - Alternative fuels for rail.
	Small engine conversions to run on biofuels
	The experiences of auto dealers in trying to sell alt fueled vehicles.
	A presentation on electric golf carts----they are the biggest fleet of electric vehicles in Maine.
	A presentation on alternative engines...I have a model of a Stirling engine that makes an excellent demonstration on how heat can power a vehicle.
Other feedback, comments:	
	Good job of recruiting knowledgeable presenters.
	I hope, now that I'm on your e-list, that I will be aware of future events.

MUSINGS on the Biofuels Summit

Held December 8, 2009

Dear Steve L., Dean S., Steve F., Jim St., Bill B., Steve B. and all attendees

Steve L., when you asked during the Open Discussion, at the end of the Bio-fuels Summit today, for thoughts or suggestions for topics to be considered, I certainly opened a can of worms, when I tossed out the proposition that AS A STATE, maybe we should look at the TOTAL LIFE CYCLE of the State of Maine's Bio-Resources.

To step back a moment, I thoroughly enjoyed ALL the presentations and thought that it is GREAT that there are these kinds of projects under way in the state to make Maine more energy independent. BUT the fact remains that everything is a trade-off and comes at an expense or deprivation of some other use or destination. While I would assume that "life-cycle analysis" has been used in the business plans of the projects presented, I would venture to say that it would be categorized as NICHE life-cycle analysis and did not address the other niches which draw upon the same resources.

For example: Did taking farm manure to produce Bio-gas take into consideration that such action would remove that manure from application on the farmers fields as fertilizer and the consequences of that loss. Then in response to the suggestion of the high value of adding food waste to boost Methane production, I would ask: WHY!!!! Is the food being wasted in the first place. At the rate of 10 calories of energy needed to produce and deliver one calorie of food, it is illogical to "waste food". Yet I know that it is being wasted!!!

The suggestion that Harpswell could support the Bio-tech project by supplying green waste cellulose input, I would counter that such action would be AT THE EXPENCE of that bio-mass being recycled locally as compost to local gardens and small scale agriculture. One should therefore ask: Which is the better utilization of that resource?

DON'T get me wrong.....I think that IT IS GREAT that we are finding and exploring ways to utilize, re-utilize and beneficially re-use materials previously "Disposed of" as waste. But I would ask: Should some of those "wastes" even be thrown out as "WASTE" at all? Reconsider the huge volume of "Food waste" which is such a desirable component to add to the mix for generating Bio-gas....WHY is that huge volume wasted anyway? As a society we must CHANGE that paradigm.

My suggestion for a state wide high level overview of the Total Life-cycle of ALL the paradigms of the State of Maine Resources would address reducing (or at least Identify) the generation of waste and hopefully changing the paradigms to generate LESS WASTE.

The first rule of resource conservation is : REDUCE

The second rule is: REUSE

And the third is: RECYCLE

It takes increasing amounts of "ENERGY" to support an activity as one passes through those three rules and to "waste it" in any form by throwing something away or by disposal of it, is totally a negative. IT IS ENERGY that we were discussing in those presentations. Total Life-Cycle Analysis identifies and points out each of those phenomena and the consequences.

Total State Wide life-cycle analysis of resources would be a different effort than Niche Life-cycle analysis for verification of a particular business plan viability. I would add that a Total State Wide life-cycle analysis of resources would be very time consuming, detailed oriented, and revolutionary in scope, BUT a needed desirable effort to really understand our situation.

I stand by my statement that the pulp and paper industry had (have!) over utilized the forest resources in the State of Maine. As a much younger man, I can remember the sizes of the trees in those pulp yards of years ago and I know what the minimum size standards are now for pulp. There has been a gradual lessening of the size standard in order to get the necessary volume. The pulp and paper industry has for years been consuming the Maine forests faster than natural growth could replenish them.

The lumber industry has been doing the same. The size and quality of logs entering a saw mill have decreased noticeably over the years (I grew up in a saw mill environment) and again that resources has been and is being consumed faster than nature can replenish them. One only has to ask the question: "Why are not quality mill sawed 16 and 18 foot 2X8 and 2X10's widely available for construction today. The answer is simple: the trees that yield such dimensional lumber are no longer readily available.

BOTH the pulp and lumber industries situations in a total life cycle analysis would be determined to be "un-sustainable" at the current rate of exploitation. In response to my proposition, one gentleman rattled off a report that stated that 6% of the Maine forests would heat all of Maine households currently using fossil fuel.....I would ask: "Is that 6% to be removed from a current use or would that 6% come from the naturally occurring currently not-sustainable inventory?" By my basic logic, an additional 6% per year from an already declining resource, over a decade would decimate a resource by some 60%. That decade is a very short time in my grandchildren's lives. What would we propose that we tell them to do after that?

I can see a very quick end to the Maine forests if we were to try to heat all the Maine homes with bio-mass. A quick mathematical calculation would prove my point. What is the total bio-mass that the Maine forests will produce annually? What is the current or projected annual harvest by the pulp and lumber industries? What is the current annual harvest of chips and firewood for already existing bio-mass heating? What is the projected natural growth or decline of exploitation projected for those industries? What volume of Bio-mass is left? THAT is what is available for future growth in the Bio-mass energy industry.

The Maine Forest Resource IS A FINITE RESOURCE ! It CAN BE over exploited! The forest industries are not unique --- nearly every natural resource touched by the human species is in an un-sustainable harvesting paradigm, whether one wants to discuss fishing, agricultural land use, water use, or any of hundreds of other renewable resources currently being over consumed. The

rape of non-renewable resources is an even more disturbing story.

There are many, many examples around the world right now where the indigenous population has over exploited their local resources and are now in desperate situations as to what to do. There are numerous examples in the world of wide spread desertification of former productive agricultural land due to water resource and agricultural mis-management. Due to increased desire or need for agricultural land in some parts of the world there is wide spread deforestation, including the destruction of very complex rain forest ecosystems.

I appreciate the quick responses to my suggestion that maybe as a state we should explore at a VERY HIGH academic level, the state's total life cycle analysis of energy and resource consumption. The old paradigms of quoting studies that lead us to feel secure in a state of "everything is OK" was understandable and not unexpectedBUT "EVERYTHING IS NOT OK"..... the world human population size is in a state of over shoot by a factor of three, the CO2 accumulation in the atmosphere is at a level of 389 ppm with no signs of leveling off, while the NASA team headed by James Hansen has stated: "Any value for CO2 in the atmosphere greater than 350 ppm is not compatible with the planet on which civilization developed and to which life on earth is adapted." As if those phenomena are not serious enough, consider that water supplies around the world and in some parts of the USA are at critically dangerous levels; global climate change is manifesting itself in droughts, floods, violent and dangerous storms, melting ice masses and rising sea levels.....to name just a few of the natural phenomena, which should be indicators that we MUST take a serious and hard look at what is taking place around us on a local basis and start planning for local sustainability and local independence. Big Government will not do it -----We need to do it LOCALLY ! The critical topics for consideration, must be local food production, local energy production, local sustainability of all natural resources.

The State of Maine IS a huge landmass with great potential to provide its current inhabitants with an acceptable life-style. BUT WE MUST BE VERY CAREFUL that we do not over exploit that land resource in an attempt to continue the energy glutinous life-style that we currently practice. The bio-mass productive ability of the vast Maine land acreage is a finite resource! It can be over planted, over harvested and reduced to worthless acreage. It has been done the world over in many places.

The only way that such local sustainability can be analyzed is via TOTAL LIFE CYCLE ANALYSIS involving population size, conservative minimal energy requirements, adequate food resources (absolutely minimizing waste in production, harvesting, transportation, and consumption! because of the high energy input of energy at all phases of the food system). A total review of ALL our current local civilization social paradigms and life-styles should not be excluded from the table. It is NOT TOO SOON to start such an ALL INCLUSIVE TOTAL LIFE-Cycle Analysis at some high academic level.

Do we raise food or produce energy from the land? How much of each and what goods and services sustain life within the Bio-mass budget that Mother Nature dictates? Our children and grandchildren will be glad that we started in the first decade of the twenty first century to ask such questions because we can NO LONGER HAVE IT ALL! . Maine will be a better place to live, in the subsequent decades, if we seriously do the effort and plan for the future and deal with the

outcomes of our past indulgences.

I would ask that Steve Linnell, forward these musings on to all attendees at the Bio-Fuels Summit today, who heard my thoughts from “outside the box” and some were quick to counter. I would welcome a dialog with anyone who feels the need to challenge or confirm the thoughts put forth here. If we don’t ever start talking about this situation that we are finding ourselves entering, then we will never come out the other end with a plan. The presentations that we heard today were a great start in the correct direction BUT we need to explore the ramifications of the actions about to be taken, in order to assess the long term consequences or potential consequences to be encountered.

Harold E. Arndt, Captain
Island Rover Foundation, Founder & Pres.
93 Maquoit Drive
Freeport, Me. 04032
CaptArndt@islandrover.org
www.islandrover.org

I don't believe algae is a viable oil crop for Maine; it isn't even viable in the U.S.---one of my experts is Bert Cutts, an expert on this topic at the U. of S. Carolina.

It’s not too late to add your own responses: <http://www.surveymonkey.com/s/MC2BiofuelsSummit>