John Craigo, Facilitator

What are energy sources that are unique to where we live? Where we have an advantage?

Water – tidal energy  Wind – both onshore and offshore  Solar – Germany has only 80% of the solar input that Maine receives and has very large solar power generation – 50% of their electricity demand!

Previous tidal energy projects have been tried with minimal success – using a series of dams – not a good idea, technology changing rapidly in this area as to the mechanism of power generation. Helical generators/tubular structures in development – specifically designed to avoid disruption to marine life and fishing industry. Need to get more information on progress and technology, how much is possible here? Answers could be much different over the next 15 years as technology develops. Maine ranks second only to Alaska in having tides and waves sufficient to support this type of production.

Offshore wind power has tremendous potential. Estimates are huge but are they real in terms of actual performance? United States is well behind Europe in offshore wind energy production. First U.S offshore wind farm is scheduled to come on line in fall of 2016 off the coast of Block Island just off the coast of Rhode Island – 30 megawatt capacity. Is something like this or perhaps smaller possible off shore around here. Many questions but University of Maine is a leader in new offshore wind turbine technology – Just received a new grant for $3.5 million from DOE to continue development of their floating wind turbine platform technology. We should be in touch with UMaine regarding development and potential use in our area.

As with all things being developed for energy production in the ocean, maintenance is going to be an issue, certainly much more difficult that land-based generation. Also transmission lines need to be run along the ocean floor – distance effects efficiency greatly.

All these projects are most certainly very costly and most likely developed by large corporate interests. Block Island Wind Farm is a $300 million dollar project. Are we really looking for such a thing or are we looking for much smaller types of generation over which we can maintain control, i.e. energy independence? We need to decentralize the production of our energy – many small inputs coming from right on the island and staying on the island. Our energy system is designed for central production and distribution outward. How does it work to change that?

What do we see as obstacles to changing our energy future? Who opposes such a thing and why? People who currently hold a very large stake in the status quo. Groups such as ALEC may see what we are doing and attempt to push back. (American Legislative Exchange Council) A group of well-funded large corporations that have spent much money trying to influence state and local towards their interests. Group in agreement that solutions we seek need to be financially solvent.
What about land-based wind power?

Great deal of wind power being used in the US and more coming on-line every day. 3 gigawatts of wind power capacity added in 2015 accounting for 40% of all new electric generating capacity. What about turbines/towers on MDI? Lots of opposition potential from many areas, first and foremost many people find large turbines to be offensive looking - certainly don’t want to ruin this beautiful area with that - much ado about tree-shaped cell towers, large wind turbines would certainly present more of a visual “assault”. Also significant concern for effects on birds and wildlife.

What about use of smaller wind turbines – each generating much smaller amounts of power but in many more places. We already have thousands and thousands of utility poles. No one complains about how unsightly they are now. What about using the current utility poles as part of the new infrastructure? Why isn’t there a small wind turbine on top of every pole – could feed energy produced directly into the grid. Could have solar panels on every pole too depending upon sun exposure.

We need to change our way of thinking from energy consumers to energy producers. A decentralized grid with lots of micro inputs. What about our own municipal energy grid? Excess power created by consumers/homeowners credited back against taxes and supplies power to other grid members who have a net need for power.

How about an island co-op of tied in solar farms – why is there a limit of 10 meters for a solar farm? What can we do to change this? Can solar farms handle the need of more than 10 homes if they can produce enough to get completely off the grid?

What about storage of power? This could be the biggest game-changer. Increased battery efficiency and ability to be recharged daily from solar/wind input would allow everyone to come off the grid. The dream of Elon Musk and the Tesla Powerwall - home and business battery technology recently unveiled.

As more electricity is available or if you cannot get credit for all you produce at your home, it will drive more use of electric technology like heat pumps and electric cars that previously may have been thought to be expensive.

Important that all the towns come together on this – can be done and has been done on other things. We are doing something on the forefront of this issue – we need to invite the companies that are developing these new technologies to come here and work with us. Make sure they know that we are a willing audience receptive to new ideas. Promote what we are doing to become energy independent and the green effects as well. Get the Island Chambers of Commerce to promote this as part of tourist strategy – people already coming here as their Eden – this could make it even more so.
Questions:

What are the current technologies for wind, water and solar that could be of the appropriate scale for our island? What can be expected in the next decade?

What are the limitations of our power grid on the island as far as home inputs from solar or wind?

Can we create a public island power company or co-op?

How can we stay in touch with those producing new energy technologies?

Are there laws, statutes that would limit what we want to do and if so, what would it take to make changes?

What can we do as individuals to make this process go forward?

What is this group going to do next?