

Attachments to the Notes of the Energy/Waste Work Group Core January 17, 2007 Meeting

The following are edits and additions from individual core members to the initial prioritization of ideas from the full Work Group's December 6, 2006 meeting.

Homework for core members: Review Jan 3 prioritization of Dec 6 suggestions and:
1—Add any priority items felt to be missing (also propose consolidations and rewordings)
2—Create a statement for each of the four topics

Paul Pimentel's Edits

1/15/07

Preliminary List of Priority Items for Energy and Waste

The Energy and Waste Work Group Core identified as high priority the following list of suggestions the work group made in December 6, 2006. While they are listed by the four categories of the work group session, several items appeared in more than one category and were merged. Also, while the work group members at the December 6, 2006 meeting were instructed to identify specific actions for implementation, the core members decided to focus more on the strategy rather than ways to affect the strategy. The core members also refined some wording from the original input (the list of items from the December 6 meeting are attached to these minutes). [NOTE to Core members: in this draft, where the group had suggested rewriting or combining items, I have done so at identified such cases with a parenthetical "rewrite" at the end of the item. My intention is to remove the identifiers in the final, published version of the minutes. Core members are encouraged to draft their own rewrites for discussion by either online or at the next meeting.]

Note: the first number, in brackets, identifies the list number from the list of all December 6 suggestions; the second number indicates the number of core members who think that item is a high priority

Energy Efficiency (a suggestion has been made to change this title to **Use of Energy**)—Employing equipment, behavior or systems that achieve identical outcomes with less energy use

A Most people won't change their consumption behavior unless driven to it by regulation or painful economic impact. In our culture, regulation is pretty unpopular so energy efficiency is pretty much a market response to higher oil price. A hefty (~50%) permanent carbon tax coupled with income transfer and a credit system imposes the social cost (global warming, peace in Mideast, etc.) of fossil fuel use on the user and distributes that burden efficiently.

- (1) 8 Switch to more efficient light bulbs, (include town street lights and private outdoor fixtures including street lights and outdoor fixtures.)
- (7) 6 Develop disposal plan addressing CFL (compact florescent bulbs) mercury
- (8) 5 Approach businesses that have unnecessary lighting Who decides what is "unnecessary"? Lighting is crucial to retail sales. Rewrite: Establish tighter lighting power allowances and apply upon a change of tenancy via a local amendment to MA commercial lighting code (780 CMR 1308) or see "A".

- (11) 5 Establish per capita energy allowance, above which people would pay extra, funding EE programs See "A"
- (16) 3 Request auto rental agencies offer hybrid and other super-efficient, low-emission vehicles
- (17) 8 Building code on Vineyard requiring greater EE See "A"
- (18) 8 Require energy audit and EE upgrades at sale of home (similar to Title 5 septic)
- (19) 3 Create energy "thermometer" showing Island's monthly energy usage. Correlate with the 20-year and 50-year projected levels of sea level rise around the Island.

25-yr and 50-yr Targets

- (22-23) 8 25-yr – reduce non-renewable energy use on Island by 50%; 50-yr – net zero energy [*note: core identified a strong relationship to item (8) and suggested rewrite. I did not attempt.*] See "A". There is little other way to achieve these goals, unless we run out of fossil fuel before then.

Energy Production – Converting raw energy (insolation, coal, Uranium. etc.) to a usable medium (electricity, hot water, etc)

- ~~(3) 3 Mark the 20-year and 50-year projected levels of sea level rise in Edgartown~~
- ~~(4) 4 Get each town to install a prominent wind turbine~~
- (5) 7 Install 500 2.4KW solar arrays (similar to one at SSA building)
- (7-8) 5 Get tangible town commitment to solar energy (rewrite)
- ~~(9) 1 Raffle off a solar array system~~
- (12) 6 Identify what areas could be used for large-scale wind turbines
- (13) 6 Get SSA to use biodiesel in new boat "Island Home"
- (28) 9 Island has a regional energy utility (rewrite) [moved up from 50 yrs]

25-yr Targets

- (15) 5 Convert excess energy into a storage medium (rewrite)
- (16) 5 Island-generated power sufficient to meet electricity and transit demands [*notes said to integrate (30) dealing with transit; consequently, I replaced "transportation" with "transit"*]
- (22) * Require renewable energy certification for builders [7] / for architects [4]
- (23) 8 All new buildings will be energy neutral Require this as part of permit to build.

50-yr Targets

- (27) 9 No combustion of fossil fuels on MV
- ~~(28) 9 Island has a municipal power utility (rewrite)~~
- (29) 7 All housing will have some renewable energy generation component (Assuming a lot of housing stock recycles in 50 years, combine with 23 above.)

Waste/Biomass – Discarded materials requiring environmentally responsible disposal/ Materials grown intentionally or in the wild for food, construction material or energy

- (2) 5 Re-use resources first
- (4) 5 Island-wide composting
- (5) 4 Recycle materials; remove roadblocks
- (7-8) 9 Use biomass and construction debris to generate energy locally (rewrite)
- (10) 9 Educate on all topics (rewrite)
- (19) 5 Encourage cooperative, common waste management Island-wide
- (24) 6 Identify areas of Island potential energy production and crop growth

25-yr and 50-yr Targets

- (21,23) 7 Create on the Island a net zero waste utilization/energy production system (rewrite)

Transportation – Vehicles and their support systems (roads, fuel supply, etc.) used to transport people or economically valuable materials

- (1) 7 ~~Focus on r~~Reducing vehicle ton-miles traveled as having the greatest impact on energy use and carbon emissions. Make bicycle traffic as convenient, safe and fashionable as we can. Create advantages (downtown parking, express lanes, etc.) for small or renewable powered vehicles.
- (8) 8 Develop a fossil fuel impact fee (e.g. carbon tax) See "A"

25-yr and 50-yr Targets

- (13) 8 Seamless multi-modal transportation system between Island and mainland

David's **Energy/waste Core 1/12/07**

"Comments" includes both response to this exercise as well as from the previous "homework" assignment

Energy efficiency (sure seems like an energy conservation initiative)

Change to "use of energy" or "smart energy" or "energy conservation and efficiency"

Comments: adding an appliance initiative (10) would seem appropriate to help balance out the full range of "things" that could benefit from an energy efficiency review. An energy thermometer (19) will need a baseline number and someone to obtain and provide updates—not easy. We didn't talk much about promoting the savings through education as a means of convincing people to change; there were a number of good ideas that got 3's and 4's from me which could end up bundled in an education component. I thought a logo (6) would be good promotion handed out not just for CFL's but for any kind of energy audit implementation or conversion. I also thought about Island-wide lighting ordinances. Move (16) concerning rental agencies over to transportation. I had a hard time with the 25 year and 50 year targets—do we have any science that supports this or are we just grabbing numbers out of the air?

Statement: Identify, develop and implement methods to reduce the per capita use of energy through education, incentives and mandates.

Energy Production

Comments: I have a hard time getting my hands around this one. Solar and wind seem like winners so efforts should focus on education on the cost savings, incentives for installations and availability. Government and those who can afford need to lead on this one. I like the more cautious approach to windfarms that would focus carefully on siting. Otherwise not familiar with geothermal opportunities or the feasibility of the island becoming self sufficient; is the target the winter population or the summer one? Could all energy transit needs really be generated on island (16)? (coordinate with transportation effort). For item (28)(island power project), was that to imply an island wide public utility with bonding and revenue generating capability or something else? I am cautious about too much promotion of biodiesel (13) (Island Home) due to cost and availability of commercial quantities especially if methods of producing biodiesel don't improve (some experts in the field point out the cost of producing biodiesel as being prohibitive). Should (13) be in the transportation section? Consider placing (22), certification and (23) energy neutral buildings in "Energy Efficiency". Should we promote a biodiesel production facility on-island?

Statement: I would recommend an initiative that focuses on those alternative forms of energy

production now available and promotes those options which are considered feasible . A corresponding part of the mission should then be to promote new production methods that become available. I see energy production as a private sector effort with promotion and incentives coming from non-profit/government and maybe, at a very different level, a public utility here on the island. My version of a statement would then be something like:

An initiative to maximize opportunities to utilize solar and wind technologies for the production of energy including the establishment of the means and capability to monitor developing technologies.

Waste/Biomass

Comments: Unlike the other topics, I believe a waste and resource management mission needs to operate under a central regulatory structure whether that is the county, an expanded version of the waste district or some other public , private or quasi-public entity. Without that centralized level of organization it will not be possible to effectively develop the infrastructure necessary to achieve efficient use/reuse and management of waste materials with the goal of limiting off-site disposal to the maximum extent possible. The same scenario would exist if we were to be advocating a utility for energy production. The Island towns are too small to be able to individually take advantage of the potential cost savings which result from a consolidation of practices such as composting. Once that structure is established, then the opportunities out there now can be maximized. Recycling and reuse should be enhanced to make the option available; composting needs to be implemented at some level, collection and transfer systems need to be consolidated into a better network to save money and better encourage the use of new technologies. Accordingly, I believe that those waste and biomass initiatives that suggest energy could be derived from these materials be modified in favor of a best use evaluation for handling waste materials and biomass resources. A good quality compost would eliminate the need for importing soil supplements and fertilizers. We could be making our own biodiesel. A facility to handle yard waste and forest by-products would lesson the need for off-island shipments of mulch. It is not necessarily an easy choice to move these materials into the compost/reuse mode versus an energy producing mode. We may not have the biomass here to simultaneously promote wood pellet production, mulch, compost and wood burning furnaces. Items (7-8) maybe (24) and (21,23) lend themselves to a "best use" management scheme which would be implemented by this cooperative management authority. Better management systems to handle CFL's and other special toxic wastes should be part of this approach. Sewage sludge handling needs to be in here as well (26)(wastewater sludge). I would recommend a new item to deal with our seasonal nature such as ; "promotion of special measures to deal with the specific situations created by our seasonal economy" ; i.e. kiosks in ferry terminals and airports, more widespread use of recycling containers. There were other good suggestions that could form part of an education component.

Statement: With the above considerations in mind, the statement I would recommend would have the development of this infrastructure as its' major point so that the right approach could be taken for each waste stream and reuse possibility. **To facilitate the development of an efficient system of waste and biomass management based upon a "best use" assessment of the resources available, this initiative seeks to promote the formation of a common cooperatively based system which will create the infrastructure necessary to accomplish this goal.**

Transportation

Comments: The focus seems to be on vehicle miles traveled, increasing the available options for alternative transportation and reducing emissions/using alternative fuels. Pollution, energy use and being able to favorably impact traffic are perhaps the motivators. Seasonal traffic problems are already having an adverse impact on quality of life and pollution abatement and the future looks bleak. A recent Edgartown zoning approval was issued despite a traffic engineer's acknowledgment that the impacts of the project at an existing 4-way stop will require police supervision in 2 or 3 years. Public transportation enhancements are being provided for employees but not those who will use the facility. Traffic flow has to be diminished so I feel (13)(seamless transportation) is key. Focusing on more efficient vehicles using alternative forms of energy seems equally important. Where would a fossil fuel impact fee (8) be utilized in a way which would not further penalize year round residents? Moving item (16)(rental cars) from the energy efficiency group would seem a logical move here. Moving (13) from energy production would also keep Transportation decisions together. Are there any disincentives which could be recommended? Not to be negative but I just don't see a way to deal with the fact that people who go on vacation aren't all that likely to take a bus. What about working with some of the SSA's numbers showing such a dramatic increase in truck traffic over the last few years? Maybe there are some clues here that could lead to initiatives to reverse the trend.

Statement: Promote a transportation network which lowers vehicle miles traveled and utilizes alternative fuels, especially non-fossil, to create a non-polluting travel system which reduces traffic congestion.

Kate Warner's Edits (in blue)

Efficient Use of Energy

Reduce island energy use as much as possible by employing energy efficiency techniques.

- (1) 8 Switch to more efficient light bulbs
 - (7) 6 Develop disposal plan addressing CFLs (compact florescent bulbs)
 - (8) 5 Approach businesses that have unnecessary lighting
Develop Policy re night lighting and lighting at Businesses
 - (11) 5 Establish per capita energy allowance, above which people would pay extra, funding EE and RE programs
inclining block rate
 - (16) 3 Request auto rental agencies offer hybrid and other super-efficient, low-emission vehicles
VTA buses and school buses to also use these kinds of vehicles
Offer incentive to encourage use of hybrid or other efficient vehicles by all islanders
 - (17) 8 Building code on Vineyard requiring greater EE in new construction
Develop incentive program to encourage upgrading of existing buildings to greater energy efficiency
offer funding or low interest loans
 - (18) 8 Require energy audit and EE upgrades at sale of home (similar to Title 5 septic)
 - (19) 3 Create energy "thermometer" showing Island's monthly energy usage
25-yr and 50-yr Targets
 - (22-23) 25-yr – reduce non-renewable energy use on Island by 50%;
reduce electricity use on MV by 50%
50-yr – net zero energy [note: core identified a strong relationship to item (8) and suggested rewrite. I did not attempt.]
All island electricity produced on MV
- Set some sort of carbon footprint level that people have to pay if they go above?

Energy Production

Produce all of our electricity and as much energy as we can locally.

- (3) 3 Mark the 20-year and 50-year projected levels of sea level rise in Edgartown and other towns
- (4) 4 Get each town to install a prominent wind turbine
- (5) 7 Install 500 2.4KW solar arrays (similar to one at SSA building)
- (7-8) 5 Towns make an impact by making a demonstrable commitment to renewable energy.
- (9) 1 Raffle off a solar array system
- (12) 6 Identify best sites for large-scale wind turbines considering:
wind resource, FAA regulations, NStar infrastructure and required upgrades to connect turbines, best open spaces for generation and closest to where loads are greatest.

- (13) 6 Get SSA to use biodiesel in new boat "Island Home"
 Require use of biodiesel in diesel-powered vehicles on MV
 Biodiesel from wastewater-grown algae (currently done in New Zealand)
 Require renewable energy generation as part of any new construction. Based on square footage of building? or % of budget or based on estimated carbon footprint of building.
 Develop program to provide funding or low interest loans to supplement electric water heating with solar hot water systems
 Require solar pool heating as part of all pool applications
25-yr Targets
- (15) 5 Create a storage medium for excess renewable energy generated.
- (16,30) 5 Island-generated power sufficient to meet electricity and transit demands [notes said to integrate (30) dealing with transit; consequently, I replaced "transportation" with "transit"]
 Provide power sufficient for island's electricity and for fueling of island vehicles.
- (22) * Require certification in efficient building techniques for builders [7] / for architects [4]
- (23) 8 All new buildings will be energy neutral
50-yr Targets
- (27) 9 No combustion of fossil fuels on MV
- (28) 9 Island has a municipal power utility (rewrite)
- (29) 7 All housing will have some renewable energy generation component

Waste/Biomass

Become a zero waste island through waste reduction, reuse, composting, recycling and using residual waste as an energy resource.

- (2) 5 Re-use resources first
- (4) 5 Island-wide composting
- (5) 4 Recycle materials; remove roadblocks
- (7-8) 9 Use biomass and construction debris to generate energy locally (rewrite)
- (10) 9 Educate on all topics (rewrite)
- (19) 5 Encourage cooperative, common waste management Island-wide
- (24) 6 Identify open areas of Island for production of food and energy crops
25-yr and 50-yr Targets
- (21,23) 7 Create a system where waste is utilized as an energy source for the island

Develop packaging policy to reduce supermarket waste?

Something about re-using bags?

Using clear plastic bags for waste disposal.

Some way to reduce 3rd class mail (ie catalogues)

Transportation---

Reduce energy used on MV for transportation.

- (1) 7 Focus on reducing vehicle miles traveled as having the greatest impact on energy use and carbon emissions
- (8) 8 Implement a fossil fuel impact fee (e.g. carbon tax)
25-yr and 50-yr Targets
- (13) 8 Seamless multi-modal transportation system between Island and mainland
- 15 System of multiuse paths as extensive as the road system.

Develop better system of public transit to make it compelling to use
system of "pulse vans" to allow for much more frequent service
Designate bus lanes to make traveling by bus quicker than traveling by car

Develop island-wide bike lanes or at least in 4 down-island towns to encourage travel by bicycle
Lay out system of island walking paths/sidewalks to encourage walking for transportation

Implement satellite parking so that pick up and drop off for SSA is remote.
Has to be incorporated with Bus lane policy.

Reduce transportation fuel use through planning techniques: for example- satellite service centers or an up-island grocery store?

Policy re: business districts
stores with apartments above.

Cluster zoning.

Public transit and offsite parking for all employees of down-island businesses.

Require all island diesel powered vehicles to use clean fuel alternatives
electric buses, hybrids, biodiesel
provide electricity generation to offset them
ie: school buses, VTA buses, SSA...