

Cape and Islands - Energy Initiative Success Stories

BLOCK A: 10:15 - 10:45

Mobilizing Your Sector, One Community at a Time - Table A, Bass River Room

Susan Starkey, Chair of UCB Green Sanctuary & Co-Chair of Faith Community Environmental Network starkey.susan@gmail.com

A step-by-step approach to climate change by one Faith Community inspired replication across Cape Cod from Falmouth to Provincetown. After mobilizing congregation members to reduce their Household Carbon Footprints, the community petitioning the town of Barnstable to erect solar panels in the historic district -- and won! Recognizing the strength that numbers bring to any initiative, we help form a *Faith Community Environmental Network* (FCEN), consisting of 17 congregations from a variety of spiritual traditions across the Cape. This is a great example of how a new sector can grow within the 5Cs. Join this conversation if you'd like to explore what religious organizations can do with the 'places' they own or oversee, and what they can do through work with their congregations. These two major strategies can be generalized to other organizations and groups.

Aggregation and Renewable Power Supply - Table B, Bass River Room

Austin Brandt, Cape Light Compact austin.brandt@capelightcompact.org

In 1997, the towns and counties of Cape Cod and Martha's Vineyard formed the nation's first community choice aggregation, the Cape Light Compact, a model that has since been replicated across Massachusetts and the United States. Since 2001, the Compact has operated a power supply program that leverages the aggregated buying power of Cape and Vineyard customers to negotiate rates, terms and conditions. This has led to the development of new renewable resources both on and beyond the Cape and Vineyard including: the formation of a local electric cooperative (CVEC) that has installed 28 MW of solar on the Cape and Vineyard, the addition of solar photovoltaic power on local low-income housing, and the reinvestment of REC funds used for the power supply program back to the Cape and Vineyard. In 2017, the Cape Light Compact continued the evolution of its power supply program and became one of several green aggregations in Massachusetts, meeting over 100% of power supply customers' load using renewable energy. Additionally, it extended the impact of its power supply program by supporting the development of new renewable energy regionally and nationally.

What does it mean when an Airline goes Green? - Room 1, Barnstable

Jim Wolf, Cape Air jim.wolf@capeair.com

Beginning in 2009 with a strategic and moral commitment to mitigate our contribution to atmospheric carbon, Cape Air's first goal was to reach "Net Zero" electricity at its Hyannis headquarters. Since then, we've updated our sustainability goals annually, teaming with government and business partners to conserve fuel in our aircraft fleet operations, reduced energy consumption at our far-

flung facilities, inspired our employee/owners to undertake energy efficiency and renewable energy generation projects at home, and joined with our communities to promote conservation, renewable energy production and responsible environmental stewardship. In 2012, Cape Air received the Environmental Merit Award from the EPA. We are currently working toward the day when we will fly you on fully electric aircraft whose batteries have been charged by locally-produced renewable energy.

Electric Public Bus Transportation - Room 2, Barnstable

Angie Grant, Martha's Vineyard Transit Authority angie@vineyardtransit.com

In 2017, the Martha's Vineyard Transit Authority (VTA) commenced an ambitious project to electrify its transit fleet and fuel the fleet with renewable solar energy and integrated energy storage. This system of locally generated renewables and storage and vehicle charging will create a first-of-its-kind fully integrated, clean, resilient, and flexible public transportation system. To date, the VTA has made great strides in its electrification project. The VTA received 6 all electric battery buses and they were put into transit service in August 2018, with four more buses expected in May of 2019. Subsequent work on operation and maintenance upgrades have commenced and when completed, the VTA's facility will have an electrical distribution system capable of supplying electricity for charging stations for 40 buses, 7 vans and 6 cars, multiple Energy Storage Systems (ESS), and integrated solar collectors. Designs also include a central control system that will manage vehicle charging, reduce peak demand by ESS discharge, and supply emergency power through a micro-grid.

Currently, the VTA has secured funding to install high capacity in-route inductive chargers at two locations, one in Edgartown and the other in West Tisbury, because the buses don't have enough range to make it through the transit day. By the end of fiscal year 2020 the VTA expects to have half of its fleet converted to electric buses and half of the inductive charging sites constructed and in use.

Electric Vehicle Showroom - Room 3, Barnstable

Tobias Glidden integrity11@gmail.com

The Shanty: A Renewable Showroom

How many times have you heard we have the technology and the capital to shift to a more sustainable society? The solution is more education. In the summer of 2018, The Shanty was launched as a solution to this problem on Nantucket. Located next to the busiest ice cream shop on the island, The Shanty is a renewable energy showroom. Partnering with ACKSmart, Energy Nantucket's only local solar installer, folks can learn about solar while enjoying ice cream. In addition, they can learn more about Vineyard Winds project, test ride a fun electric bike for sale, or obtain some solar lights.

BLOCK B: 10:50 - 11:20 AM

The Solar Floating Classroom: The Friends of Pleasant Bay - Table A, Bass River Room

Tony Wineman and Julian Davis Tom@cleanenergydesign.com and julian@areyspondboatyard.com

The purpose of this project was to create a sustainable way to get both youth and adults onto Pleasant Bay for marine and climate science education. The result is a pontoon boat 37 feet long and 12 feet wide, with a carrying capacity of 31 adults, powered by solar energy. The vessel was designed, financed and built by the Friends of Pleasant Bay in collaboration with Pleasant Bay Community Boating and the Center for Coastal Studies. The vessel has just been commissioned for use on Pleasant Bay. Next steps include a series of trips for local public school youth designed around science activities developed by their teachers.

Energy Efficiencies on New Cape Cod 5 Campus - Table B, Bass River Room

Matt Burke, Cape Cod 5 Savings Bank mburke@capecodfive.com

Cape Cod 5 is incorporating environmental stewardship into every aspect of our new Hyannis campus. When imagining a campus to support the next chapter of Cape Cod 5's Community Commitment, environmental consciousness led to the selection of a formerly developed site, design of the new building to LEED Gold standards, use of renewable energy, a parking structure to minimize an asphalt footprint, inclusion of energy efficient systems including smart window technology, incorporation of paperless systems and processes, among many other environmentally sound practices. Moreover, this project includes expansion of the sewer infrastructure for this site and abutters. We're looking forward to this next chapter of serving as our customers' trusted financial partner and contributing to the strength and vitality of our communities from our environmentally conscious campus.

Cronig's Market Solar Canopies - Room 1, Barnstable

Erik Peckar, General Manager, Vineyard Power Cooperative erik@vineyardpower.com

In 2012 Vineyard Power, a membership-based cooperative, partnered with a locally owned, forward thinking grocery store, Cronig's Market, to build the island's first solar parking lot canopy and EV charging stations. This allowed Vineyard Power to gain experience and organizational knowledge in renewable energy development, and paved the way for us to reach our larger strategic goal of community participation in the development of offshore wind. Utilizing a mechanism called Community Empowerment, Vineyard Power will enable municipalities to enter into power purchase agreements on behalf of their residents.

National Seashore Electric Vehicles and Charging Stations - Room 2, Barnstable

Lauren McKean, Park Planner, Cape Cod National Seashore lauren_mckean@nps.gov

A main goal of the park's Green Team is to make greenhouse gas emissions reductions a park priority. Since 2011, we have been tracking energy, transportation, and waste emissions. To this end, we have encouraged employee behavioral change towards energy use reduction, installed easy conservation measures such as insulation and LED lighting, and showcased solar photovoltaic arrays at Highlands Center and Herring Cove Beach. Waste reduction efforts include recycling beach and construction waste, as well as using green, non-toxic janitorial supplies and bio-based auto shop products. Additionally, water bottle filling stations have been installed at 6 locations, with more planned for the future. We have begun to green our fleet with 3 electric vehicles funded by DOE Clean Cities program and installed charging stations. And finally, we are integrating sustainability

and adaptation advised by science into long-term facility planning.

Electric School Bus Pilot Project - Room 3, Barnstable

Stephen Russell, MA Clean Cities Coalition Coordinator, MA Dept. of Energy Resources
stephen.russell@state.ma.us

Electric school buses are an exciting proposition for school districts because operating buses with electricity rather than diesel fuel creates public health benefits for school children riding in the bus. These vehicles are also quieter, reduce greenhouse gas emissions and are less expensive to operate and maintain. However, electric school buses are more expensive to purchase, and it is unclear if the higher initial capital costs can be reduced by lower operating costs. Electric school buses may also be used as a fuel storage resource, potentially creating a new revenue stream for school districts. The goal of the pilot project was to consider the costs and benefits of operating electric school buses to determine if this is a technology that should be more widely adopted. Currently, the data indicates that EV school buses are not quite ready for prime time. Therefore, the next steps after this pilot is to 1. Wait for EV buses to become more dependable and 2. Communicate to communities that propane fuel is a viable clean fuel alternative right now for towns to consider.

Block C - 11:25- 11:55 AM

Local Energy Efficiency Administration and LED Streetlight Conversion - Table A, Bass River

Margaret Song, Cape Light Compact msong@capelightcompact.org

A primary driver of the Cape Light Compact's formation was to administer energy efficient programs for the Cape and Vineyard instead of the local utility - to reinvest the efficiency funds paid by our ratepayers. As a result, since 2001 ratepayers have saved hundreds of millions of dollars through energy efficiency while encouraging local innovation. One example is the conversion of over 14,000 streetlights to energy efficient LEDs, saving towns approximately \$500,000 per year in energy costs. Because of the collective power of the towns working together, the Compact was able to test the lighting in each community and install them in a bulk procurement process thereby reducing costs for installation. Another example started in 2008, when the Compact applied Massachusetts Technology Collaborative grants and leveraged energy efficiency funds to install solar PV on 55 units of affordable housing units in Provincetown that achieved LEED for Homes, the first affordable housing development in the United States to achieve LEED for Platinum status.

Battery Storage of Electricity - Dennis-Yarmouth High School - Table B, Bass River

Liz Argo, Manager, Cape and Vineyard Electric Cooperative largo@cvecinc.org

The Cape & Vineyard Electric Cooperative has developed and now manages over 32 megawatts of solar energy. To date, savings of over \$10M have been provided to the twenty-one entities that participate in CVEC's projects. Greenhouse gas reduction from CVEC projects is equivalent to removing 67 million pounds of carbon equivalent annually. A carbon offset of this size is like taking

6,493 cars off the road each year. In addition to installing solar energy, the Cooperative is developing energy storage options to extend its functionality. The first such project is a battery system to be installed at the Dennis Yarmouth High School with a 590W PV system. Storage and PV working together will reduce electric costs and will provide resiliency in the face of climactic storm events. (The High School serves as the area's emergency shelter.)

If the storage model proves successful, CVEC will replicate the storage system at similar facilities on Cape Cod and Martha's Vineyard.

Nantucket Island-Wide Initiatives: Solar, Wind and EV Projects - Room 1, Barnstable

Lauren Sinatra, Nantucket Energy lsinatra@nantucket-ma.gov

Tobias Glidden, Vehicle Showroom integrity11@gmail.com

Nantucket has been taking big steps to foster innovation and lower cost of renewables and electricity. The town is unique by having two cables feeding the Island but it creates a number of peak load issues. In response, Nantucket established an Energy Office, which has created a number of innovative programs including energy audits, the creation of a CCA for the town, and a local Solar Rebate, the first in MA. Our large wind turbine at the High School serves as an additional symbol of change.

Outer Cape Energize: Provincetown, Wellfleet, Truro and Eastham Collaboration - Room 2, Barnstable

David Mead-Fox, Outer Cape Energize dmeadfox@gmail.com

Outer Cape Energize was formed in 2017 with the dual focus of reducing carbon emissions and saving money for the residents and businesses of the Outer Cape Towns of Provincetown, Truro, Wellfleet and Eastham. Through partnerships with Cape Light Compact and Self Reliance, and with financial and technical support from the Mass Clean Energy Center, Outer Cape Energize has three goals:

- To encourage solar photovoltaic (PV) installations for residents and small businesses on the Outer Cape;
- To encourage the adoption of technologies that use green-generated electricity in place of carbon-based fuels;
- To encourage the overall reduction of energy usage through conservation measures (Cape Light Compact energy audits and follow up work)

2017 Youth Climate Summit - Room 3, Barnstable

Keith Lewison, Educator, Cape Cod Academy lewison@gmail.com

Today's youth realize that climate change is the greatest challenge their generation faces. However, rarely do they have the opportunity to learn and act collectively on this issue. In the spring of 2017 we gathered over 100 students from across the Cape for the first Youth Summit on Climate Change. Together students heard from experts about the latest climate science and discussed potential local impacts. The day's work prepared students to talk directly with regional decision-makers. Students left the summit energized and equipped to return to their own schools to mitigate the effects of climate change on Cape Cod.