Energy Efficiency on
Cape Cod and Martha’s Vineyard

Cape Light Compact

Public Informational Update
February 1, 2007
6:30 P.M. – 7:30 P.M.
Barnstable County Superior Courthouse
Meeting Rooms 11 & 12
Meeting Agenda

- About the Cape Light Compact
- Energy Efficiency Programs in Massachusetts
- State of Electricity Use on the Cape and Vineyard
- Cape Light Compact Energy Efficiency Programs
- Comments, Questions and Answers
Background on the Cape Light Compact

- Formed in 1997 to advance the interests of consumers in the newly restructured electric industry.
- Includes all towns on Cape Cod and Martha’s Vineyard.
- Compact Governing Board made up of officials of all towns.
- Power supply:
  - Default service power supply commenced May, 2002.
  - All customers on competitive supply as of March 1, 2005.
  - Opt-in Cape Light Compact Green\(^{(SM)}\)
- Consumer Advocacy.
- Energy Efficiency.
Energy Efficiency in Massachusetts

- Since the 1980s, electric utilities in Massachusetts have implemented energy efficiency programs in their territories.

- Massachusetts Electricity Restructuring Act established a fixed charge on all ratepayers to collect funds for energy efficiency.

- The Restructuring Act also enabled towns and cities to establish municipal aggregators, who could:
  - Purchase power on behalf of all customers in the municipality.
  - Implement the energy efficiency programs instead of the local electric utility.
  - Administer rate-payer funded energy conservation surcharge
### Sample Electric Bill

**Account Number**: 1297 357 4010  
**Billing Date**: Jan 8, 2004  
**Next Read Date**: Feb 4, 2004

<table>
<thead>
<tr>
<th>Service Provided to</th>
<th></th>
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<tbody>
<tr>
<td>E ORLEANS MA 02643</td>
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#### Electricity Used

<table>
<thead>
<tr>
<th>Rate 32-Residential Nonheat - Annual</th>
<th></th>
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<tr>
<td>Meter 7047605</td>
<td></td>
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<td></td>
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</table>
Jan 06, 2004 Actual Read | 15215 |
| Dec 04, 2003 Actual Read | 14544 |
| 33 Day Billed Use | 671 |

<table>
<thead>
<tr>
<th>7047605</th>
<th>KWH</th>
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<tbody>
<tr>
<td>12/04</td>
<td>608</td>
</tr>
<tr>
<td>11/03</td>
<td>565</td>
</tr>
<tr>
<td>10/02</td>
<td>809</td>
</tr>
<tr>
<td>09/03</td>
<td>1023</td>
</tr>
<tr>
<td>08/04</td>
<td>629</td>
</tr>
<tr>
<td>07/07</td>
<td>650</td>
</tr>
<tr>
<td>06/04</td>
<td>516</td>
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#### Account Summary

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Previous Bill</td>
<td>90.06</td>
</tr>
<tr>
<td>Payment - Thank You</td>
<td>-90.06</td>
</tr>
<tr>
<td>Total Cost Electricity</td>
<td>99.03</td>
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</table>

**Amount Due**: $99.03

#### Cost of Electricity

<table>
<thead>
<tr>
<th>Delivery Services (PRORATED)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Charge</td>
<td>3.73</td>
</tr>
<tr>
<td>Distribution</td>
<td>.04524 X 671 KWH</td>
</tr>
<tr>
<td>Transition</td>
<td>.02652 X 671 KWH</td>
</tr>
<tr>
<td>Transmission</td>
<td>.00564 X 671 KWH</td>
</tr>
<tr>
<td>Renewable Energy</td>
<td>.00050 X 671 KWH</td>
</tr>
<tr>
<td>Energy Conservation</td>
<td>.00250 X 671 KWH</td>
</tr>
</tbody>
</table>

**Delivery Services Total**: 57.70

<table>
<thead>
<tr>
<th>Supplier Services</th>
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<tbody>
<tr>
<td>Generation Charge</td>
<td></td>
</tr>
<tr>
<td>Standard Offer Svc</td>
<td>.06159 X 671 KWH</td>
</tr>
</tbody>
</table>

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*Ratepayer funding of Cape Light Compact Energy Efficiency*
State of Electricity Use on Cape & Vineyard

Cape & Vineyard Total Annual Electricity Sales Comparison

Sales (kWh)

Year

2002 2003 2004 2005 2006

1,934 2,039 2,040 2,093 2,010

Millions

0 500 1,000 1,500 2,000 2,500
New England’s Generation Mix: More Than 60% Natural Gas and Oil

Summer 2000

- Natural Gas: 4,255 MW (17.7%)
- Oil: 8,150 MW (34.0%)
- Nuclear: 4,359 MW (18.2%)
- Coal: 2,814 MW (11.7%)
- Pumped Storage: 1,679 MW (7.0%)
- Hydro: 1,626 MW (6.8%)
- Other Renewables: 1,092 MW (4.6%)

Total: 23,975 MW

Summer 2006

- Natural Gas: 11,803 MW (38.1%)
- Oil: 7,549 MW (24.4%)
- Nuclear: 4,448 MW (14.4%)
- Coal: 2,846 MW (9.2%)
- Pumped Storage: 1,672 MW (5.4%)
- Hydro: 1,691 MW (5.5%)
- Other Renewables: 922 MW (3.0%)

Total: 30,931 MW

Note: Units in the “Other Renewables” category include those fueled by biomass, refuse, and wind.

Source: ISO-NE MA Roundtable 2006
Energy Conservation Goals

✓ Reduce Usage
✓ Save Money
✓ Help Environment

During the first 18 months the Compact programs have:
- Served 13,394 customers.
- Saved 7,900 MWh of energy.
- Increased the efficiency of 134 newly built homes.

In October 2002, the Compact held an Energy Fair:
- Sold 968 efficient lamps and fixtures.
- Sold 200 efficient torchieres.
- Turn-in and sold 300 efficient dehumidifiers.
- Saved roughly 169 MWh per year of energy.
Compact Efficiency Plan Results for 2006

- The Compact is now implementing its Phase III Efficiency Plan
- Annual budget of rate-payer funds in excess of $5 million
- High Annual Participation rates (Preliminary 2006 Results):
  - Served over 9,550 customers
  - Over 18,500 MWh of energy saved
  - Equivalent to supply needs of over 2,500 homes (avg 7200 kWh/yr)
  - 4 Energy Fairs held on Martha’s Vineyard and Cape Cod in 2006
  - Second Annual CFL School Fundraiser
  - LED Holiday Light Fundraiser Pilot Project
  - Continue to expand and innovate (website, renewables)
  - Customer referrals is highest method of program promotion
The Plan has a budget of over five million dollars per year.

The budgets are allocated to customer sector based on the amount of funds contributed from electricity sales (kWh):

- Low-Income: $0.7 million
- Residential: $2.1 million
- Commercial: $2.3 million
- Total: $5.1 million (approximately)

Many of the key budgets are allocated to each town, based on the amount of funds contributed by each town.
### Compact Efficiency Plan: 2007 – 2012
#### Program Cost Effectiveness (Annually)

<table>
<thead>
<tr>
<th>BCR Activity</th>
<th>TRC Benefit/ Cost</th>
<th>TRC Net Benefits</th>
<th>Total Benefits ($000)</th>
<th>Total Costs ($000)</th>
<th>PA Costs ($000)</th>
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</thead>
<tbody>
<tr>
<td><strong>Residential</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A02a Residential Lost Opportunity</td>
<td>1.57</td>
<td>$680</td>
<td>$1,881</td>
<td>$1,201</td>
<td>$338</td>
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<tr>
<td>A03a Residential Retrofit 1-4</td>
<td>2.08</td>
<td>$1,564</td>
<td>$3,007</td>
<td>$1,443</td>
<td>$1,079</td>
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<td>A04a Residential Lighting</td>
<td>7.40</td>
<td>$3,071</td>
<td>$3,551</td>
<td>$480</td>
<td>$364</td>
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<tr>
<td>A04b Residential Appliances</td>
<td>2.96</td>
<td>$2,007</td>
<td>$3,033</td>
<td>$1,026</td>
<td>$347</td>
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<td><strong>Subtotal: Residential</strong></td>
<td><strong>2.76</strong></td>
<td><strong>$7,322</strong></td>
<td><strong>$11,472</strong></td>
<td><strong>$4,150</strong></td>
<td><strong>$2,129</strong></td>
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<td><strong>Low Income</strong></td>
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<tr>
<td>B03a Low-Income Retrofit 1-4</td>
<td>3.26</td>
<td>$1,318</td>
<td>$1,902</td>
<td>$584</td>
<td>$584</td>
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<tr>
<td>B03b Low-Income Retrofit Multifamily</td>
<td>3.66</td>
<td>$173</td>
<td>$238</td>
<td>$65</td>
<td>$65</td>
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<td><strong>Subtotal: Low Income</strong></td>
<td><strong>3.30</strong></td>
<td><strong>$1,491</strong></td>
<td><strong>$2,140</strong></td>
<td><strong>$649</strong></td>
<td><strong>$649</strong></td>
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<tr>
<td><strong>Com/Ind</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>C02a C&amp;I Lost Opportunity</td>
<td>1.99</td>
<td>$218</td>
<td>$438</td>
<td>$220</td>
<td>$180</td>
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<td>C03a Large C&amp;I Retrofit</td>
<td>2.82</td>
<td>$1,010</td>
<td>$1,565</td>
<td>$555</td>
<td>$481</td>
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<td>C03b Small C&amp;I Retrofit</td>
<td>2.86</td>
<td>$3,378</td>
<td>$5,194</td>
<td>$1,816</td>
<td>$1,594</td>
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<tr>
<td><strong>Subtotal: C&amp;I</strong></td>
<td><strong>2.78</strong></td>
<td><strong>$4,607</strong></td>
<td><strong>$7,197</strong></td>
<td><strong>$2,591</strong></td>
<td><strong>$2,254</strong></td>
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<tr>
<td><strong>Grand Total</strong></td>
<td><strong>2.82</strong></td>
<td><strong>$13,419</strong></td>
<td><strong>$20,809</strong></td>
<td><strong>$7,390</strong></td>
<td><strong>$5,032</strong></td>
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</table>
Compact Efficiency Plan: 2007 – 2012
What’s New

- Residential New Homes Program:
  - Newly designed, new vendor, enhanced rebates
  - $1.5 million MTC grant for Green Affordable Homes

- Residential RCS/MassSAVE Home Energy Audit Program:
  - “75% pilot” to provide higher incentives to increase implementation
  - Adding central air conditioning or heat pump tune-up

- Low Income Programs:
  - 90% of funding to single family customers, coordination with LIHEAP
  - New construction delivered through common vendor with appliance package for low income occupants

- Commercial & Industrial Programs:
  - Small C&I “CFL pilot” and “Vending Miser Blitz”
  - Sponsor Advanced Buildings offered by New Buildings Institute
  - Coordinate and cost-share with KeySpan Energy Delivery
  - Joined UMass Amherst-Massachusetts Energy Efficiency Partnership
Customers receive an in-home energy audit, tiered based on level of interest (from walk-thru to comprehensive).

Auditor provides a report on home energy use and efficiency opportunities.

Low-cost efficiency measures are installed for free: light bulbs, water heater measures, pipe wrap, & weatherization.

Refrigerators may be eligible for rebates of $150, depending upon size, age and efficiency.

Thermal measures, such as insulation, are eligible for a rebates of 50% - 75% of the cost, including installation costs.

Customers with electric space heating may be eligible for an special rebate of $3,000 to replace the heating system with an efficient alternative.
Diagnostics – Blower Door Testing
Air Sealing
Insulation
Residential Products and Services Program

- No energy audit required.
- Energy Star® Lights Catalog
- Retailer Promotions

Rebates for efficient equipment are available at the time of purchase:

- Compact fluorescent light bulbs: $2 rebate.
- Efficient light fixtures: $10-$15 rebate.
- Efficient torchieres: $20 rebate.
- Efficient clotheswashers: $75 rebates on select models.
- Other promotional efforts with retailers and manufacturers.
Residential New Construction Program

- Seeks to improve the efficiency of homes at the time of construction or renovation (www.energystarhomes.com)
- Promotes the US EPA Energy Star Homes Program.
- Works with builders, architects and home buyers to introduce efficiency at early stages of home design.
- Provides a technical assistance and verification services to help homes qualify for the Energy Star Homes label.
- Also offers rebates:
  - $250 - $750 for building performance (CodePLUS or HERS Rating).
  - Additional Appliance Upgrade Incentive for Low Income occupied-homes
  - FREE HVAC commissioning services.
  - FREE code compliance documentation.
  - FREE CFL bulbs in all sockets.
Green Affordable Homes Program

- Built on lessons learned from 2003-2004 RNC Demonstration Project and grant from MTC.

- Seeks to promote homes that are not only super-efficient, but also environmentally sensitive, i.e., “green” homes, LEED-H scorecard.

- Uses a state-of-the-art rating system to identify and provide points for efficient and environmental improvements.

- Provides a tiered incentive structure to encourage higher efficiency.

- Building performance rebates as high as $19,000 per unit.

- Renewable Energy Systems rebated up to $20,000 per unit.

- Program launch for developers set for February 27, 2007.
Low-Income Programs

- Delivered through local community action agency.
- Cover the full cost of efficiency measures – customers do not have to contribute to costs.
- Address all cost-effective efficiency applications in a home.
- Integrated with other LI weatherization programs.
- Priority focus on programs for two key sectors:
  - Single-family homes/customers.
  - Multi-family homes.
Commercial and Industrial Programs

- Separate programs for key sectors:
  - New construction.
  - Small C&I customers.
  - Large C&I customers.
  - Government agencies.

- Programs provide audit or detailed technical assessment of the efficiency opportunities for each business.

- Programs offer financial incentives so as to reduce the payback period for efficiency improvements to 1-2 years.

- Government Agencies Program will pay for 100% of costs (capped at $75,000 per project per year).

- The Compact has implemented a cost-share of site assessments to include KeySpan Energy Delivery for gas/thermal opportunities.
Types of C&I Energy Saving Measures
NEED Project in Grades 3, 4 and 5

- Combined efforts of Barnstable County Cooperative Extension Service and Cape Light Compact.

- Partner with the NEED Project to provide teacher workshops, teaching tools, lesson plans and hands-on kits.

- Consistent with Massachusetts Science Standards

- Local teacher advisory board guides program

- HIGH Participation to date:
  - 100% of schools on Martha’s Vineyard
  - 95% of schools on Cape Cod
  - parents and extended families

Benefits of the Compact Efficiency Programs

- The programs offer immediate benefits by reducing the cost of generating, transmitting and distributing electricity.

- For every dollar spent on the Compact’s programs, there is roughly three dollars of reduced electricity costs.

- Over the six-year plan, we estimate that the programs will result in net (i.e., after removing the costs) benefits of roughly $81 million in reduced electricity costs.

- These programs will also help to reduce the environmental impact of electricity generation, estimated annual emission reductions* of:
  - CO2: 12,575,235 lbs
  - SO2: 23,165 lbs
  - NOX: 6,162 lbs

- These programs will also help stimulate jobs and economic development on the Cape and Vineyard.

*Source: Marginal emissions rates are for 2004 from a NEPOOL 2006 study as follows (lbs/MWh): CO2 – 1,102; SO2 – 2.03; NOX – 0.54
Helpful References

- www.energystar.gov - Energy Star
- www.energyconservatory.com - Diagnostic Tools for Building Performance
- www.reliance.org - Cape and Islands Self Reliance
  – LEED Ratings
Contact Info

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