

CHAPTER 19

COMMUNITY FACILITIES AND SERVICES

Policy Documents

ENERGY PORTION

Energy Portion – Endorsed by STM – 27 Nov 01 o- Art. 4

Prepared For
The Local Planning Committee
And
Growth Policy Advisory Council
By
Members of Select and Planning Boards

November 14, 2001

YARMOUTH COMPREHENSIVE PLAN
CHAPTER 19 - COMMUNITY FACILITIES AND SERVICES
ENERGY PORTION
EXECUTIVE SUMMARY

COORDINATION WITH YARMOUTH'S COMPREHENSIVE PLAN

The purpose of the Energy Portion of the new Community Facilities and Services Chapter is to coordinate the many varied proposals and programs available to the Town regarding energy conservation as that of a practical and useful body of projects can be followed that not only will help cost efficiency but also encourage job creation and the development of a number of desirable approaches.

The Comprehensive Plan is an attempt to help guide the growth of the Town in an orderly manner with proper balance given to varying uses and services. It is a guide to the many public and private decisions that will determine what the Yarmouth of the future will be like. It is an active and live document that responds to rapid change affecting the municipality.

The Yarmouth Plan is set up in 18 chapters covering basic issues germane to all municipalities such as land use, transportation and environment. Now this chapter goes beyond the 18 which are being completed to look at Community Facility and Service issues. Other subjects will be added in separate portions to this chapter.

This Plan is designed to serve as the Town's response to the Cape Cod Regional Policy Plan. As Yarmouth accommodates future growth and redevelopment the Town must ensure not only its ability to provide public services, but the preservation of its community character.

I. INTRODUCTION

The Cape Light Compact was formed by all 15 Cape Cod towns in 1997 following two years of study. The "Cape Light Energy Efficiency Plan" was then approved by the individual Boards of Selectmen, Barnstable Town Council, and at the various Town Meetings. The Compact was organized through a formal intergovernmental agreement signed by the authorized Cape town members. The purpose of the Compact has been to advance the interests of consumers in a competitive electric supply market which includes the promotion of energy efficiency methods.

The Cape Light Energy Efficiency Plan is in compliance with Massachusetts State Law and is consistent with the States Energy Goals. Furthermore, each participating municipality has a representative on the Compact's Governing Board. This Board sets policy and uses various technical and legal supports for the purpose of initiating Compact programs.

This portion of the Yarmouth Comprehensive Plan is designed to be a section of the Community Facilities and Services Plan chapter that includes goals and policies for promoting energy conservation, renewable energy, and providing options for small consumers faced with a deregulated electric industry. Efforts will be made to accomplish the following goals:

potential option for Cape towns. This technology is designed to harness wave energy and transform this power into electricity. By absorbing incoming wave energy, power modules create calm water in their lee. These types of modules can be mounted near shore in connection with existing coastal structures or can be installed further offshore. These technologies are presently in use at various installations throughout Europe.

V. ELECTRIC UTILITY DEREGULATION AND THE POTENTIAL FOR LOWER RATES.

Electricity is our most refined form of energy and its production, costs, and consumption pose increasingly critical impacts for the local economies, individual budgets, price security, and the environment. As other parts of the United States struggle with high prices associated with electric utility deregulation, it is important to work toward a distributed generation strategy of electrical power generation. Distributed generation using renewable energy technologies appears to be the best way to balance long-term price stability and adequate environment protection.

In search for lower rates, however, Yarmouth must not allow safety, environmental, and customer service standards to be reduced. The bidding process for competitive franchises should lay down specific standards on these points. At the same time, this competitive process should also be used to obtain concessions from the winning bidder on selective underground installation of specified existing overhead utility lines within a defined time frame.

VI. CAPE TOWNS AND ENERGY POLICY

All of the Cape's towns have demonstrated a strong interest in energy conservation, renewable energy, and reducing energy costs for consumers through participation in the Cape Light Compact. Most towns have included, as Yarmouth is doing, energy sections in their Local Comprehensive Plans and are in the process of establishing Energy Committees to carry out the policies.

VII. RECOMMENDED YARMOUTH TOWN POLICIES:

1. New development should be required to lay new utility lines underground for aesthetics and traffic safety, while maintaining a high degree of power reliability, and facilitating the development of walkways and bikeways.
2. Energy saving transportation activities including car pooling, mass transit programs, bicycling, and walking should be encouraged as an alternative to automobile trips. Where appropriate, historic footpaths should be maintained and safe bicycle and walking links should be created to establish an interconnected regional transportation system. Where appropriate, bikeways and footpath connection is between commercial, and residential neighborhoods and between compatible uses should be provided to create a safe alternative to travel on major roads.
3. Development and redevelopment should be designed to promote the efficient use of energy including orienting structures to take advantage of solar gain and to maintain solar access for adjacent sites. Site design should protect and optimize the potential for the use of solar energy for heating and electricity. Yarmouth Energy Committee should coordinate all energy components of the Plan.
4. The Cape Cod Commission should consider it a benefit, when reviewing Developments of

X. IMPLEMENTATION

ACTION ITEM #1 - The Town should create a standing Yarmouth Energy Committee (YEC) to oversee, implement and maintain the Energy portion of the Local Comprehensive Plan.

LEAD AGENCY - Board of Selectmen

TIME FRAME - Early

ACTION ITEM #2 - The Town should prepare an annual energy assessment to analyze municipal energy efficiency.

LEAD AGENCY - Board of Selectmen, Yarmouth Energy Committee

TIME FRAME - Early

ACTION ITEM #3 - The Town should create a model contract that will require the building designer to create a building that uses less energy per square foot of commercial space than the average commercial building.

LEAD AGENCY - Yarmouth Energy Committee,

TIME FRAME - Early

ACTION ITEM #4 - The Town should investigate the feasibility of placing utility lines underground for aesthetic and security purposes and to facilitate the development of walkways and bikeways.

LEAD AGENCY - Yarmouth Energy Committee, GPAC, LPC (P.B.)

TIME FRAME - Middle

ACTION ITEM #5 - The Town should present to Town Meeting the opportunity to place underground wires and work into the distribution contract if Town Meeting so desires.

LEAD AGENCY - Yarmouth Energy Committee

TIME FRAME - Early

ACTION ITEM #6 - The Town should work with the Cape Light Compact and other towns to seek lower electric rates for consumers, businesses, and local government through the utility deregulation process.

LEAD AGENCY - Yarmouth Energy Committee, Board of Selectmen

TIME FRAME - Early

ACTION ITEM #7 - The Town through the Yarmouth Energy Committee should work with the Compact to insure the energy efficiency, low income assistance and renewable energy programs are maintained in the contract with the distribution company.

LEAD AGENCY - Yarmouth Energy Committee, Board of Selectmen

TIME FRAME - Early

ACTION ITEM #8 - The Town should continue its work on the Fuel Assistance Program.

LEAD AGENCY - Yarmouth Energy Committee, Board of Selectmen, GPAC

YARMOUTH COMPREHENSIVE PLAN

CHAPTER 19

COMMUNITY SERVICES AND FACILITIES ENERGY RESOURCES PORTION

**Prepared by:
Charlotte Strièbel and Evelyn Hayes**

**For use in Comprehensive Plan
Endorsed November 27, 2001**

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YARMOUTH COMPREHENSIVE PLAN SCHEDULE OF PLAN ENDORSEMENTS

CHAPTER NO.	TITLE	TYPE OF ARTICLE	TOWN MTG. TYPE-DATE	ARTICLE NO.	ACTION
	Vision Statement	Policy <i>Amendment</i>	ATM- 27 Apr 94 ATM- 10 Apr 01	Art. 24 Art. 16	Endorsed Endorsed
1	Introduction to Comp Plan	Research			Not Presented
2	Outreach Program	Research			Not Presented
3	Population Study and Forecasts, 1995-2015	Research			Not Presented
4	Economic Development - Inventory	Research			Not Presented
5	Intergovernmental Coordination and Resources of Regional Importance	Research			Not Presented
6	Recreation and Open Space	Policy <i>Replacement</i>	ATM- 10 Apr 97 STM- 27 Nov 01	Art. 26 Art. 2	Endorsed Endorsed
7	Coastal Resources	Policy	ATM- 10Apr 97	Art. 27	Endorsed
8	Land Use/Growth Management	Policy	STM-1 Dec 98	Art. 1	Endorsed
9	Transportation Plan	Policy	ATM- 11 Apr 00	Art. 15	Endorsed
10	Economic Development, Analysis and Plan	Policy	STM- 11 Jan 00	Art. 7	Endorsed
11	Wetlands	Policy	ATM- 14 Apr 98	Art. 14	Endorsed
12	Water Resources Plan	Policy <i>Replacement</i>	STM- 29 Jul 97 STM- 27 Nov 01	Art. 2 Art. 2	Endorsed Endorsed
13	Wildlife and Plant Habitat	Policy	ATM- 14 Apr 99	Art. 14	Endorsed
14	Affordable Housing	Policy	STM- 10 Feb 98	Art. 2	Endorsed
15	Community Character Chapter - Scenic Vistas - Historic Preservation Portion	Policy Policy	ATM- 10 Apr 01 ATM- 10 Apr 01	Art. 15 Art. 15	Endorsed Endorsed
16	Infrastructure Chapter -Solid & Liquid Waste Portion	Policy	STM- 27 Nov 01	Art. 3	Endorsed
17	Intergovernmental Coordination and Resources of Regional Importance	Policy <i>Supersedes Chapter 5</i>	ATM- 10 Apr 01	Art. 16	Endorsed
18	Implementation, Financial Information, and Capital Programming	Policy	STM- 27 Nov 01	Art. 3	Endorsed
19	Community Facilities and Services - Energy Portion	Policy	STM- 27 Nov 01	Art. 4	Endorsed

COMMUNITY FACILITIES AND SERVICES CHAPTER

CHAPTER 19 - ENERGY PORTION

INTRODUCTION

Organization of the Comprehensive Plan

The Yarmouth Comprehensive Plan is organized so that it will be done by individual chapters about each pertinent subject. There are 18 of these in our basic work program, and 16 have been completed, with 11 endorsed by Town Meeting and the 5 others used as reference documents. We are the only Cape town using this incremental approach. It has been slower, but surer for us! This particular chapter numbered 19, in the work program, will contain a variety of community facility subjects. This document is its "long summary" form. The chapter represents the first step beyond the basic 18 subjects, the remaining 2 of which are being prepared to complete that segment of the work-program. It will deal with services being provided to the public by various units of government like energy, libraries, and ultimately recreation and boating.

Who is Preparing the Plan?

Primary guidance for the comprehensive planning program is being given by the Local Planning Committee, which is made up of the Planning Board, with the assistance of the Growth Policy Advisory Council. Much of the technical work has been done by the planning staff, with assistance from interns and planning aides, and with advice, recommendations and analysis from various consultants. Much of the professional material for this portion has been prepared by Charlotte Striebel of the Selectmen and Evelyn Hayes of the Planning Board. No steering sub-committee has been used at this stage to help gain consensus.

Presentation of the Plan Elements

You may have noticed the terms "executive summary", and "long summary" in the title pages and in the text. One of the problems in presenting any town's comprehensive plan is that it is written usually for three different groupings of people. Most want only the basics and not a lot of detail, thus we prepare "executive summaries". A second level of interest includes those looking for more basic technical and planning information, such as in this document, the "long summary". Finally, a few want to see our detailed and research materials. Thus we have prepared all three levels of reports for the Plan Elements.

Presenting the Comprehensive Plan

In preparing such a far-reaching and complicated plan as this, we realize there must be an extensive and continuous outreach program. In addition to the required hearing, we are continuing to use television and radio whenever possible, as well as specially prepared handouts for meetings and "executive summaries" for Town Meeting action. Each of the Comprehensive Plan's Chapters is also a "stand alone" document in itself, so that it can be used separately, or as part of the overall program.

Use of the "Long Summary" Approach

The middle level of detail described previously, or the so-called "long summary" is the support document we have used the most. These long summaries are sufficient in detail to satisfy most interested persons. They are also incorporated by reference into the Town Meeting votes on each chapter. This document is a "long summary" covering the subject of "Energy". It is expected that several other subjects will ultimately be added to this chapter.

YARMOUTH COMPREHENSIVE PLAN
SETTING THE SCENE

ENERGY PORTION - COMMUNITY FACILITIES AND SERVICES CHAPTER

- During 1993-94 a Barnstable County Energy Management Plan was developed by the Barnstable County Energy Task Force. That Energy Plan included over 200 pages of analysis of the County's energy use and potential policies and projects. The Plan made 12 final recommendations, including the establishment of a Barnstable County Energy Committee to carry out the other 11 recommendations. The Yarmouth Energy Plan is closely patterned after the County Plan and follows its format quite closely. The County Plan is mentioned or referenced often in the local plan as the reader will note.

- According to the Barnstable County Energy Management Plan, the average consumer on Cape Cod spends \$475.00 more on energy annually than the average off-Cape Massachusetts consumer, even though usage is 11% less. The Cape's electric costs are the fifth highest in the nation and its winter gas costs are the third highest. Yarmouth's costs are proportionately high.

- Cape Cod and Yarmouth can address its energy issues in two ways: 1) reduce the consumption of energy/or utilize more efficient fuels; and 2) seek to reduce the cost of energy from the provider. The County's Energy Committee is pursuing both objectives. The local Energy Plan suggests a similar course of action.

ENERGY CONSERVATION AND RENEWABLE ENERGY

- According to the Barnstable County Energy Management Plan, about 60% of the total Cape housing stock (81,000 units) does not meet current state and national energy code standards. About 26,000 units are owned or rented by low or moderate income residents, with many of the units being heated by high-cost electricity. Low and moderate income households are disproportionately affected by high energy costs in that they have to spend higher proportions of their income on energy.

- Over 44% of the Cape's energy use was devoted to residential energy use in 1990. Social and environmental damages were attributed to pollution from fossil fuel burned by this residential sector which was assessed at over \$38 million in value.

- Commercial/industrial/municipal buildings consume approximately 24% of the Cape's energy total, or \$105 million worth. The Federal Department of Energy estimates that significant conservation can take place in such buildings without reducing service.

- Even though government home weatherization and fuel assistance have been effective in concerning energy and making fuel costs affordable to low-income families, these programs have been cut drastically in recent years. Cape Cod and Yarmouth need to seek ways to promote energy conservation that utilize existing installations and do not require elaborate new initiatives. For instance, the proposed Community Energy Loan Program (CELP) would use local banks to

make energy conservation loans. Energy audits for residential and commercial buildings offered through existing utility and private programs need to be maintained. The Cape Cod Commission can, with its Development of Regional Impact (DRI) review process, encourage commercial and institutional projects to adopt advanced energy saving measures by considering them as benefits when such projects are evaluated.

- Using local renewable energy sources would enable Cape Cod to reduce the outflow of energy expenditures. Windpower has some potential here since the outer Cape has some of the highest and steadiest winds in the country. Nevertheless uncertainties raised by utility de-regulation, concerns for aesthetics, and the potentially high cost of land for siting wind turbines could provide obstacles to the significant development of wind power on Cape Cod over the short term. The Massachusetts Military Reservation, because it poses fewer aesthetic concerns than sites on the center of the Cape, might be a more feasible site for windpower development.

- Solar power is especially cost-efficient for water heating and passive space heating. Photovoltaic power, though not economical in many situations today, is expected to be significantly less expensive in the near future, and will allow de-controlled, small scale electric generation at sites off the power grid.

- Another emerging technology for electrical generation is the fuel cell. Fuel cells, using a chemical process with natural gas, produce little or no pollution, and are versatile enough to power a building, neighborhood, or even a town.

- Transportation on Cape Cod accounts for \$140 million, or 32 % of regional energy consumption expenditures. Since Cape Cod is so highly reliant upon the automobile, which creates traffic congestion as well as consuming much energy, the towns and the Commission are also encouraging alternative modes of transportation, including public transport, and carpooling. Others, such as bicycles, and walking paths, are being proposed in those towns with a larger summer population and, therefore, a younger one than Yarmouth's. Those communities with larger retirement-age populations are concentrating on improved public transit service.

- A special measure that public and private fleet users might take is to switch to propane gas, or Consolidated Natural Gas (CNG) that can save fleet users up to 40% of fuel costs and reduce air pollution at the same time.

ELECTRIC UTILITY DE-REGULATION AND THE POTENTIAL FOR LOWER RATES

- Besides cutting costs and reducing pollution through energy conservation and renewable energy, the Cape and the Town of Yarmouth need to focus on the opportunities for lowering electric costs to consumers and businesses through utility de-regulation. The State Dept. of Public Utilities has initiated proceedings to de-regulate the electric industry in Massachusetts. The County Commissioners, as part of a national partnership, obtained a grant from the Federal Department of Energy to study a competitive municipal franchise model, which the State has recognized as an optimum for de-regulation.

- The competitive franchise would provide options for local government, and give residential and commercial consumers market leverage in a competitive environment. The competitive franchise would enable municipalities or groups of municipalities to negotiate and award electric power boundaries through a bidding process. This approach would allow municipalities to aggregate a large number of customers to obtain the lowest possible price for the best level of service from the range of providers who might be offering electric power.

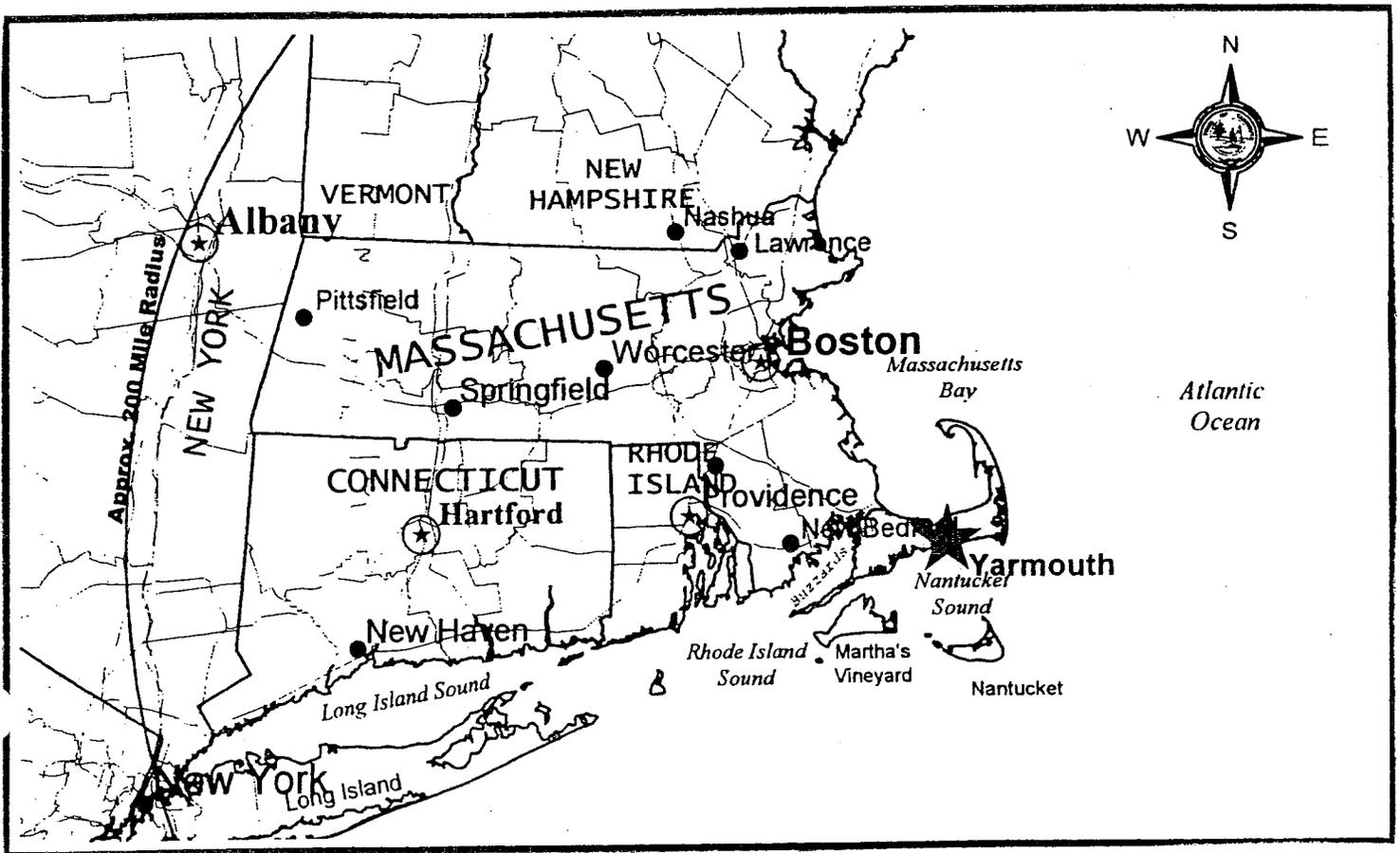
- As expected, the entire de-regulation process will take several years. The biggest issue will be who (the consumer, or the utility and its board/shareholders) will pay the costs of the "stranded investments" if utilities are de-regulated. The stranded investments are the uneconomical, high-cost sources of power that some utilities have built, or contracted for, and which would make them un-competitive in our de-regulated environment.

- In the search for lower rates, however, Cape Cod and Yarmouth must not allow safety, environmental, and customer service standards to be reduced. Any bidding process for competitive boundaries should lay down specific standards on these points. At the same time, this competitive process might also be used to obtain concessions from a winning bidder on selective underground installation of specified existing overhead utility lines within a defined time frame.

- As noted in the Introduction this chapter, No. 19, represents the first of a series of studies and plans on subjects not included in the basic 18 chapter work program for the Yarmouth Comprehensive Plan. These subjects were added to the suggested scope of local Comprehensive Plans after 1994 by the Cape Cod Commission.

- At present, it appears that "energy" will be a portion of a new chapter on community facilities and services, a wide-ranging subject that will include several important subjects in addition, such as libraries, and waterways management planning, and others that were suggested during the Intergovernmental Coordination Chapter's outreach and interviews. Since these subjects will be regularly subject to up-dating, expansion, and some deletions, it is important to note the flexibility of the Yarmouth Comprehensive Plan's amendment process which is being done incrementally.

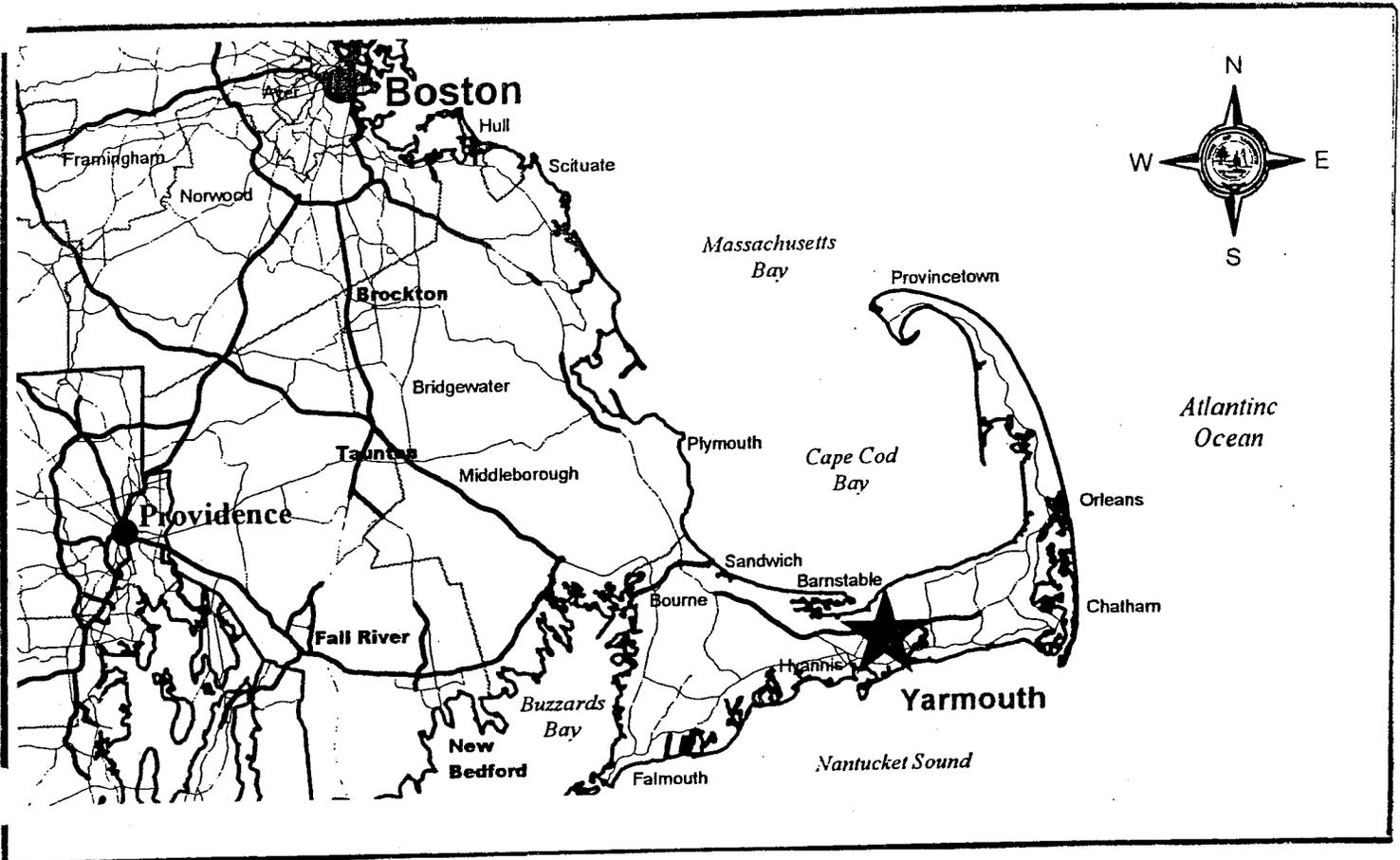
REGIONAL LOCATION MAP



19-1 Map from Here to New York City/Albany/and Portland/Maine

The importance of the Cape Cod location cannot be over-emphasized. Yarmouth lies on the Cape Cod neck some 22 miles out into the Atlantic Ocean on a spit of sand pushed up by the last glaciation approximately 50,000 years ago. It is both the best and worst of locations. On the one hand it is remote for some things, and yet very accessible for others. Improved telecommunications have made it just that much more accessible.

SOUTHEASTERN NEW ENGLAND MAP



19-2 Map of Yarmouth - in a southeastern New England Location.

While the Cape was indeed an off-beat site for many years, first the construction of the two bridges over the Canal in the early 1930's, and then the construction of the inter-state highway system in the mid-1950's made it highly accessible for tourists and retirees.

The Cape has boomed as a result. But, it is a boom that has been achieved at a price - traffic jams, pollution, over-crowding, noise, etc. But, this is a location that attracts high-tech trained business persons, especially in telecommunications and related businesses. However, that kind of businesses or industry, although dependent on rapid communications, will cause further growth and stress.

One of the main purposes of the Comprehensive Plan is to try to help deal with the dislocations related to change.

ENERGY RESOURCES GOALS AND POLICIES

GOAL I

To encourage energy conservation and improved energy efficiency, to encourage and stimulate investment in energy conservation, renewable energy, resources, and distributed generation, and to manage land uses to minimize energy distributions.

A. Minimum Performance Standards

1. New development should be required to lay new utility lines underground for aesthetic reasons, safety, monitoring, a high degree of power reliability, and facilitating the development of walkways and bikeways.
2. Energy saving transportation activities including carpooling, mass transit programs, bicycling and walking, should be encouraged as an alternative to automobile trips. Where appropriate historic footpaths should be maintained and safe bicycle and walking links should be created to establish an interconnected regional transportation system. Where appropriate bikeways and footpath connection between commercial and residential neighborhoods, and between compatible uses should be provided to create a safe alternative to travel on major roads.

B. Other Development Review Policies

1. Development and redevelopment should be designed to promote the efficient use of energy, including orienting structures to take advantage of solar gain and to maintain solar access for adjacent sites. Site design should protect and optimize the potential for the use of solar energy for heating and electricity.
2. Development and redevelopment should incorporate energy efficiency measures that exceed state standards. Energy efficiency construction techniques and materials to be encouraged would include, but not be limited to:
 - a. Above minimum R- values for insulation of walls, attics, and foundation
 - b. Use of thermal pane windows with low emissivity coating with high R values
 - c. Annual fuel usage efficiency ratings of at least 90% for all new heating systems
 - d. Use of segregated or on-demand water heaters.

C. Implementation

Cape Cod Commission Actions

1. The Commission should work with the Cape Light Compact (CLC) and other organizations on their projects related to energy conservation and renewable energy. CCC staff, in particular, should provide assistance in researching various energy conservation and renewable energy issues. The Commission should provide assistance to the CLC on its Community Choice Power Supply Program, Energy Efficiency Program (EPP), and a Distributed Generation Program.
2. The Commission should promote the development of energy efficient transportation alternatives.
3. The Commission should assist the CLC, town government, and other concerned organizations to promote energy conservation measures in existing buildings.
4. The Commission should work with the Town, utility companies, and private parties, to develop long term plans for re-locating existing utility lines underground, prioritizing locations when such underground installation will improve power reliability, safety, enhance heritage preservation, and community character, or restore scenic views.
5. The Commission should work with the CLC and other concerned organizations on changes to government policies and codes to promote the installation of renewable and distributed generation technologies.

D. Cape Light Compact Actions

1. The Cape Light Compact (CLC) and other agencies should work with the Barnstable County Commissioners and the Town on seeking lower electric rates for consumers, businesses, and the local government. This may entail congregating all consumers to achieve the lowest possible rates in the Community Choice Power Supply Program. The CLC should work with the municipality to ensure that energy conservation/demand site management and low-income assistance programs currently offered by utilities are maintained through de-regulation.
2. The CLC should encourage Cape Cod lenders to offer mortgages that promote energy efficiency.
3. The CLC should encourage the use of financially feasible renewable energy sources of distributed generation, particularly windpower, solar, and fuel cells.
4. The CLC and other organizations should research construction guidelines and incentives that improve on existing levels of conservation and renewable energy.

E. Recommended Town Actions

1. The Town should incorporate energy conservation and renewable energy policies in its Comprehensive Plan.
2. The Town should work with the Cape Light Compact through the Town's Compact representative on developing and promoting the Community Choice Power Supply Program, Energy Efficiency Program, and Distributed Generation Program.
3. The Town should enforce energy conservation standards for development and redevelopment.
4. The Town should consider providing incentives for the use of energy conserving building improvements and renewable energy devices in all existing and new buildings, if cost effectiveness over the improvements' expected lifetime can be demonstrated.
5. The Town should make its municipal buildings, facilities, and street lighting more energy efficient. A percentage of the net monetary savings from conservation at municipal buildings should be invested in further energy improvements.
6. The Town should consider utilizing clean, alternative fuels, like propane gas, consolidated natural gas (CNG), super-oxygenated fuel additions, such as ethanol and biodiesel, and electricity, for all new fleet vehicles and shuttle buses.
7. The Town should work with the Cape Cod Commission, Cape Light Compact and other organizations, towards educating citizens about renewable energy and distributed generation through public demonstration projects.
8. The Town should establish a priority list of overhead utility lines and associated structures that should be installed underground for reasons of safety, enhancement of community character, heritage preservation, or restoration of scenic views.