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ENERGY MANAGEMENT THROUGH PLANNING-- THE FLORIDA EXPERIENCE

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Developed dependence of the United States on oil and natural gas as primary energy sources is especially acute in Florida, where ninety (90%) of the state's energy needs comes from these two sources. Since Florida only produces enough oil and natural gas to meet the equivalent of fifteen (15%) of its energy needs, it is dependent on other domestic and foreign sources to meet its present and growing energy requirements. Of the petroleum products consumed as fuel in Florida, approximately sixty (60%) originates outside the United States.

Furthermore, the health of Florida's economy is extremely sensitive to energy issues. Florida's largest economic sectors, farming, construction, and those that are tourism-related, are all energy dependent, as demonstrated during the oil embargo of 1973-74. Another factor that puts a strain on energy supplies is the continued growth of population, an 0.8 percent increase from mid-1975 to mid-1976 (Ref. 1) to 8,551,814.

Because of the lack of primary energy sources Florida's recent growth has been dependent on electricity, doubling the demand for electricity from 1968 to 1975; residential electrical consumption increased 103 percent and commercial consumption increased 136 percent, primarily from heavy use of air conditioning and electrical appliances. This demand has caused the electric utility sector to be the fastest growing primary energy consumer in the State, surpassing transportation's consumption in 1970. In 1968, the electric utilities consumed 452.6 trillion Btu's of primary energy, which increased to 823.7 trillion Btu's by 1975, an increase of over 80 percent. The 1975 consumption of energy by electric utilities represented 44 percent of the total State's consumption of 1,863.6 trillion Btu's (Ref. 2).

When end-use of energy is considered, transportation is the largest user in Florida, consuming 38 percent in 1975, or 703.2 trillion Btu's. Fig. 1 shows a comparison of energy use by major end-use sectors be-

tween the United State and Florida in 1975 (Refs. 2,3)). It is seen that industrial use of energy is much more significant in the U.S. than in Florida. It might be noted that in 1975, Florida electric utilities consumed 823.7 trillion Btu's internally delivering 247.3 trillion Btu's to other end-use sectors, a conversion efficiency of 30 percent.

One point often overlooked about energy is the indirect forms energy often takes. Materials, food, goods and services daily represent large indirect energy investments and expenditures. Indirect forms of energy either (1) contain energy (food), (2) require energy for preparation and maintenance (homes, cars, containers and packaging materials) or (3) are necessary to sustain other energy producing processes (fertilizer, medicine).

Materials, goods, and services imported for use in Florida actually represent a "second source" of energy to the state. Figure 2 provides an indication of the relative magnitude of direct and indirect energy consumption calculated for a sixteen county area of South Florida (Ref. 4).

The issue of energy in Florida has expanded to include concern for general economic well-being, social and governmental institutions, and individual lifestyles. Most important, the energy problem eventually becomes an economic problem. Because energy is the factor by which all other resources are made available, it will ultimately determine the fare of Florida's physical and economic growth. The impact of rising energy prices will be reflected throughout the economy in increased production costs of materials, goods, and services. Furthermore, as costs of energy and other resources continue to increase: (1) historic increases in productivity will be increasingly difficult to maintain, (2) inflation will continue at rates high compared to historic standards, (3) economic growth will slow, (4) energy and other basic needs will probably consume a greater portion of individual incomes, and (5) government will find it increasingly difficult to maintain desired levels of services.

Florida's approach to this far-reaching and complex problem has involved an emphasis on long-range planning to develop a comprehensive energy policy, to view energy as a resource basic to all aspects of the state society. An emphasis has also been developed on citizen and government involvement at the local level, to assist in energy policy planning and implementation.

HISTORY OF ENERGY PLANNING IN FLORIDA

The first movement in Florida for the

development of a comprehensive state plan was initiated by the 1972 Legislature that passed the State Comprehensive Planning Act (Chapter 23, Part 1, Florida Statutes). The Act mandates the preparation and revision, on a continuing basis, of a State Comprehensive Plan intended to "provide long-range guidance for the orderly social, economic, and physical growth of the state."

The 1973 Legislature extended the requirement for planning to local governments with the passage of the Local Government Comprehensive Act (Chapter 163, Florida Statutes). The 1973 Legislature also established the Florida Energy Committee to assess Florida's energy situation and make recommendations to the Legislature for appropriate actions. The Committee was composed of legislators and private citizens appointed by the Governor, Speaker of the House, and the President of the Senate, and had a full-time staff and annual appropriation of \$400,000. By the time the Committee's two year authorization had expired, it had completed a number of important studies and prepared a comprehensive list of our fifty energy-related recommendations (Ref. 5).

In its 1974 session the Legislature provided for the establishment of the Florida Solar Energy Center and instructed the Department of General Services through the Energy Conservation in Buildings Act (Chapter 255, Florida Statutes), to consider energy costs in the construction of state buildings. The 1974 Legislature also established the Energy Data Center in the Department of Administration's Division of State Planning.

Acting on recommendations of the Florida Energy Committee and the wishes of Governor Askew, the 1975 Legislature concentrated a number of energy-related responsibilities in the Department of Administration (Chapter 75-256, Laws of Florida). The Secretary of Administration, Lt. Gov. J.H. "Jim" Williams, formed the State Energy Office to carry out the designated responsibilities: (1) data collection, analysis, and forecasting, (2) energy policy analysis and recommendations, (3) petroleum allocation and contingency planning, and (4) energy conservation programs.

FLORIDA ENERGY POLICY

The 1977 Legislature took a significant step in energy planning with the passage of a State Energy Policy (Section 377.702, Florida Statutes). The policy developed by the Florida Energy Office with input from citizen advisory committees and an inter-agency State Advisory Council (see subse-

quent section), and introduced in the session by Representative Harold Dyer and Senators Warren Henderson, Jim Glisson, John Vogt and Jon Thomas, consists of eight points enumerated below.

It is the policy of the State of Florida to: (1) Develop and promote the effective use of energy in the state, and discourage all forms of energy waste. (2) Play a leading role in developing and instituting energy management programs aimed at promoting energy conservation, include energy considerations in all planning, and utilize and manage effectively energy resources used within state agencies. (3) Encourage local governments to include energy considerations in all planning, to support their work in promoting energy management programs, and to include full participation of citizens in the development and implementation of energy programs. (4) Consider in its decisions the energy needs of each economic sector, including residential, industrial, commercial, agricultural and governmental uses. (5) Promote energy education and the public dissemination of information on energy and its environmental, economic, and social impact. (6) Encourage the research, development, demonstration, and application of alternative energy resources, particularly renewable energy resources. (7) Consider in its decision-making the social, economic, and environmental impacts of energy-related activities so that detrimental effects of these activities are understood and minimized. (8) Develop and maintain energy emergency preparedness plans to minimize the effects of an energy shortage within Florida.

REGIONAL ENERGY ACTION! COMMITTEES

Implementation of energy policy affects each citizen of the state through economic impacts, changes in life-styles, and potential limitations in goods and services. Consideration of these factors led the Florida Energy Office to the conclusion that active local citizen involvement was a necessity.

As a result, Regional Energy Action! Committees (the exclamation point as part of the name) or REAC's were established in an effort to promote the efficient energy use in the State, and to lend direction, coordination, and encouragement to local energy conservation efforts.

For the purposes of the REAC program, the State was divided into ten regions. The boundaries of these regions are co-terminus with those of the State's Regional Planning Councils, in order to coordinate with these established units of local governments. Each region is the site of

one Energy Action! Committee.

Established at the request of the State Energy Office by personal invitation to prospective members from Lt. Gov. Williams the Committees are viewed as citizens' advisory and action committees. They were initially composed of approximately two hundred and fifty citizens who had shown concern and leadership in energy-related matters. These individuals represent a broad spectrum of interests related to energy: education, agriculture, industry, commerce, environment, consumer, transportation, government, labor, and others.

The REAC's have a two-fold purpose:

(1) to provide a two-way flow of information between the State Energy Office and the citizens of Florida on energy conservation policies and programs, and (2) to play a leading role in the initiation and implementation of these policies and programs at a local level. Thus, the REAC's play an advisory role to the State Energy Office and an action role within their region. In the first role they are requested to be responsive to the State Energy Office; in the second, they are to a large extent independent, able to implement energy programs of their choice with the approval and support of the State Energy Office.

The first major accomplishment of the REAC's was the formulation of an energy policy for Florida. The House of Representatives had drafted such a statement and had passed it in the 1976 session of the Legislature, but it had died in the Senate. Working from the House draft, the REAC's met several times over a six-month period of time, first finalizing a policy for each region, and later working out an amalgamation of the ten individual policies into one statewide policy. The energy policy statement worked out by the REAC's was passed by the 1977 Legislature, and signed into law by Governor Askew, June 24, 1977.

Having set the general direction the State should be following in energy-related activities, the REAC's began their consideration of legislation or other actions necessary to begin implementation of the energy policy. The State Energy Office had provided them with extensive information as well as actual draft legislation on a variety of possible energy-related actions. In addition, the State Energy Office had included the REAC's as an integral part of its planning process for the Energy Element of the State Comprehensive Plan developed under Public Law 94-163, the Energy Policy and Conservation Act of 1975.

In fulfillment of their second, action-related function, the REAC's have cooperated with the State Energy Office in energy activities being sponsored in their regions. This has included, for example, participation in public hearings, the presentation of energy conservation awards, and the distribution of energy conservation literature. In addition each individual REAC has sponsored activities of its own with some degree of State Energy Office support. These activities have generally been in the area of public information: they have established speakers' bureaus, worked with the media in their regions to encourage energy programming, and held workshops for the public.

So far no direct financial support has been given to the REAC's. The State Energy Office has committed staff time and travel monies to the effort: one full-time coordinator to provide liaison among the regions, as well as between the regions and the State Energy Office, and the half time use of a secretary and a public information specialist. The State Energy Office anticipates the use of federal conservation funds to establish grant programs for the REAC's through the State's Regional Planning Councils, which would make grant monies available for regional energy activities.

In 1977, an eleventh planning district was formed, necessitating the creation of an eleventh committee. Figure 3 shows the boundaries of the eleven REAC's.

ENERGY ELEMENT OF THE STATE COMPREHENSIVE PLAN

The Energy Element is one of eighteen elements of the State Comprehensive Plan. Thirteen of these elements (including energy) will be submitted to the 1978 Legislature for review and possible adoption, with the rest to be submitted in future legislative sessions.

The Energy Element is an expansion of ideas and concerns developed and expressed in the Florida Energy Policy, with a view toward implementation of these concerns. The Energy Element also acknowledges the philosophies and strategies underlying the Carter Administration's National Energy Plan as they serve as both constraints and opportunities to the formulation of state energy policy.

Lead agencies in the preparation of the Energy Element were both in the Department of Administration, the Division of State Planning and the State Energy Office. A Policy Advisory Committee assisted in the element's preparation and review; the committee's membership represented views

of both government and private citizens. In addition, an interagency work group with representatives from the Florida Resource Recovery Council, and Department of Transportation, Commerce, Community Affairs, and Environmental Regulation assisted the Department of Administration.

At the time of this writing, a draft of the Element has been submitted to the Governor for his review and approval. The state goals, objectives, and policies enumerated below are those that were recommended by the committee and work group.

The Energy Element describes the beginning of a long-range, comprehensive approach to governmental energy policy. The Energy Element addresses various aspects of energy supply and use including the impact on the Florida economy, future growth, and the role of government. The Element identifies broad strategies for guiding more effective and efficient use of energy in order to enhance the economic, environmental, and social stability within the state and to reduce vulnerability to national and world events beyond the control of Florida.

The thrust or goal of the Element is twofold. To develop, utilize, and manage all forms of energy in order to:

- (1) achieve a high quality of life for all Floridians, including future generations; and
- (2) sustain a long-term stable and competitive state economy.

Major objectives and policies supporting the Goal of the Element are:

Objective A

An adequate, flexible, reliable supply of energy for Florida.

Policies

1. Achieve greater diversification of Florida's energy supplies.
2. Encourage maximum practicable stockpiling of fuels by energy users during periods of less demand.
3. Promote diversified transportation system capable of reliably and economically transporting present and future energy supplies.
4. Develop and improve the availability of accurate and cost-effective information concerning energy supplies in Florida.
5. Develop and maintain emergency preparedness plans for energy that, in the event of a disruption of energy supplies, minimize hardships to consumers and assure efficient allocation of fuels based on needs and priorities.
6. Ensure that current fuels utilized

for Florida markets continue to remain available.

7. Plan for the orderly transition from present fuels to alternatives.
8. Simplify governmental decision-making processes and create an administrative attitude which removes policy uncertainty and leads to orderly and predictable regulatory responses.

Objective B

Development and promotion of the most effective and efficient use of all forms of energy available to the state.

Policies

1. Identify and remove institutional barriers to effective and efficient use of energy.
2. Practice a full range of fuel energy conservation activities in all consumer sectors, including:
 - a. in the near term, removal of inefficient energy production or consumption through technical changes or operational movements.
 - b. in the long-term, adoption of practices which are less energy-intensive in accomplishing tasks or elimination of the needs for the tasks.
3. Achieve energy pricing which includes all energy costs and reflects the true cost of energy.
4. Encourage practices which insure that each form of energy is used to do work for which it is best suited.
5. Recognize, protect, and properly utilize the energy subsidies provided by natural ecological system to complement or substitute for energy-intensive technologies.

Objective C

Management of energy supplies and use consistent with environmental quality and the health, safety, social, and economic well-being of the public.

Policies

1. Assure that energy costs are borne fairly and equitably throughout society.
2. Recognize and seek to meet the minimum energy needs of all citizens.
3. Minimize the environmental, economic, and social impacts of future energy and energy-related facilities in Florida.
4. Incorporate energy considerations as major components into the existing plans of state and local governments.

Objective D

Reduction of the vulnerability of Florida's economy to rising energy prices, interruptions of supply, and dislocations from the future transition to alternative energy sources.

Policies

1. Encourage economic planning, analysis, and forecasting which address potential economic growth in Florida from the perspective of energy availability and higher energy prices.
2. Develop a greater understanding among the public of how higher energy prices, availability of existing supplies, and new energy sources may influence future national and regional economic demographic patterns.
3. Develop a greater understanding of both the specific relationships between, and implications of energy use and various sectors of Florida economy.
4. Promote the effective and efficient use of all forms of energy in existing economic sectors and industries.
5. Categorize industries by their supply and use characteristics and consider these in the promotion of existing industries.
6. Identify and encourage industries with sustainable markets under conditions of energy and/or limited energy.

Objective E

Management and development of other physical, natural, economic, and human resources with minimum unnecessary long-term energy-intensive investments.

Policies

1. Encourage land use patterns which by design, size, location, and density minimize long-term energy commitments to construction, operation and maintenance, and replacement.
2. Encourage and promote natural resource conservation and utilization consistent with sound energy management principles.
3. Encourage a careful ongoing evaluation of governmental expenditures and revenues in light of future uncertainties about energy supplies and related economic implications.
4. Encourage a careful, ongoing assessment of governmental education, social, and human resource assistance programs to ensure they provide productive, meaningful, and energy-effective work for all citizens.

Objective F

Education of all citizens about energy issues and increased community involvement and energy-related decisions.

Policies

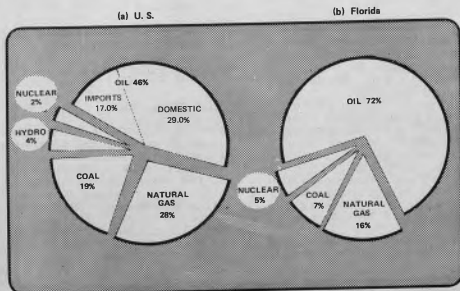
1. Create and instill "energy awareness" in Floridians.
2. Encourage citizens to undertake individual actions and provide the public with the mechanism to do so.

CONCLUSION

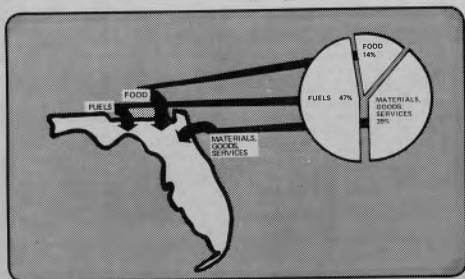
President Carter has identified the energy issue as perhaps the most important and far-reaching issue that his administration will face. The great achievements of the United States that have led to the place of pre-eminence in the world have largely been the result of cheap and abundant energy. The limitation on world fossil fuels supplies coupled with the growing demands of its citizens demands long-range planning. It cannot be guaranteed that planning will solve the problem, but it can be guaranteed that the solution will not appear without it.

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