Repealed by Ord. No. 5770

Proposed No.: 77-276

ORDINANCE NO. 3649

AN ORDINANCE relating to the comprehensive planning, amending Ordinance 263 and King County Code 20.12, and adding a new section on energy conservation.

FINDINGS OF FACT:

The King County Council finds that:

1. Conservation of energy resources has become one of the most critical issues facing the nation.
2. The quality of life enjoyed by King County residents depends increasingly on the energy consequences of the choices made by public and private institutions.
3. King County as a metropolitan County can provide an example of practical steps, which can be taken immediately to help balance energy needs with energy resources.
4. The Policy Development Commission adopted on September 23, 1976, and this Council adopted by motion 2787 on December 6, 1976, the attached statements as energy conservation policies for King County.

BE IT ORDAINED BY THE COUNCIL OF KING COUNTY:

NEW SECTION. SECTION 1. Ordinance 263 and King County Code 20.12 are hereby amended as follows:

Energy Conservation Policies

The Energy Conservation Policies attached hereto, as amended, are adopted as an amendment to the Comprehensive Plan for King County.

INTRODUCED AND READ for the first time this 4th day of April, 197 .

PASSED this 3rd day of April, 1978.

KING COUNTY COUNCIL
KING COUNTY, WASHINGTON

Bruce Stern
Chairman

ATTEST: John S. Hammond
Clerk of the Council

APPROVED this 5th day of April, 1978.

King County Executive

780403-06

King County Council
Tracy J. Owen, *Chairman*
Economic Development
Employment & Energy
Committee
402 King County Courthouse
Seattle, Washington 98104
(206) 344-3493

March 31, 1978

To: Bernice Stern, Chairman King County Council

From: Tracy J. Owen, Chairman
Economic Development, Employment and Energy Committee

The Economic Development, Employment and Energy Committee unanimously recommended "Do Pass" of Proposed Substitute Ordinance 77-276. The EDEE Committee accepted the changes discussed at two previous Committee-of-the-Whole meetings (on September 30, and October 7, 1977) and added a couple of amplifying statements, definitions and clarifications.

For the Council member's convenience, the changes are noted in the Ordinance attachment entitled "Energy Conservation Policies." The changes are noted on the following pages opposite the original pages on which the policies were printed:

Page	Change
a	Table of Contents
2a	Footnote number additions and changes Word change
3a	Sentence Change Footnote number changes
4a	Footnote number addition and renumbering
9a	Sentence change & addition
13a	Sentence change, addition and footnote number additions
14a	Two footnote additions

Today's hearing action marks three years since the Council first commissioned the Policy Development Commission to develop this policy proposal at its April 4, 1975 planning session at Batelle. A summary of key action dates over the three years is attached.

These policies along with the emerging agricultural lands and growth guidance policies mark historic and crucial landmarks in policy making in King County for the wise stewardship of limited resources. I think the Council deserves hearty

commendation for its forwarding looking efforts. I also think these policies are the biggest issues King County Government has tackled in this century. I commend the Council for its courage and tenacity.

As a corollary to these energy conservation policies the Economic Development, Employment and Energy Committee is addressing ways to stimulate the development of appropriate additional sources of energy to support the growing population, residential and business development and employment.

The EDEE Committee unanimously recommended "Do Pass" of these policies and I enthusiastically so move.

Attachment

TJO:vc

Key Action Dates

ENERGY CONSERVATION PROPOSED SUBSTITUTE ORDINANCE 77-276

1973 Fall thru- 1974 Winter	Petroleum based fuel shortages in production and distribution.
1975 April 4th	Council (Batelle Planning Session) requested PDC to develop energy conservation policies proposal.
1975 Dec. thru - 1976 September	14 meetings of PDC "Ad Hoc Energy Conservation Committee".
1976 Sept. 23rd	Policy Development Commission adopted energy conservation policies report as amended, unanimously.
1976 Dec. 6th	Council adopted energy report as policy guidelines to the County and requested Executive to prepare the report for adoption as a new part of the County's comprehensive plan (Motion 2787).
1977 March 18th	Executive forwarded proposed ordinance to the Council which would adopt the energy conservation policies.
1977 March 30th	Proposed Ordinance 77-276 introduced by Councilwoman Stern and referred to the Planning & Community Development Committee; it was later referred to the Committee-of-the-Whole due to the P&CD Committee's heavy work load and the wide scope of the proposal.
1977 Sept. 30th	C.O.W. 1st Review of Proposed Energy Conservation Policies.
1977 Oct. 7th	C.O.W. 2nd Review of Proposed Energy Conservation Policies.
1978 Feb. 6th	Reintroduced to the Council and referred to the EDEE Committee.
1978 Feb. 15th	Considered by the Economic Development, Employment and Energy Committee.
1978 Mar. 1st	Considered by the EDEE Committee.
1978 Apr. 3rd	Public Hearing and 2nd Reading before the Council.

WEF:vc 3/31/78

ENERGY CONSERVATION POLICIES

CHAPTER I OF THE KING COUNTY COMPREHENSIVE PLAN

Contents

3/1/78

INTRODUCTION

When the King County Comprehensive Plan was adopted in 1964, energy conservation was not widely recognized as an important issue. In the ensuing 13 years, there has been accelerated consumption of our energy resources in the industrial, building, and transportation sectors without regard for wasteful habits and practices. With growing awareness of resource limits and rising costs of energy, it is becoming obvious that the increase in rate of energy consumption cannot continue indefinitely. On the local level, the Quality of Life of King County residents depends increasingly on the energy consequences of public and private decisions.

The potential strength of the County Plan in responding to energy limits is clear. If wholly embraced, the Plan's urban center development concept would minimize energy consumption of King County development. It would cluster activities and make efficient use of transportation systems. Some individual Plan policies (especially in recent amendments) also indirectly promote conservation of energy. But specific energy conservation criteria are needed in the Plan as a direct response to the national and local energy limitation. Energy conservation itself needs to be set forth as a King County goal. Therefore this chapter is put forward to indicate conscious recognition of the necessity for energy conservation in the whole range of King County actions. This chapter consists of policies which King County can

adopt and implement now. They are not intended to represent ultimate solutions to our energy problems. Rather they represent beginning practical steps which King County can take immediately to come to grips with the challenge of achieving a proper balance between energy needs and energy resources.

In order to effectively implement all these policies, and the chapter's overall goal of maximizing energy conservation in King County, there is need for study of the underlying issues and elaboration of the policies. This chapter of the County Comprehensive Plan puts King County government clearly on record supporting energy conservation in all its aspects.

Recommended EDEE Committee Changes

Economic Development, Employment & Energy Committee, 3/1/78 Meeting

1. Ensure that patterns of development are consistent with the urban centers development concept[1] and locate employment centers, commercial centers and transportation systems so as to minimize the need for energy usage. Cluster new developments in compact communities situated near existing transit corridors.

2a. Provide for multi-use buildings in appropriate areas, especially areas of high density development.(~~1~~) 2

2b. Locate higher density development chiefly in urban centers while continuing to provide choice of low density development in areas where the secondary impacts(~~2~~) 3 of development can be controlled.

3. (~~Ensure~~) Encourage fuller development or redevelopment of parts of the County already serviced by utilities, especially sewer and water, in order to make the most energy

- more on page 3a -

Land Use and Development Policies for Energy Conservation

1. Ensure that patterns of development are consistent with the urban centers development concept and locate employment centers, commercial centers and transportation systems so as to minimize the need for energy usage. Cluster new developments in compact communities situated near existing transit corridors.

2. Establish a plan for development of higher residential densities including a variety of dwelling unit types to conserve energy in areas where the social, economic and physical impacts are acceptable.

   a. Provide for multi-use buildings in appropriate areas, especially areas of high density development;[1]

   b. Locate higher density development chiefly in urban centers while continuing to provide choice of low density development in areas where the secondary impacts[2] of development can be controlled.

   c. Separate urban centers by providing open space buffers.

3. Ensure fuller development or redevelopment of parts of the County already serviced by utilities, especially sewer and water, in order to make the most energy

3. Continued

efficient use of existing utility services. Carefully evaluate the energy consequences of development in areas which require the construction of new utility extensions for water and sewer services to ensure that to the fullest extent practical, energy consumption is minimized.

4. Ensure that amendments to the Comprehensive Plan take into account the County's energy conservation and urban centers development policies.[1]

5. Ensure that the County's reviews of special district comprehensive plans and EIS's pay special heed to the energy conservation implications of those plans.~~(3)~~ 4

7. Assess alternative locations, spatial configurations and indirect consequences of major developments~~(4)~~ 5n light of the long-term energy consequences of land development.~~(5)~~ 6

8. Provide a planning process for locating neighborhood shopping and recreational facilities~~(6)~~ 7consistent with the maintenance of the residential character of neighborhoods in order to minimize the need for energy consuming automobile trips.

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efficient use of existing utility services. Discourage development in areas that require extension of sewer and water utilities.

4. Ensure that amendments to the Comprehensive Plan take into account the County's energy conservation and urban centers development policies.

5. Ensure that the County's reviews of special district comprehensive plans and EIS's pay special heed to the energy conservation implications of those plans.[3]

6. Coordinate development and facility plans with cities, other counties, METRO, and other agencies with a view toward minimizing energy consumption throughout King County.

7. Assess alternative locations, spatial configurations and indirect consequences of major developments[4] in light of the long-term energy consequences of land development.[5]

8. Provide a planning process for locating neighborhood shopping and recreational facilities[6] consistent with the maintenance of the residential character of neighborhoods in order to minimize the need for energy consuming automobile trips.

Recommended EDEE Committee Changes

FOOTNOTES

1. The 'Urban Centers Development Concept' forms the conceptual framework for the King County Comprehensive Plan. The concept was adopted in 1964 and readopted in 1970 as part of the overall Plan. It encourages development around town centers which can "become focal points for employment, commerce and cultural activities, and can provide specialized services. Separating these urba centers would be open space elements such as river valleys and steep slopes. The Comprehensive Plan for King County, Washington, pages 27 and 30. (Examples of these urban centers are the cities of Seattle, Bellevue, Bothell and Kent, unincorporated areas such as Burien, Federal Way and Kenmore, and smaller suburban centers such as Woodinville and Fall City).

(~~1~~) 2. Zoning and design practice in the United States has begun to recognize the benefits of mixing uses in certain buildings. A mixture of residential and commercial facilities in one building can increase energy efficienty as well as provide stimulating and diverse living and working environments. Such a principle can operate on a large scale, as in the John Hancock building in Chicago, or a small scale such as an apartment above the corner grocery. This policy must be implemented with care to protect residential values, quiet, privacy, and safety, and is probably not appropriate in low density areas.

(~~2~~) 3. "Secondary impacts" are those environmental and/or growth-inducing effects which are stimulated indirectly as a result of the implementation of a specific project.

(~~3~~) 4. Implementation ofthis policy may require amendment to Ordinance 1700, implementing the State Environmental Policy Act in King County and Ordinance 1709, relating to comprehensive plans for water and sewer districts.

(~~4~~) 5. "Major developments" means proposals for which an environmental impact statement or assessment is determined to be required under SEPA.

(~~5~~) 6. Special techniques such as net energy analysis might be required in order to assess energy consequences.

(~~6~~) 7. The size and type of shopping and recreation facilities which are to be considered consistent with neighborhood character can be defined operationally by each community through the community planning process.

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9. Encourage mortgage lending practices which result in energy efficient land use development or re-development.

10. Ensure that zoning policy is consistent with the County's energy conservation policies.

11. Give full consideration to energy aspects of food production and transportation in determining County policies on agricultural lands.

FOOTNOTES

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Residential and Commercial Site Planning, Design and Construction Policies for Energy Conservation

1. Encourage comprehensive site planning analysis, structure design, construction, remodeling and consideration of life cycle costs[1] to take advantage of energy conservation factors.[2]

2. Encourage the consideration of life cycle costs, annual operation and maintenance costs (including energy costs) as well as initial installation costs when upgrading existing residential and commercial structures or building new ones.[3]

3. Encourage the adoption of energy resource efficient design standards in heating, insulation and cooling systems of residential and commercial structures.[4]

4. Encourage the installation of more innovative and energy resource efficient[5] heating and cooling systems in residential and commercial structures.

5. Encourage the upgrading and maintenance of heating and cooling systems in existing residential and commercial structures to increase energy resource efficiency.

6. Develop County building code specifications which set performance standards and which provide alternative

functional standards to allow for and encourage innovation, with such encouragements based on energy source impact[6] in equivalent energy units.

7. Encourage the siting of residential and commercial structures to take advantage of solar and other forms of energy for heating and lighting.

FOOTNOTES

1. The Life Cycle Cost is the total cost of a proposed project during its expected life. The total cost of any project includes its initial construction cost, annual operation and maintenance costs, periodic nonannual maintenance costs, and decommission costs (salvage value is equivalent to a negative cost). This procedure of determining these future costs requires certain assumptions about future interest rates and capital, labor, fuel, and other O&M inflation rates. All costs are determined on an annual basis for each year of the project's expected life. These costs are expressed in nominal (current) dollars. Hence, inflation rate projections are important. The project's expected life is that life in which the project is expected to remain economically viable, rather than mechanically or physically viable. Once the annual costs are determined, these costs are converted to its present value, then summed. This sum is the life cycle cost of the project.

2. For example, roof overhangs to control the entrance of the sun's heat energy into a structure can help regulate heating and cooling in harmony with the season's weather cycle. The use of trees and shrubs can help to protect residences from cold winter winds and provide shade from the summer sun.

3. Applicable cost analysis standards may be helpful in following this policy. Some cost analysis standards which may be considered for applicability are:

   a. Economic Analysis Handbook - Navy
   b. Life Cycle Cost Analysis - Washington State
   c. Value Analysis - Federal
   d. Energy Conservation in NVAC Systems: A Methodology for Financial Assessment-FEA
   e. Energy 1990: City of Seattle, Department of Lighting

Some computer programs for energy system analysis which may be applicable are:

a. Energy System Analysis Series (ESA) - Ross R. Meriwether
b. AXCESS - Energy Analysis Computer Program - EEA
c. ECUBE - Energy Conservation Utilizing Better Engineering - AGA
d. MACE - McDonnel Annual Comsumption of Energy
e. TRACE - Trane Air Conditioning Economics
f. Westinghouse Energy Study

4. Sources of useful information pertaining to this policy are:

a. ASHRAE Standard - Energy Conservation in New Building Design, by the American Society of Heating, Refrigeration, and Airconditioning Engineers, Inc. 1975.
b. Proposed Substitute House Bill No. 1301, State of Washington Legislature, February 9, 1976, "Thermal Insulation Standards for New Residential Occupancy Construction."
c. Proposed King County Code, Chapter 53, Building Code, "Thermal Insulation."

5. ENERGY RESOURCE EFFICIENCY is an expression of the efficiency of use of natural resource energy to serve all the energy needs of a building or project, and shall account for major energy consumption and losses, in equivalent energy units, pertinent to construction of energy facilities, energy transmission and conversion of energy forms, off-site as well as those pertinent to the building system efficiences. All calculations shall be based on new energy forms being added to serve new loads.

6. SOURCE ENERGY is the energy, in consistent energy units, required to supply a building's energy requirements from the energy source. It includes accounting for major energy requirements for and losses related to energy conversion, and/or facility construction, and transmission to the point of use (buildings, etc.).

Transportation Policies for Energy Conservation

1. Encourage the development and use of energy efficient transportation systems.

2. Encourage METRO to shorten the time spans between buses to promote more ridership.[1]

3. Encourage METRO to provide more direct and frequent service between activity areas outside the Seattle central business district, such as in the I-405 corridor.

4. Encourage large companies to provide subscription buses and van pools for their employees.

5. Encourage the use of carpools, preferential bridge tolls and preferential parking for carpoolers.

6. Support and encourage the development and use of more park and ride (as well as park and pool it) lots.[2]

7. Encourage pedestrian and bicycle access to work, shopping, school and other daily activities by removing obstacles or improving facilities.[3]

8. Use technical innovations to increase the efficiency of the flow of vehicle and pedestrian traffic on County roads.[4]

Recommended EDEE Committee Changes

9. ({~~Consider~~}) Encourage the use of staggered work hours, four 10-hour day weeks, and other methods to spread peak time traffic loads.

11. ({~~Encourage the provision of~~}) Study alternative modes of transportation to work, shopping and other daily and weekly activity centers ({~~,~~}), such as the addition of passenger-only ferries on Lake Washington between the cities on the east and Seattle on the west.

FOOTNOTES

4. Examples might be preferential ramp metering, ({~~singal~~}) signal light time synchronization, and bus activated signal changes.

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9. Consider the use of staggered work hours, four 10-hour day weeks, and other methods to spread peak time traffic loads.

10. Encourage prominent local, state and federal public officials to set examples of efficient energy utilization.

11. Encourage the provision of alternative modes of transportation to work, shopping and other daily activity centers.

FOOTNOTES

1. Although shorter time spans between buses may increase the required subsidy, this additional subsidy should be compared with and balanced against the environmental, social, economic and energy costs of those riders in cars using increased facilities.

2. This should occur at outlying locations from the central business districts where there are sufficient densities of population. The park and pool it lots would be smaller and have a wider distribution than the park and ride lots.

3. See the "King County General Bicycle Plan: Focus 1990" adopted February 17, 1976 by Motion 2314 and the included overall bicycle goal for bicycle facilities in King County, page 72, namely, "Safe, pleasurable bicycle facilities should be made available to all King County residents," and the three broad objectives with accompanying primary, supporting and ramifying policies, on pages 77 through 79.

4. Examples might be preferential ramp metering, singal light time synchronization, and bus activated signal changes.

County Operations Policies for Energy Conservation

1. Appoint a high-level County official to head a County Energy Office responsible for developing energy conservation measures and ensuring their implementation in all County operations and maintenance practices. This official should develop positive energy saving incentives for County employees.

2. Establish a formal energy conservation program for County operations and maintenance and report the program results to the County Executive annually.

3. Audit energy consumption in each County department, agency, building and vehicle on a regular basis and monitor savings that result from conservation measures.

4. Assess major energy consequences, both short and long range, of County operations and maintenance practices on a continuing basis.

5. Assess major energy consequences, both short and long range, of County comprehensive planning activities.

6. Determine critical energy-related problems in County operations and maintenance practices and establish specific objectives for cost-effective conservation measures.

Recommended EDEE Committee Changes

8. Provide County employees with ((~~non-duplicative~~)) energy conservation suggestions coordinated with other public agencies to avoid unnecessary duplication with positive incentives for utilization.

7. Encourage feedback from all County employees on the effectiveness of energy conservation measures.

8. Provide County employees with non-duplicative energy conservation suggestions with positive incentives for utilization.

9. Emphasize energy conservation when remodeling County buildings.

10. Conserve energy through the appropriate location, design and operation of County facilities and programs.

11. Conserve energy through the installation and maintenance of energy efficient heating, ventilating, cooling, and lighting systems which are adequate for the intended uses of County facilities.

12. Conserve energy by reducing the use and/or increasing the efficiency of energy-demanding equipment and practices of the County.

13. Consider the feasibility of providing individual offices in County buildings with the capability of controlling heating, cooling and lighting.

14. Consider conversion to more efficient types of streetlighting, use of more efficient street lighting design,

regulation of the hours streetlighting is in use and evaluation of future streetlighting projects to ensure that the most efficient streetlights, consistent with public safety and the need of the community, are installed.

15. Consider ways the County can improve parking for carpoolers with convenient transit access to employment and shopping centers (e.g., parking at the Kingdome during the day).

16. Consider providing preferential County garage parking arrangements for County employees who carpool.

Recommended EDEE Committee Changes

3. Support basic energy research and related demonstration projects in solar[1] wind, biomass[2] geothermal and other nondepletable energy sources (~~,~~), as well as supporting the development of energy recovery from renewable energy sources found in solid wastes generated in all of King County.

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1. Support regional land use planning which pays special heed to the energy conservation implications of development patterns.

2. Support coordinated facilities planning and development with cities, other counties, METRO and other agencies with a view toward minimizing regional energy consumption.

3. Support basic energy research and related demonstration projects in solar, wind, geothermal and other nondepletable energy sources.

4. Support research in energy efficient transportation modes and related demonstration projects.

5. Support regional transportation planning and development of an energy efficient regional transportation system.

6. Support inter-governmental efforts to encourage the use of mass transit and carpooling.

7. Support inter-governmental cooperation to promote energy conservation, including consideration of establishing a joint Energy Office with the City of Seattle and a joint public information program with other public and private agencies.

Recommended EDEE Committee Changes

Add the following footnotes to define "solar energy" and "biomass".

FOOTNOTE

1. Solar energy is our most abundant source of energy. It is available to use in three forms: direct radiation, wind and biomass.

   Conservation is a prerequisite to use of any solar derived energy. Conservation offsets the need for additional energy production three energy savings. Conservation is more cost effective than additional investment in solar collection devices and is therefore necessary and complementary to a solar heating system. (Ecotope Group, "Solar Energy in the Northwest", Seattle, Washington)

2. Biomass is solar energy chemically stored in plant tissue formed thru photosynthesis. Biomass as an energy and chemical feedstock is available from all plant forms, urban refuse and animal manures. Conversion of biomass to these feedstocks is by burning, bacterial fermentation and direct photo chemical processes.

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8. Support the development of Uniform Building Code specifications which set performance standards for energy conservation and which provide alternative functional standards to allow for and encourage innovation.

County Educational Policies for Energy Conservation

1. Provide the public with information on site planning, design, construction and remodeling techniques for energy conservation in residential and commercial development (e.g., handbooks written so that a layperson can understand and use them might be made available to the public through appropriate County agencies).[1]

2. Coordinate and cooperate with public and private agencies actively involved in energy conservation education programs.

3. Participate as appropriate in energy conservation education programs and conferences conducted by schools and colleges in the area.

4. Encourage the provision of information to the public on the full energy costs of alternative forms of transportation.

5. Encourage communication media involvement in energy conservation efforts.

FOOTNOTE

1. The energy Design Manual for Residential Buildings put out by the Department of Housing and Community Development of California provides an example of a handbook which might be useful.