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STATEMENT OF
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BEFORE THE
SUBCOMMITTEE ON ENERGY AND POWER
OF THE
HOUSE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE
ON
CONVERSION OF URBAN WASTE TO ENERGY

HSE02303

Mr. Chairman and Members of the Subcommittee:

I appreciate the opportunity to be here today to discuss H.R. 6638 which provides for an accelerated program for the conversion of urban waste to energy as a means of helping to alleviate our Nation's energy supply, materials conservation, and solid waste disposal problems.

My testimony is based in part on our February 28, 1979, report to the Congress which evaluated Federal efforts to develop and introduce alternate fuels from municipal solid waste 1/, and our ongoing work on the recovery of minerals from industrial wastes, and the recycling targets and procurement guidelines programs within DOE and EPA. Our report describes the various waste-to-energy conversion processes, the efforts of private and public agencies to

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1/"Conversion of Urban Waste to Energy: Developing and Introducing Alternate Fuels From Municipal Solid Waste," EMD-79-7, Feb. 28, 1979.

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implement them, and the benefits they could provide in the near- and mid-term. It also discusses what we perceive to be major barriers to their use and the actions needed to overcome them.

Last July, we testified on our report before the House Subcommittee on Energy Development and Applications and the House Subcommittee on Transportation and Commerce. With your permission, I would like to submit for the record the full text of that testimony and confine my remarks here today to the purpose and the various provisions of H.R. 6638 which call for a coordinated Federal effort aimed at encouraging development and use of urban waste-to-energy systems so we as a nation can realize their environmental, economic and energy related benefits. Although we have not evaluated the financial incentives nor the impact of organizational changes provided for in the bill, H.R. 6638 in essence is consistent with the recomendations contained in our report and we support the bill's declared purpose, i.e., the need "to establish an aggressive research, development, demonstration, and commercialization program for converting municipal wastes into energy."

CONVERSION OF URBAN WASTE TO ENERGY CAN PROVIDE MULTIPLE BENEFITS

Urban waste is abundant and growing in volume. The Environmental Protection Agency (EPA) estimates the 175 million

tons generated annually by 1980 will grow to 201 million by 1985, and 225 by 1990. Its conversion to fuel coupled with the recovery of valuable materials could reduce the waste bulk and do much to eliminate environmental, social, and economic problems now associated with municipal solid waste disposal.

Energy Recovery

The conversion of urban wastes to energy has a sound scientific and practical basis. About 75 percent of the waste is combustible matter which can be converted into gaseous, liquid and solid energy forms. It is also virtually an inexhaustible resource, the volume generated is growing, and it is concentrated in cities which require large amounts of energy. A ton of municipal solid waste can provide as much energy as 65 gallons of fuel oil or about 9,000 cubic feet of natural gas.

Materials Conservation

Also, the recovery of saleable materials such as ferrous metals, aluminum, and glass and such by-products as carbon, char, ash, and glassy aggregrate is an important consideration and deserves Federal attention. Materials recovery can help offset the cost of operating a refuse-derived fuel facility and offers many other related benefits. For example, landfill requirements can be reduced by as much as 95 percent (if energy is also recovered) at a time when suitable landfill area is scarce and this method of disposal is being restricted

or prohibited. Materials recovery also contributes to conserving mineral supplies, reducing imports and pollution abatement.

USE OF URBAN WASTE ENERGY SYSTEMS NOT WIDESPREAD

In spite of the benefits, however, use of urban waste-to-energy systems in the United States is not widespread due largely to institutional or economic barriers. In contrast to Western Europe, where conversion of waste to energy is a well established technique and where over 180 plants are operational, the United States has about 20 plants operating. In the past, abundant land, material, and energy resources have made such systems uneconomical in the United States. The economics are now changing, however.

The Nation is beginning to respond to the new situation and opportunities, but we feel the response could be accelerated with increased attention and resources from the Federal Government. Projections show that only small amounts of the urban waste generated will be converted to energy. By 1985, EPA estimates that 112 million tons of solid waste, or about 56 percent of the waste produced, will be available annually for conversion to energy. Agency projections indicate, however, that based on present trends and policies, only 10 to 20 million tons of these wastes could be processed for energy and material recovery. We believe the amount converted by 1985 could be substantially increased.

We identified 131 urban waste-to-energy projects in the United States, 20 operational, 10 under construction, 30 in the planning phase, and 71 in preliminary study stages. If all were fully operational by 1985, they could process about 36 million tons of urban waste--18 percent of the waste produced. The energy recoverable by these projects, including the recycling of recovered metals and the extraction of methane from existing landfills, could provide the Nation with annual energy savings equivalent to about 48 million barrels of oil now worth almost $980 million. By 1995, an expansion of these projects could realistically be expected to provide annual energy savings equivalent to some 158 million barrels of oil with a current value of about $3.2 billion. These projects could help reduce our growing waste disposal load in an economical and environmentally acceptable way.

FEDERAL EFFORTS NEED TO BE COORDINATED, IMPROVED AND ACCELERATED

Mr. Chairman we agree with you and the other sponsors of H.R. 6638 that "it is the proper and appropriate role of the Federal Government to support research, development, demonstration, and commercialization efforts to convert municipal wastes into energy (and recover energy intensive materials) and to assist private industry, other entities and the general public in hastening the development of this resource." Further, we

agree that "the realization of the full potential of energy from municipal wastes will require (extensive) coordindation and cooperation among all levels of government, creative approaches to facilitating the (complex) institutional, legal, and financial arrangements that are necessary to support a project, substantial investment of private capital, and a significant increase in the manpower and technical capabilities needed to support development of the field."

As you know, the Resource Conservation and Recovery Act of 1976 (RCRA) coupled with other existing legislation provides the basis for the Federal role in the development and commercialization of municipal solid waste energy systems, and responsibility for administering the legislation has been assigned to EPA and the Departments of Energy (DOE) and Commerce. During our review we examined program elements at each of these agencies and found a Federal Urban Waste-to-Energy Program which appeared fragmented, uncoordinated, inadequately funded, uncertain in its priorities, and lacking in detailed overall strategy.

We concluded that if the Federal Urban Waste-to-Energy Program were improved to provide needed information, assistance, and incentives, it was possible that many waste-to-energy systems now in a planning or study phase could be accelerated and could be implemented and become operational by 1985. These

projects could then provide the foundation for what can be a valuable source of alternate fuels and recoverable materials.

The impetus to provide the needed program improvements which we suggested in our 1979 report are recognized in H.R.6638, and include:

--A cohesive and specific overall strategy for all involved agencies which takes into account the skills and expertise dispersed through these agencies.

--A more useful flow of information and an expansion of practical outreach service to State and local governments and to public and private researchers to provide a forum for the exchange and dissemination of technical and economic data and to help identify and resolve institutional problems and concerns.

--An expansion of studies and research on methods of processing and recovering materials and energy and on the development of markets and new uses for recyclable materials. This will help resolve technical, economic, and environmental uncertainties regarding the conversion processes, the energy forms produced, and materials recovered.

In addition, the program should provide technical and financial assistance to communities evaluating or acquiring

urban waste-to-energy systems, with appropriate emphasis on encouraging timely implementation of promising technologies which are now available. It should also provide incentives to ensure the marketability of energy forms produced and materials recovered, and to encourage investment in urban waste-to-energy systems. This will require the timely determination of which subsidies and economic incentives best foster the use of urban waste-to-energy systems and require advising the Congress as to which are needed for encouraging the use of these sytems in the near- and mid-term.

RECOMMENDATIONS

Our report recommended that the Administrator of EPA, in consultation with the Secretaries of Energy and Commerce, develop and submit to the Congress by September 30, 1979, a detailed 10-year plan describing the specific strategy for the Federal Urban Waste-to-Energy Program. The plan should be coordinated with other Federal agencies, State and local governments, private industry, and public interest groups, and be updated and submitted annually. Our July testimony specified what we believe the proposed interagency plan should include.

The Departments of Energy and Commerce generally agreed with our recommendations but neither believed the Environmental Protection Agency should have the lead in developing our recommended interagency plan. Because the Congress has already given EPA responsibility for developing and coordinating Federal waste

management programs and the recovery of resources, including energy, from wastes, we recommended ways to strengthen the leadership role of EPA. Our report noted, however, that should the Agency not act responsibly in developing the recommended interagency plan, then a leadership change should be considered by the Congress.

Since issuance of our report, the EPA Deputy Assistant Administrator for Solid Waste has indicated that EPA has implemented new programs, primarily under the President's Urban Policy Program, which directly address activities which our report labels as lacking emphasis. Since these programs were not fully implemented by the time our review was completed, we have not evaluated their relevance to correcting the shortcomings discussed in our report.

Also, in July 1979, during joint oversight hearings before the Subcommittee on Transportation and Commerce of the House Committee on Interstate and Foreign Commerce and the Subcommittee on Energy Development and Applications of the House Committee on Science and Technology, EPA testified that it was organizing an interagency committee with DOE and Commerce. The Committee is charged with developing a 5-year plan for resource recovery which was to be completed by March 1980. We have since learned that the March 1980 date will slip and that the plan is not expected to be completed before this summer at best. Thus, it

still remains to be seen if after years of low level emphasis, resource recovery will be pursued by a coordinated Government effort under existing legislation.

Apparently the Senate also has similar concerns. Following recent hearings concerning reauthorization for the Resource Conservation and Recovery Act (RCRA)--under which most of these program areas fall--the Senate proposed a new amendment to RCRA in S. 1156 that would establish a permanent committee to coordinate Government resource recovery policy and actions. This and other proposed amendments to RCRA are now being considered by the conference committee.

In summary, we believe urban waste-to-energy systems can provide a valuable supplement to the Nation's energy supply and help to resolve material resource and solid waste disposal problems. However, if technologically and economically viable waste-to-energy systems are to be used on an accelerated schedule in the near- and mid-term, a more active role by the Federal Government is required.

We were pleased that H.R. 6638 contains provisions which are consistent with recommendations in our report, including adoption of an interagency plan to provide for much needed coordination and acceleration of Federal efforts in this area, and the submission of that plan to the Congress for oversight.

It appears that H.R. 6638 provides for Federal assistance which can be used to meet the site specific needs of

urban waste-to-energy systems being planned or implemented and should foster the use of these systems and their products including the recycling of recovered materials. We have not fully evaluated the priority of types of assistance proposed or the amount of financial risk that might require Federal guarantees or other Federal support, and believe they should be determined as part of the interagency planning effort. We also believe that the plan called for under H.R. 6638 should place primary emphasis on the level of assistance required for the successful establishment of projects employing the most promising technologies which are now available. These projects should serve as examples for others and minimize or eliminate the need for substantive, long-term Federal involvement.

Whether achieving the purpose and objectives of the proposed bill requires a change in leadership from EPA to DOE is properly a matter for this hearing and requires a thorough analysis of the present status of the programs at EPA and the Departments of Energy and Commerce and the reactions of these agencies to the proposed change. The impact of such a change could be significant and its administration complex given the similarities of provisions contained in RCRA and other existing legislation which provide the basis for the current program, as well as other recently proposed legislative changes which impact on this area.

We believe it is essential that all the agencies involved in this effort be committed to the bill's purpose and be willing to commit resources and establish priorities consistent with achieving the multiple energy recovery, materials conservation and waste disposal benefits tied to its objectives.

Another matter the Committee may wish to consider is whether the new urban waste energy management office created by the bill might not best be made temporary. If the maximum 10-year program provided for under H.R. 6638 is successful in establishing the viability of municipal waste energy systems and encourages a strong private sector involvement, the future Federal role in this area should become minimal and possibly be eliminated.

Mr. Chairman, this concludes my statement. I will be happy to answer any questions.