

NYSERDA District Energy Workshop, Jamestown NY September 11-12, 2000

R. Groberg presentation: "Lessons Learned from HUD-DOE DHC Program"

JAMESTOWN, NY WORKSHOP ON COMMUNITY ENERGY SYSTEMS

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HUD's District Heating and Cooling Program –An Effective Economic Development Tool. [Lessons Learned] Robert Groberg, Director, Energy Division, U.S. Department of Housing and Urban Development

INTRODUCTION

[Acknowledgments: NYSERDA support. Jamestown is a model. I. Olikier consultant. Recognize the HUD team, which included: B. Manheimer, W. Clarke. A. Euston. Acknowledge use of their papers for this talk. Acknowledge the DOE team which included John Millhone and Floyd Collins. R. Groberg's role now is as energy staff in HUD. and consultant to DOE.]

This describes HUD's program from 1980 through 1995. It addresses the economic development lessons learned dealing with such things as: Advisory Working Groups, local chief executives and their key staff, state government support, formal studies, customer interest, building owners, local matching funds, consulting team visits, conferences, and distributing information.

HUD's PROGRAM

HUD's district heating and cooling (DHC) development activities started planning in the late 1970's. We teamed up with the Department of Energy to combine their technical analysis and prototype application projects with our community and economic development programs. HUD's funds for DHC assistance came from the Community Development Block Grant Program, which required citizen participation in the planning stages of local projects.

"The challenge of building or expanding DHC systems in U.S. localities is at least as much a matter of solving local government and institutional problems as technical/financial ones - yet the attention and resources devoted to technical solutions usually far outweigh those applied to institutional and governmental barriers."²

Whom do you need to make a deal?

For DHC we developed and tested the formation of local committees. Advisory Work Groups (AWG) "to deal, in a timely manner, with the primarily local governance and public perception aspects of a project, as well as to begin to define the technical, financial and legal concerns and identify potential key actors."

We each put in \$750,000 for cities to investigate the feasibility of developing district heating (and cooling) systems. In 1981 we announced the grant competition. Over one hundred communities competed. We selected 28, including Albany and New York City.³

NYSERDA District Energy Workshop. Jamestown NY September 11-12, 2000 2

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These initial grants became known as Phase I and were to cover all of the cost of four activities:

- (1) identifying potentially useable heat sources such as an electric power plant, municipal incinerator, or an industrial facility's waste heat;
- (2) identifying clusters of high-heat-demand customers such as hospitals, apartment buildings, public-housing projects, and some types of businesses;
- (3) doing preliminary designs for a district heating network to connect the heat sources to these users; and
- (4) completing estimates of the costs of building the system and of the energy it would sell.

These Phase I projects were completed in 1982. Seventeen of the 28 cities identified apparently viable projects which they wished to develop further. The need for further development, anticipated at the beginning of the program resulted, in HUD holding another competition among the 28 cities. For the second phase, the winners received grants which contributed only one-third of the cost of completing the physical design, marketing, ownership arrangements, and financial packaging of the DHC project identified in Phase I. The other two-thirds had to come from local private sector and public sources which had an interest in the project. Each city was required to complete the system design and develop all of the data and analysis required by bond houses in underwriting the construction. This "Phase II" began in 1983, with the last of ten cities being funded in FY85. DOE was not a participant due to funding limitations.

These Phase II grants were awarded competitively on the basis of investment promise as a principal selection criteria. The prospects for success "were assessed by outside reviewers with sufficient experience to appraise the likelihood of success."⁴ It turned out that their prospects rode on the price of oil.

As a result of these efforts, systems have gone into operation in ten cities.⁵ Project analyses indicated that the \$2.5 million public investment in these systems would produce \$100 million in private investment when they were completed.

HUD spent approximately \$1,000,000 in FY 84 and 85 on eleven new Phase I projects which were required to tie into Public Housing.⁷ \$250,000 was programmed for technical assistance in FY 87. And another \$400,000 in 1988 with \$800,000 local match. [Baltimore, Camden, Detroit, Lincoln, New Haven, Tacoma.]

In some cases private sector buy-outs and rehabilitation of existing systems were made possible as a result of HUD's technical assistance program. [Baltimore and St. Louis]

By the time we finished, HUD and DOE had funded DHC feasibility (Phase I) and system definition (Phase II) studies in more than 50 U.S. localities.

NYSERDA District Energy Workshop. Jamestown NY September 11-12, 2000 3

HUD also initiated technical assistance tailored to problems encountered by the cities who were trying to use municipal trash-burning as the heat source for their DHC system. These so-called waste-to-energy systems are considerably more complicated in their technical, financing, and ownership attributes. Their attraction is that they can solve two community problems simultaneously: efficient disposal of trash and reduced cost of energy for businesses, residences, institutions, and government operations.⁶

Although an excellent beginning had been made, the prospects for continuing the program faded. By 1995 there was no further appropriation. HUD completed its grant program of support for DHC feasibility and design studies supporting energy, systems.

But its 1999 *Five Year Energy Plan* [Report to Congress] contains the following statement:

“The Department ...will continue to explore the opportunities for voluntary participation in the use of combined heat and power by cities/counties to combine energy, economic development and environmental decisions.”⁸

There are opportunities are in Community Development Block Grant Programs and in Urban Development Action Grants. [See below.]

THE ADVISORY WORK GROUPS [Lesson #1]

The AWG requirement was that each city creates a committee with representatives from business, industry, banking, and utilities, as well as concerned local government agencies. This Advisory Group provided technical skills and business judgement to the development activity and the interaction with the city's community development staff assured that the DHC system that emerged would complement the city's community and economic development programs. The Group members also served as valuable communications links back to important segments of the community whose support would be vital to project success. Neighborhood and citizen groups and local organizations involved with CDBG programs, utility companies, joint public/private entities, and private enterprises, were all important participants in the effort to bring a project to the state of construction.

HUD also indicated in the request for applications its belief in the importance of the AWG:

“The role of the DHC Work Group is **crucial to the analysis of the feasibility** of DHC projects and the applicant will place considerable emphasis on ensuring the full participation and cooperation of local persons and organizations which might be involved in or affected by the development of a DHC. Those DHC Advisory Work Group members which have data crucial to other phases of the project should identify that data to the applicant:...” (HUD, 1980. Request for Cooperative Agreement Application #6500.)