

Edinburgh Heat Plans

The Edinburgh Combined Heat and Power consortium are about to start serious negotiations with the Department of Energy. Councillor RICHARD KERLEY, convener of the Joint Advisory Committee on CHP, reports on progress so far.

The consortium was formed in 1984 and received a limited amount of grant aid from the government (along with Leicester and Belfast) to carry out a feasibility study of creating a CHP scheme within the city. Its members include Edinburgh and Lothian Councils; the South of Scotland Electricity Board; Northern Engineering Industries and a number of other private sector construction and energy interests along with support from the Scottish Development Agency.

By now, we are all aware that there is nothing particularly technically exciting about CHP. It is a very efficient way of utilising the waste heat lost by any electricity only generating power station and it is a particularly sensible way of ensuring that scarce fossil fuels are used to their most effective capacity.

From the early stages of the initial Atkins Study which looked at a number of cities in Britain, it was clear that a major opportunity for Edinburgh/Lothian was presented by the proximity of Cockenzie Power Station and the opportunity to link that into a CHP/District Heating scheme for the city.

The work of the study has confirmed the practicality of using Cockenzie, following turbine conversion and that this provides a more cost effective solution to providing hot water into the system than would be the case for a purpose built plant. Even though it requires the installation of a trunk main that is nearly 18 kilometres long, it still makes better financial and economic sense and will be particularly good news both for Cockenzie and the surrounding coalfield. The idea behind the scheme is that reliance on Cockenzie would be supported by a heat only boiler within the city itself for stand by and peak demand; the possibility remains in the longer term of using refuse disposal for heat generation.

CONSUMER COSTS IMPORTANT

A major weakness of earlier district heating schemes in Britain, and a source of much criticism from the consumers of that heating, has been the quality of pipe work and the basis on which it has been installed - for example in Midlothian where tenants and the local authority are discussing at present the future of a large district heating scheme in Penicuik. The Edinburgh team have worked with Danish consultants in developing a computer modelled system for defining the best arrangement for heat distribution pipe work round the city.

The market survey studies which

have been carried out look encouraging. The kind of target set was to try and aim at an effective heat price 10% or so below the equivalent of gas as fuel, and to do so taking account of connection costs; maintenance and other related customer costs. Experience in most countries that have well established CHP schemes makes it abundantly clear that the cost to the customer is a fundamental factor in determining whether it is popular and whether its penetration into households is at a high enough level to justify a scheme. Of course, in many Scandinavian and other North European countries, combined heat and power supported district heating is commonplace reaching into residential areas with densities of housing much the same as some of the villages and small towns which surround Edinburgh. However, the general perception is that in and around the city it will be the central area that will be most suitable for the initial launch of any such scheme, though the local authorities will certainly be pressing for the extension of a scheme into other areas particularly those where residential levels are high and fuel costs present a problem.

GOVERNMENT SUPPORT NEEDED

We shouldn't, of course, have any doubts about the technical feasibility of a CHP scheme. After all, such projects were developed in Clydebank

and Manchester at the turn of the century! What has always been a problem - and may continue to be so with this present government - is that the establishment of a CHP scheme may well present a classic opportunity for public investment and, at least in this country, a not very appealing one for private investment. The financial culture that governs the decision making of major investment institutions in the UK looks for a relatively short term return at a relative high yield. That is why the smart money from Japan - as opposed to Britain - is in a majority in, say, the Channel Tunnel investment where yield is low; steady and long term. A project which requires a great deal of up front investment and a good few years before any income starts to come through, represents a classic public spending commitment, but doesn't provide the kind of rate of return that will be sought by a private investor - at least not from this country.

The Government, therefore, has a major part to play in supporting the establishment of a CHP scheme, not just in Edinburgh but probably elsewhere in the UK where similar financial calculations are producing similar results.

What we'll be looking for in Edinburgh and Lothian when the report is publicly launched is some recognition by the Government of the part it must play in this exercise and some commitment from it to discuss with us what can be done and how it can be done in order to implement the kind of major energy beneficial investment which a CHP scheme for Edinburgh/Lothian represents.

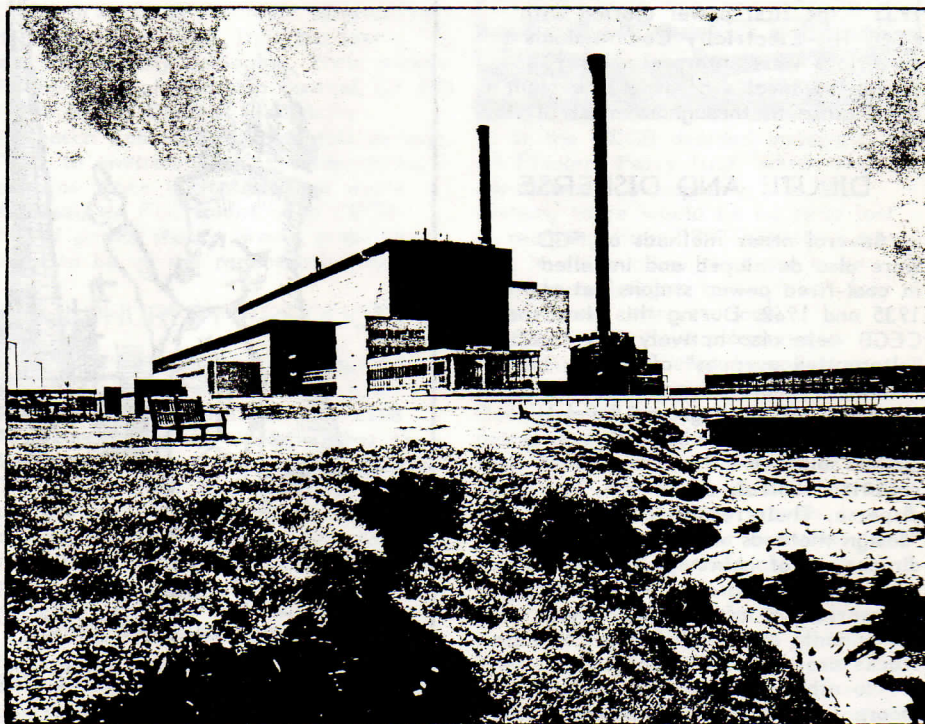


Photo: SSEB

Cockenzie power station: the main source of the heat