Energy economy – CHP extraction temperature – fuels comparison etc.

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There is always a great deal of speculation about why Denmark, of all countries, has achieved the greatest penetration of district heating outside the Soviet Union. The conslusions offered have been as varied as they have been numerous. The truth lies undoubtedly in a permutation of most of them, and perhaps the following will give some indication of its make-up.

Capital investment as "transport costs"

The necessary capital investment for a district heating supply network decreases with the size of the energi quantity transferred, such that the larger the pipe size the lower will be the cost of transferring a unit of heat energy.

Fig. 1 shows an example of current "transport costs" expressed as costs per metre twin pipe per m^3 water flow/hour. In this example, normal flow velocities in the range 1.5 to 2.5 m/s and flow and return temperatures of 90 °C and 40 °C respectively, were used as a basis for sizing.

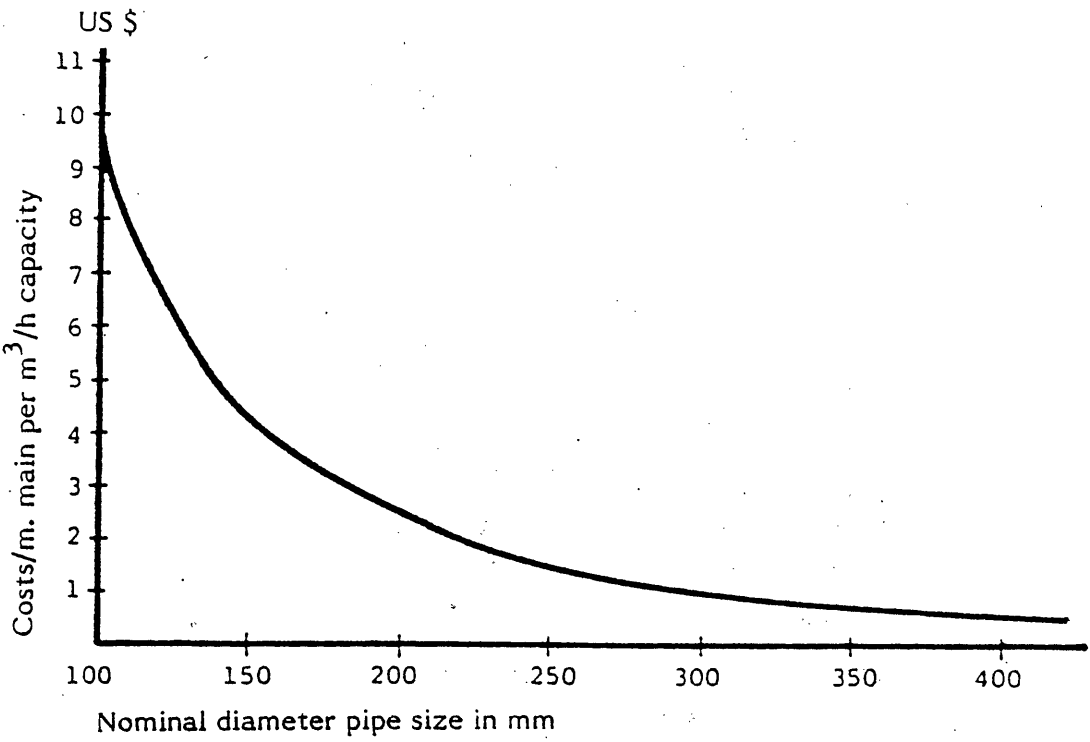

Fig. 1. Heat transport costs, expressed as costs of installed mains only (1981 costs)

The graph indicates that, when comparing