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KANNUS - AN EXAMPLE OF A SMALL FINNISH COUNTY RELYING
UPON DOMESTIC FUEL

Kannus is a rather typical small county in the countryside of Western Finland. The population is 5200 inhabitants

which makes 0.12 % out

of the total population in

Finland. The area of the

county is 420 km² which makes

the same 0.12 % out of the

total area of the country.

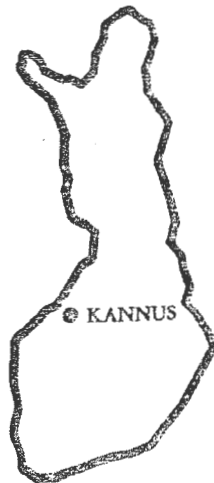
The inhabitants in Kannus

earn their living mainly as

farmers. Some small industry,

like timber industry has also

been established.



As an energy consumer Kannus is far below Finnish average: the portion of the total Finnish figure (the whole energy consumption) is now only 0.025 %. This makes 250 TJ (Tera-joules) for Kannus in a year. At present it is mainly based on foreign oil.

The energy consumers in Kannus can be divided up into three main categories:

- Farms and other small houses	131 TJ in a year
- Big buildings in the centrum. (mainly official buildings)	76 "
- Others (industry, traffic, glass houses etc.)	<u>43 "</u>
	250 TJ in a year

District heating plans for Kannus

Out of the total 250 TJ consumed in Kannus, 30 % (75 TJ in a year) has been planned to be covered by district heating system. It will mainly take care of the proportion of the big buildings above.

The heating plant will be built near the centrum and the network (the pipelines) will be 8000 m long. The plant will have two parts: one (5 MW) in continuous use and for domestic fuel and the other (4 MW) for heavy oil. The latter is a reserve unit which joins the system during some occasional cold periods (-25 ... -35 Celsius-degrees) in January-February.

The calculated fuel consumption of the district heating system will be as follows:

- Chips	25 TJ in a year
- Sod peat	25 "
- Sawmill waste (mainly bark)	17 "
- Heavy oil	<u>8 "</u>
	75 TJ in a year

The chips will be obtained through whole-tree harvesting (mainly Betula pubescens) from forest-owners in the Kannus area. The sod peat area is situated about 15 km away from the centrum. The area contains peat for 300 years if the district heating were the only customer. The sawmill waste will also be obtained from the Kannus area.

It has been calculated that with the fuel composition described above, the price of the heat energy produced is one third of the price if heavy oil were used alone.