

brake horse-power for alternative schemes. Also about 3,000- to 4,000-horse power could be got from the Tokomaru Stream by storing the water. The water from the two rivers could be utilised in one power-house, though at different pressures, which would be advantageous. This power scheme is favourably situated near several centres of population. At the combined power-house 11,000- to 12,000-horse power could be obtained.

The survey of the Tauherenikau River shows that with a conduit about five miles long about 430 ft. of fall is obtainable at Featherston. The flood-water would have to be stored in as large a volume as possible, for, though the flow is large, considering the area of the watershed, yet at times a low flow may obtain for some time. The flood flow is very great, and to store it all would be excessively costly, yet enough to give up to about 10,000 horse-power continuously could be got without excessive cost.

The survey for the Hutt power scheme shows that with a high dam water for two to three months' use can be stored, and sufficient to enable about 16,000-horse power for part-time (working eleven or twelve hours a day), to be got. Though high, the dam would be of no great length. The nearness of the power-station to the Hutt, Petone, and Wellington renders this scheme a most valuable one. It will be more favourable to develop power here for Wellington than from the Tauherenikau or other more remote schemes. The country is favourable for the construction of a transmission-line, and there would be but little risk of interruption from the ordinary causes of break-down. Judging from the present large and ever-increasing amount of power used in Wellington, there should be little fear of getting a ready sale for all the energy.

The surveys of the Clarence scheme at Hamner show that 1,080 ft. of fall can be got at Jollie's Pass, which appears to be the most favourable point at which to divert the water. Some storage of water is obtainable in Lake Tennyson, but the area of the lake is small—just under one square mile at ordinary level. The length of the conduit would only be about three miles and a quarter, and about 22,000-horse power on the Pelton-wheel shafts would be obtainable. This is an excellent source of power, and one which could be readily increased by the construction of dams. These, however, would be relatively costly, as there are no very narrow gorges where dams could be cheaply built.

The survey of Lake Coleridge has been finished, but the data have not yet been quite reduced to such a form as to enable a final decision to be come to as to whether it would be preferable to have one central power-station at Coleridge for Canterbury, or two, one at Hanmer and another at Opihi. A close comparison of the first cost, the relative cost of power delivered, and the extent of country that can be economically served, have to be carefully considered before arriving at a decision.

A survey of several possible ways of utilising the water in the Opihi and Opuhas shows that a much larger scheme than was at first thought possible is obtainable at a power-station at the lower end of the Opihi Gorge. A reservoir to store a large quantity of water can be formed at the upper end of the gorge, and by the diversion of the Opuhas into this reservoir a large amount of power is obtainable—up to about 16,000-horse power continuously, and proportionally greater for part-time working. The length of conduit would be about four miles and a half, and the effective fall about 260 ft. This power-station would command the southern districts of Canterbury, and, worked in conjunction with the Clarence scheme at Hanmer, the whole of Canterbury would be very effectively supplied with power.

Plans for works to develop these various schemes are being prepared, and very shortly it will be possible to invite offers for the supply of plant. Information as to the probable cost of plant has already been obtained through the High Commissioner, but in addition detailed information for each particular scheme will now be ascertained.

The question of the advantageous use of the power available has also received some attention, as, besides the supply of power to existing industries, other uses must be found for it if we are to take full advantage of the resources available.