

Of the tributaries of the Waiau, the Wairaki would probably give some power. It appears to carry a large volume of water, and runs swiftly. The water would be taken by race to some convenient point where fall would be got. Similar methods would apply for developing the other streams on the east side of the Waiau, but they are all much smaller streams. In some cases very good fall should be got. No examination of these streams has been made to ascertain fall available or minimum flow. The Borland and Lillburn should carry considerable volumes of water.

If the ground at the bend of the Mataura at Athol would carry a canal from the Mataura to the junction of the Nokomai, a scheme of some size could be got. About four miles of canal should give probably over 130 ft. of fall, judging from the average fall in the Mataura. If the conditions are favourable, 3,000 or 4,000 b.h.p. should be obtainable.

It will take a very considerable time to get full information regarding all the above minor schemes, and many others. Many will not be worth the trouble, but it is impossible to say beforehand which will be of little or no value.

In addition to the schemes given above, a complete examination and survey of the colony would no doubt disclose many more possible schemes of greater or lesser magnitude and economic value, and more especially would numerous schemes be likely to be found in the mountain regions of the South Island. The three large lake schemes, Tekapo, Te Anau, and Manapouri, outlined herein, will remain, I think, the maximum schemes possible for New Zealand, and though too large for present-day requirements, they will stand as the final reserves to meet the industrial developments of the future.

Having seen that an immense amount of hydraulic power is available in the colony, it remains to be ascertained what power is now used, and its present rate of increase.

The colony now possesses locomotives capable of developing about 200,000-horse power. Locomotives work somewhat irregularly as to time, and also as to effort, as in going up and down grades, &c., so it is somewhat difficult to define, without a very lengthy investigation, the maximum actual expenditure of power that would be required to run all the locomotives now in use. Possibly about 50,000-horse power would be a fair approximation to take.

From a report furnished by the Chief Inspector of Machinery, and from his annual reports, the following tables have been prepared, showing the distribution of and the amount of power now used in the colony, and the increase of steam plant:—

TABLE I.
POWER IN NORTH AND SOUTH ISLANDS.

—		Steam.	Gas or Oil.	Water.	Electricity.	Total.
		H.p.	H.p.	H.p.	H.p.	H.p.
North Island	...	88,817	3,771	6,555	370	99,143
South Island	...	74,897	3,192	3,356	89	81,445
		163,714	6,963	9,911	459	180,588

The electric motors derive their energy from the steam plant, and are not included in the totals.

TABLE II.
AMOUNT OF POWER IN USE IN THE VARIOUS MACHINERY INSPECTION DISTRICTS, AND HOURS PER WEEK WORKED.

—		Hours per Week.	Steam.	Gas.	Water.	Totals.	Grand Totals.
			H.p.	H.p.	H.p.	H.p.	H.p.
Auckland	...	144	13,108	15	1,507	14,630	51,603
		48	32,282	1,512	3,179	36,973	
Hawke's Bay	...	144	1,825	...	...	1,825	9,888
		48	7,648	385	30	8,063	
Taranaki	...	144	17	16	220	253	9,084
		48	7,500	370	961	8,831	
Wellington	...	144	10,450	...	...	10,450	28,568
		48	15,987	1,473	658	18,118	
Nelson South	...	144	5,762	...	...	5,762	8,724
		48	2,160	23	779	2,962	
Nelson North	...	144	48	12	...	60	3,699
		48	3,425	72	142	3,639	