engine of a class such as would be commonly used. Assuming that an engine of thirty or forty indicated horse-power could be made to work at 4lb. of coal per indicated horse-power per hour each, allowing, say 15 per cent. extra for friction, the amount of coal per annum per break horse-power would be nearly 15½ tons.

This result is hardly likely to be obtained with the average engines and boilers met with in the mining districts; as, even with the best makers' engines it is only by using first-class coal, experienced engine-drivers, and working under most favourable conditions for a short time, that the economical results claimed by them is arrived at.

Those who are most interested in the scheme can form the best opinion, by comparing figures here given with their monthly coal-bills, remembering that the power given out by the electric motors is effective, not nominal or indicated horse-power, and that it includes cost of motors.

The result of such comparisons would be, no doubt, that they will find that steam-power costs them nearly three times the amount.

The number of motors allowed for in the two estimates is five and seven respectively. Fewer motors, but of larger power, would be employed if the plant was contained in one large battery-house.

Estimated Cost of Plant, and Annual Working-expenses, to deliver 165 *Brake Horse-power at Kuaotunu: Power electrically transmitted from Gumtown on the Waiwawa River.*

	£	s.	d.
Water- and tail-race	5,000	0	0
Water-pipes	445	0	0
Turbines and fittings	500	0	0
House for turbines and generators	250	0	0
House for transformers at Kuaotunu	100	0	0
Electrical apparatus, poles, insulators and wires	6,553	0	0
Packing, freight, insurance, and general shipping-charges	573	15	0
Freight and cartage from Auckland, 90 tons, at 20s.	90	0	0
Erecting-pipes, turbines, generators, transformers, and power-line	375	0	0
Supervision	300	0	0
Sundries	100	0	0
	£14,286	15	0

Yearly Cost.

	£	s.	d.
Interest, 6 per cent. on £14,286 15s.	857	3	8
Depreciation, 5 per cent. on £9,286 15s.	464	6	9
Depreciation, 2½ per cent. on £5,000	125	0	0
One engineer	250	0	0
One assistant	200	0	0
Two men at £15 per cent.	300	0	0
Oil and sundries	100	0	0
	£2,296	10	5

Annual cost per brake horse-power at Kuaotunu, £13 18s. 4½d.

Estimated Cost of Plant, and Annual Working-expenses, to deliver 219 Break Horse-power electrically transmitted from Gumtown, on the Waiwawa River.

	£	s.	d.
Water- and tail-race	5,000	0	0
Water-pipes	650	5	0
Turbines and fittings	700	0	0
House for turbines and generators	300	0	0
House for transformers at Kuaotunu	100	0	0
Electrical apparatus, poles, insulators, and wires	7,311	17	0
Packing, freight, insurance, and general shipping-charges	686	13	0
Freight and cartage from Auckland	100	0	0
Erecting pipes, turbines, generators, transformers, and power-line	450	0	9
Supervision	300	0	0
Sundries	100	0	0
	£15,698	10	0

Yearly Cost.

	£	s.	d.
Interest, 6 per cent. on £15,698 10s.	951	0	0
Depreciation, 5 per cent. on £10,698	534	18	0
Depreciation, 2½ per cent. on £5,000	125	0	0
One engineer	250	0	0
One assistant	200	0	0
Two men at £150	300	0	0
Oil and sundries	150	0	0
	£2,510	18	0

Annual cost per brake horse-power at Kuaotunu, £11 9s. 3·6d.

R. E. Fletcher.