

were suffering even more severely, and that we could more easily stand it. We shall now commence to feel the real strain of the war, and all resources in men and money must be carefully organised for the final effort bringing victory. The National Government has commenced to show a strongly cautious attitude in finance, and we anticipate that with the object of maintaining our exports, which are so valuable to the Mother-Country, it will also handle in the same spirit the problem of the depleted labour force of the country.

Nitrates from Air

Though the war has forced the pace of chemical manufacture and scientific development generally within the Empire, New Zealand has not gone ahead one iota in any practical respect. Millions of pounds worth of easily-harnessed water-power still run to waste, though for many years we have had in the official pigeon-holes exact data about the various sources of supply. It is reported that a few months ago a large syndicate endeavoured to secure from the Government the right to use Bowen Falls, Milford Sound, where it is said water-power can be turned to account much more cheaply than at a celebrated Norwegian hydro-electric plant which turns out large quantities of nitrates. This chemical is of the utmost value in a producing country like New Zealand, and although it can be manufactured here if there is an ample supply of cheap electrical current, we have been content to import. The Hon. Wm. Fraser, Minister of Public Works, vetoed the private syndicate's proposal, taking up the sound ground that New Zealand's water power is too valuable an asset to become locked up in private hands. He can obtain support for this view from the history of the Parapara iron ore deposits, which have been hawked about by speculators without a single real effort to turn out manufactured iron. So many opportunities have been let slip that members of the House were recently disposed to criticise the Hon. W. Fraser for not giving the proposed nitrate syndicate an option over the Bowen Falls power, but he stuck to his guns, stating that for some time he had been in conference with Mr. Parry, Government electrical engineer, on the very subject of using that power for creating nitrates. He stated frankly to the people who desired to obtain these rights that they simply wanted to sell them to an American company. "I looked carefully through the papers I received about the proposed company, and it was full of American phrases," Mr. Fraser declared. The Minister, dryly, amid hearty laughter, continued: "If the Government is wise it will never part with its rights to any private company. I am certain that this power can be used in future in a most excellent manner for other purposes besides nitrates. (Hear, hear). In many of our mines are refractory ores that require to be electrically treated, and if the Government desires to go into this work a very big industry can be established." Opinion in Parliament is emphatic on the point that as the Lake Coleridge scheme in the South Island has been proved to be a success, the North Island should now have a turn.

Water Power

It is significant of the tendency of public thought that nearly every member who discussed the Public Works Statement recently in Parliament supported the development of the water-power resources of the North Island at the earliest possible moment, and that no stronger advocate of this policy was to be found than the Hon. Wm. Fraser, Minister of Public Works. The Minister believes that it will not be economical to establish a large central generating station, because the long distribution lines would involve a good deal of waste, and would be difficult to maintain. The principal sources favoured are the Waikato River at the Arapuni Gorge, where 120,000 horse power can be obtained on the basis of a 50 per cent. load factor based upon the minimum observed flow of the river during the phenomenally dry summer of 1915. It would cost £1,200,000 to develop this source and provide the initial power plant of 30,000 horse power, with trunk lines to Auckland, Te Kuiti, and Rotorua, serving all the towns within range. Wellington's best source of power is the Mangahoe River. This river rises on the slopes of Mount Dundas on the Tararua Ranges, and flows into the Manawatu near Woodville, and it is found that by diverting through the hills for a total distance of three miles there is made available the fall of 1,040ft. in the sixty-five miles of river between the Mangahoe and the loop of the Manawatu near Shannon. It is proposed to develop this source by tunnelling through the range from the Mangahoe into the Tokomaru Valley, there diverting a part of the Tokomaru, and then from the Tokomaru Valley through into the valley of the Mangaone, with a power-station situated within three miles of the railway at Shannon. Observations of the flow were made during last season, which was exceptionally dry, and are also being made during the present season, and based upon the dry-season flow it is possible to obtain 25,000 horse-power on a 50-per cent. load-factor basis by impounding the waters and taking advantage of the natural features of the country for the purpose. The Wellington City Council's steam plants would be valuable stand-by installations for this scheme in case of breakdown. The scheme would supply Wellington and the whole West Coast as far as Wanganui. Lake Waikaremoana is the most suitable source of supply for the East Coast district, including Napier and Gisborne, but the rough nature of the country will keep this scheme back until settlement has developed, and good roads are available to enable the transmission lines to be easily patrolled, and breaks quickly located. It is expected that the Lake Coleridge scheme will pay all charges, including interest and sinking fund during the current year, but the Government has been obliged to stop pushing for new customers owing to the absolute impossibility of getting machinery actually on order. Thus the chance of developing the North Island, power sources until the war ends is nil, though this will not prevent the capable and businesslike Chief Electrical Engineer, Mr. Evan Parry, completing his preparations for brisk work when the time arrives.