

involved so far is not great—UKAPE has 11,000 members and ASEE about the same. Reaction from some quarters is far from enthusiastic — a spokesman for the TUC said “there is no need for it, we cater for professional bodies here”, and the reaction of Mr C. Cooper, deputy general secretary of the Institution of Professional Civil Servants, was that the scheme was “grandiose” and unnecessary as individual associations are quite capable of negotiating with employers and he doubted if there would be much recognition for the confederation.

METALS

Continuing Uncertainty

INTERNATIONAL NICKEL, the largest producer of nickel in the world, is being forced to cut down production because of a sharp decline in sales during 1971 and it seems that a cycle which started in 1966 when demand for nickel first began to outstrip supply has come full circle. International Nickel is now planning to reduce its output by 15 per cent by early 1972.

The nickel shortage of a few years ago was exacerbated by strikes at most of the principal mines in Ontario, Canada, which lasted for several months at the end of 1969. International Nickel was not the only company involved and Falconbridge—the third largest nickel producer in the world—was also badly affected. At that time, the output of International Nickel dropped to about 30 per cent of its previous level (£500 million a year) and production by Falconbridge was almost completely halted. Towards the end of 1969, the price in the free market (in which only about 10 per cent of the world's nickel is sold) rose to a level about seven times higher than the so-called producer price (£1,220 a metric ton) at which large companies like International Nickel sell their products. Users of nickel at that time could buy rationed quantities of nickel from large companies at the producer price or greater amounts in the free market at inflated prices.

Now the producer price is £1,246.50 a metric ton and the free market price is slightly lower than this. But the demand for nickel—more than 40 per cent of it is used in the production of stainless steel—has fallen off because of

the poor economic climate Nickel consumers now see that world nickel supplies are plentiful and are happy to allow their own stocks to fall to quite low levels.

There are at last some signs that the sales of aluminium in Britain are picking up after a disastrous nine months for the industry that has seen the rate of growth of sales drop to around 1 per cent. This has led to stockpiling by the manufacturers and a slowing down in the time scale of bringing new smelters into operation. A spokesman for the British Aluminium Company said last week that it would be eighteen months before the situation was rectified, although it would be longer before the world-wide rate of expansion would be restored to its pre-1970 rate of 8 per cent.

In spite of these difficulties the posted price of aluminium remains at the 1970 price of £257 a metric ton although this hides the real situation where aluminium dealings are currently being conducted at up to £70 below this price. The stability in the price is one of the aluminium companies' selling points and the inroads made into the sales of copper in Britain during the past five years can be seen in the table.

Until recently Britain imported most of the 400,000 tons sold annually because of the large amount of electricity needed—16,000 to 18,000 kilowatt hours—to produce a ton of metal from alumina. Four years ago the government in an attempt to reduce Britain's balance of payments offered inducements to aluminium companies to build smelters in Britain. These plants are now becoming operational and when fully operational they should produce 300,000 tons a year that will reduce Britain's dollar drain by up to £40 million. The companies themselves will also save on import tariffs when Britain enters the European Economic Community.

The copper market is in its steadiest state for years. After the gradual decline of the past year the price seems to have settled at about £420 on the London Metal Exchange and no significant changes are expected in the near future.

The copper market is well known to be an early indicator of economic trends, and the low level of the market, compared with last year when the price at

one stage reached £749 a metric ton, is partially accounted for by the depressed state of the world economy. For the first time in some years there is an excess of supply over demand, partly due to new copper mines coming into production which were planned when copper prices were high and supplies were low in 1968 and 1969. The London Metal Exchange, which controls the price of 60 per cent of the world's copper, has reserve stocks at the moment of more than 132,000 tons, the highest ever, and until these begin to fall the price is unlikely to rise a great deal. It is thought in many quarters that a price of about £500 a metric ton can be expected by the middle of next year as it is assumed that the American economy will be re-inflated when the presidential election campaign begins.

Copper is the most volatile metal market for a number of reasons. The countries which supply the bulk of the world's copper—Zambia, Chile, Peru and the Congo—are not renowned for their political stability, and the copper industry seems to attract more than its fair share of strikes. Again, copper is not protected from speculators in the way that other metals are. Aluminium and nickel, for instance, are largely sold at the price the major producers agree between themselves and although price changes are usually large, it nevertheless remains constant for longish periods.

SCIENCE POLICY

Dainton on Science

SIR FREDERICK DAINTON, chairman of the Council for Scientific Policy, believes that the current disenchantment with science arises because science was over-sold in the postwar years and because there is at present a “long term distaste if not active revulsion from science”. These views were expressed by Sir Frederick last week at the University of Southampton when he gave the annual Fawley lecture on “Science: Salvation or Damnation”.

Sir Frederick is nevertheless optimistic about the future even though he openly admitted that his lecture did “little more than list many maladies from which we suffer”. He believes that “knowledge is the best weapon to combat fear and therefore that if science is taught and practised imaginatively and with a sense of social responsibility, the present disenchantment with it will not long persist”.

The body of Sir Frederick's address reviewed the nature and development of science from the carefree days when a chemistry professor could ask his assistant to bring in his laboratory on a tray to the present, where in Britain £1,000 million a year is spent on research and development. Sir Frederick is being

Table 1 Metal Data 1966-71

Metal	Annual consumption UK		Price per tonne		
	1966 '000 metric tons	1970 metric tons	1966	1970 £ sterling	1971
Aluminium	366.0	404.2	193	257	257
Nickel	34.4	34.7	691	1,268	1,268
Copper	592.5	546.5			418*†

* Average figures.

† Average price for October.