

## **FINAL REPORT OF THE METRICATION BOARD (1980)**

### **CHAPTER 1: REVIEW**

1.1 The first move for a change to metric for all purposes of trade was made by the Federation of British Industries (now the Confederation of Industry) in 1965 when it informed the Government that the large majority of its members favoured this course. In response the Government stated that over half British exports went to metric countries, and that it was desirable that British industry should adopt metric units, sector by sector, until the system could become the primary system of weights and measures for the country as a whole. The Government also stated that it hoped that most of industry would have made the change by 1975, but recognised that some sectors might aim at an earlier or later date.

1.2 Today metric units are used in many important areas of British life - including education; agriculture; construction; industrial materials; much of manufacturing; the wholesaling of petrol, milk, cheese and textiles; fatstock markets and many port fish auctions, nearly all the principal prepacked foods; posts and telecommunications: most freight and customs tariffs; all new and revised Ordnance Survey maps; and athletics. Nevertheless, taken as a whole, Britain is far from being wholly metric.

1.3 Certainly there has been hostility to metrication. Against metrication it has been argued that:

- traditional weights and measures should be kept as part of the national heritage;
- the metric system is difficult to understand and would confuse people;
- some metric units are less convenient and practical than those they replace;
- it would increase costs;
- the EEC is to blame for the changeover.

1.4 The truth of the matter is that:

- metrication does not involve rewriting English literature which in any case already uses many units strange to us today;
- metric is much the simpler system;
- virtually all the rest of the world is committed to metric;
- Britain has to change to metric in order to succeed in international trade;
- the British Government's decision of 1965 in favour of the metric system was taken well before Britain joined the EEC in 1973.

1.5 When metrication has actually happened - as, for example, in the case of prepacked foods like margarine and sugar - the great majority of people have taken it in their stride. The Price Commission found that metrication had not resulted in increases in retail unit prices, and the Board's Monitoring of retail prices since the summer of 1979 onwards points to the same general conclusion.

No country has been able to calculate the costs of going metric but all agree that the continuing benefits for the future far outweigh them. A carefully timed and planned changeover can bring substantial financial savings and benefits to individual firms.

1.6 The misapprehensions might have been overcome if the Board had been able to campaign in favour of the adoption of the metric system. Our terms of reference did not, permit us to do this. This gap was not filled by successive Governments with the result that no one made a sustained argument for metrication.

1.7 From the beginning a principal feature of Government policy was that metrication should be voluntary, that no compulsory powers would be sought, and that the Metrication Board would be advisory only. The vast majority of the metric advances of the past fifteen years have in fact resulted from voluntary decisions and actions. The Metrication Board has helped with co-ordination, publicity and consumer information.

1.8 The voluntary approach, that is change not backed by legislation, has been much less effective in retailing than in other sectors. The report 'Metrication in the Retail Trade', which we submitted to the Secretary of State for Prices and Consumer Protection in 1974, advised that unless legal cut-off dates were established (that is, dates after which the use of imperial units would no longer be legal) some retailers would not go metric and these would deter others from doing so. This point was demonstrated in practice when fabric and floor-covering retailers began a voluntary change in February 1975. Not all retailers changed.. some who did claimed that they lost sales and then either reverted to selling in imperial or adopted dual measurements.

1.9 Teachers were among the first to recognise the simplicity, logical construction and educational benefits of the metric system. Today, in GCE, SCE and CSE examination papers, metric units are the rule. But on leaving school many young people find themselves having to adapt to an economy which is partly imperial. Employers who still operate in the imperial system have to train recruits. Since complete elimination of imperial measurements from the economy is likely to take some years, pressure may be expected for courses and examinations to be made to reflect both systems. In 1974 the Department of Education and Science issued advice (which still stands) to schools that teaching should be conducted principally in metric terms while maintaining general familiarity with imperial units.

1.10 Thus while most sectors are metric or largely metric two major sectors are not: retailing of weighed out foods and many sales by length, volume or area; and speed limits and road distance, height and weight signs.

1.11 Fifteen years ago the Government of the day accepted that the country should go metric in the interest of Britain's survival in world markets. In the light of economic performance and with the worldwide advance of metrication, this argument is even stronger today. There are no legislative barriers to the change, yet much of British industry is said to work at reduced efficiency because of dual standards, double stockholding, conversion problems and waste and mistakes on the shop floor. Many of the opportunities to rationalise specifications are being missed.; and failure of industry to metricate fully, except to the extent that imperial, production is necessary for spares and replacements for existing equipment, reduces efficiency and affects sales.

1.12 As long ago as 1968 the Government- appointed Standing Joint Committee on Metrication, representing management, trade unions and Government, reported that manufacturing industry could make the change efficiently and economically only if the economy as a whole moved in the same direction on a broadly similar time-scale and in an orderly way. Industry attaches importance to the early completion of the metric programme throughout the economy as a whole. In June 1979 the Confederation of British Industry, while recognising that industry itself has a part to play in bringing this about, commented 'there is no room for two measurement systems in an efficient trading nation - one for the housewife and one for the businessman at the 'moment we are in the worst of both worlds'.

1.13 Most organisations representing consumers believe that it would be best for shoppers for the retail change to be total, speedy and orderly. A long transition would prolong confusion and remove from shoppers the safeguard of a single and universally accepted system of weights and measures. Honest traders could be penalised while those prepared to exploit areas of uncertainty and confusion could stand to gain.

1.14 In 1977, after the Weights and Measures Act of 1976 had made legal cut-off dates possible, we held extensive discussions with -consumer organisations and those concerned with retailing weighed and measured out goods. We achieved agreement on programmes for metricating retail sales of all these goods by the end of 1981; a principal requirement was that the programmes should be backed by statutory Orders giving legal status to the agreed cut-off dates. Draft Orders were laid before Parliament in March 1978 but were withdrawn in May. At this point the Government of the day asked the Board to try once again to see whether acceptable voluntary programmes could be devised. The Board therefore opened fresh discussions with the retail trade to see whether this was possible.

1.15 We submitted our 'Report on the Change to Metric in the Retail Trade' to the Minister of State for Consumer Affairs in October 1979. Our major finding was that retailers of weighed out foods and measured out goods totally reject the idea of voluntary metrication in the near future, except petrol for which there is no economic alternative to metrication (see page 16). They pointed out that as yet there are no commercial advantages to them in going metric. The retail trade is highly competitive and even if all trade association members changed, many non members would continue to -trade in imperial in order to gain an unfair commercial advantage. The majority of customers do not yet favour the metric system and metric prices appear to be higher than imperial prices because, in general, round metric quantities are larger than imperial. Although unenthusiastic about the adoption of the metric system, retailers seemed willing to support an early, orderly, time-tabled programme provided it is backed by legislation.

1.16 However, in November 1979 the Government announced that since it had no plans for further cut-off Orders there was very limited scope for the Board's activities and no further appointments to the Board would be made after current terms expired on 30 April 1980. Government policy is that future metrication should proceed by voluntary programmes and Ministers have indicated that they favour such voluntary action to achieve an orderly transition.

## **Conclusion**

1.17 Industry, especially engineering, says that the rate of change to metric working is greatly affected by progress in other sectors, especially retail trade. The phasing out of imperial units for retail sales would quickly bring about the use

of metric units in everyday life and power fully influence the changeover in industry.

1.18 Many prepacked goods, especially the main 'Shopping basket foods, and some measured out goods are sold in metric quantities in the High Street. Most organisations representing consumers believe it would be best for shoppers if the change were total, speedy and orderly.

1.19 Trade organisations representing retailers of measured out and weighed out goods, especially meat, fish, fruit and vegetables, are not prepared to recommend a voluntary change to selling in metric in the near future. Although unenthusiastic about the adoption of the metric system, all seem willing to support an early, orderly, change provided there is a fixed statutory timetable.

1.20 Government policy is that future metrication should proceed by voluntary programmes of industry, trade, retailers, firms, associations and individuals. Ministers have indicated that this is the best method of achieving an orderly transition.

1.21 The Board believe that the essential prerequisite to retail metrication being completed voluntarily in the next few years is a change in the public's attitude towards the adoption of the metric system. Our surveys show that a majority of people are not in favour of changing, although over eighty per cent of them believe they would be able to cope with the change when they had to.

1.22 This necessary change in attitude can be achieved only by a successful information programme explaining why the . country is going metric and the adverse effect on the economy of not completing the change. The alternatives to changing public opinion in favour of metrication, which would remove retailers' fears about changing voluntarily, are:

1) a timetabled retail programme, backed by the minimum legislation necessary, and agreed in advance with retailers, consumers and other interests;

or

2) continuing with the existing mixed system until such time as the retail trade see commercial benefits in 'going metric'.

1.23 The Board consider that an early and orderly completion of the change to metric would be in the best interests of the economy and thus the consumer, and we urge every one to press ahead as quickly as possible.

## **CHAPTER 2: MAIN DEVELOPMENTS**

### **Prospects for completing metrication in retailing**

2.1 During 1979 the Board discussed with some one hundred organisations representing the trade and its suppliers the possibility of achieving a voluntary time-tabled change to metric for retail sales of weighed out foods, fabrics, floor coverings, DIY and hardware products. This followed the hope expressed by the then Secretary of State for Prices and Consumer Protection on 16 May 1978 that such a change would be possible.

2.2 We found that no organisation representing retailers, whole salers, packers or measuring equipment manufacturers was prepared to recommend voluntary change in the near future. The retail trade associations claimed there were no commercial advantages to their members in going metric. Retailing is highly competitive and even if all trade association members changed, many non-members would continue to trade in imperial in order to gain an unfair commercial advantage. Metric prices appear to be higher than imperial because, in general, round metric quantities are larger than imperial. Also, the majority of customers do not favour the metric system. The unanimous view of all the organisations consulted was that any voluntary changeover would be fragmented and prolonged. This is consistent with the views put forward by consumer and women's organisations.

2.3 On the other hand, although unenthusiastic about going metric, all sectors of retail trade said they were willing to accept an early, orderly, time-tabled programme with supporting legislation to guarantee fair trade competition, and with publicity to help consumers during the transition. Some trade associations would prefer to see the smallest retailers exempted from any legal requirements.

2.4 In October 1979 we submitted our findings 'Report on the Change to Metric in the Retail Trade' to the Minister of State for Consumer Affairs. Our conclusion was that with out some form of legislative approval by the Government to a new programme agreed by trade and consumer organisations, metrication in the retail sector would not be achieved in the near future.

Our recommendations were:

- a the Government should negotiate metrication programmes acceptable to retail, wholesale, packing, equipment, consumer and women's organisations and support any agreements with the minimum of legislation necessary to complete the transition;
- b to facilitate the transition, arrangements should be made:
  - i to explain the metrication programmes to the public at large;
  - ii to monitor retail prices during transition: handle complaints; negotiate 'value for money' assurances with manufacturers and generally help to advise and inform the consumer.

2.5 On 14 November 1979 the Minister announced that the Government had no plans for further compulsory Orders. The Minister indicated that it was in everybody's interest that as industry continued to go metric they should proceed to expedite in an orderly way on a voluntary basis a programme for any future metrication.

### **Prepacked prescribed quantity foods**

2.6 Metrication of the basic 'shopping basket' foods, such as flour, instant coffee, tea, butter and margarine is largely complete. By the beginning of 1980 over 95 per cent by value of these foods was made up in rounded metric quantities. Jam, marmalade, honey, jelly preserves, syrup, cereal grains and starches, and coffee (beans and ground) are the only prescribed quantity foods for which ranges of metric sizes are not yet agreed.

2.7 Manufacturers and importers of dried vegetables, dried fruits, flour and flour products, oat products, cocoa and chocolate powder finished the change to metric

prepacks in the second half of 1978. In February 1979 margarine in 250 g and 500 g packs started to appear on retailers' shelves. In July instant coffee and butter started to appear in metric sizes. In September white fats and dripping began the changeover.

2.8 The changes were brought into effect by legislation embodying timetables agreed by the sector concerned. Manufacturing cut-off dates were introduced for imperial packs of pasta, dried fruits, dried vegetables, and flour and flour products. Additionally, cut-off dates for retail sales of imperial packs were approved for biscuits, bread, chocolate bars, cocoa and drinking chocolate, oat products, sugar, cornflakes, salt, tea, butter, margarine, white fats and dripping, and shredded suet.

There are two retail cut-off dates in 1980; for tea on 29 June and for shredded suet on 28 September.

Legislation permitting metric ranges for instant coffee and prepacked potatoes has resulted in a widespread change of the former product, but little change of the latter.

2.9 In the main the metric range selected has been based on a 125 g module, slightly larger than the 4oz imperial equivalent. The overall reduction in the number of packs could lead to savings in packing costs. The principal exception is instant coffee, where the trade opted for the 100 g module in line with Continental practice.

2.10 In August 1979, when margarine, butter and instant coffee were all changing to metric quantities, the Metrication Board and nine local authorities who monitored complaints during that period received a total of 19 500 enquiries. Only 38 were complaints about metrication.

### **Value for money**

2.11 Before each of the prescribed quantity food changes which began in 1979 the Board sought from manufacturers an assurance that on a 'weight for weight' basis the new metric packs would cost no more than the imperial packs they replaced. Major manufacturers of tea, margarine, lard and other cooking fats gave us such assurances. In the case of butter this was not possible because of changes in the EEC subsidy and devaluation of the green pound just before the start of the change. In addition, not all manufacturers of instant coffee were able to give such an assurance. The most commonly available metric packs of instant coffee weigh nearly 12% less than the imperial packs they replace and packing in smaller sizes costs more. The major manufacturers assured us, however, that their prices to the grocery trade would be reduced by either the full amount of 11.8% or by at least 10%.

2.12 Two Price Commission reports, in 1977 and 1970, concluded that metrication did not, on a weight for weight basis, lead to increases in the retail prices of the main 'shopping basket' foods. Indeed, six brand name foods were better value for money in grams and kilograms than in ounces and pounds.

2.13 After the Price Commission's demise, the Metrication Board enlisted the help of the National Federation of Consumer Groups and of some local authorities, who carry out their own price surveys, to monitor the change to metric of instant coffee, margarine, butter and tea. Prices in over 200 retail outlets from Scotland to the South Coast were surveyed. Analysis of the butter and tea surveys is not yet complete but for instant coffee and margarine we found that both national

brands and own labels in general give as good, and sometimes appreciably better, value for money in metric packs as in imperial.

## **Petrol**

2.14 The Motor Agents Association and the Institute of Petroleum, which represents the major oil companies, have recommended to their members that all retail sales of petrol should be in litres by end-1982. The major oil companies have agreed to have a common changeover period but the timing has yet to be decided.

2.15 Three major factors, none of which affects other sectors of retailing, have prompted this recommendation:

i the unsatisfactory nature of half-price posting, adopted by many retailers whose price-computing pumps cannot cope with present prices per gallon, which is confusing to motorists and garage forecourt staff alike and causes uncertainty and mistakes;

ii the cost of converting price-computing pumps to cope with prices over £2 per gallon, which the great majority do not currently reach, is generally higher than the cost of converting to sales in litres. In addition, the latter conversion extends the life of mechanical pumps by reducing wear and tear on price-computing mechanisms;

iii safety on garage forecourts will be improved. While petrol deliveries are by litres into under ground storage tanks calibrated in gallons there is the possibility of mistakes.

## **Prepacked non-prescribed quantity goods**

2.16 A major change in 1979 was the adoption of metric pack sizes for tobacco. This was carried through voluntarily by the main manufacturers who by end-June 1979 were marketing all prepacked pipe and hand rolling tobacco in metric quantities only.

2.17 Since 15 May 1978, when the Prepacking and Labelling of Wine and Grape Must (EEC Requirements) Regulations 1978 came into operation, wine prepacked in quantities between 0.05 litre and 5 litres has been bottled only in a standard range of metric sizes, eg 350 ml, 500 ml, 700 ml, 750 ml (75 cl) and 1 litre. Sparkling wine, vermouths, British wines, liqueur wines and spirits are being packed increasingly according to this range. For example, the 75 cl (26.4 fluid ounces) size is replacing the old 26 2/3 fluid ounces (75.7 cl) for bottles of gin and whisky.

2.18 Another change being made by most producers is the adoption of of the International Organisation of Legal Metrology system for measuring alcoholic strength. The Labelling of Food (Amend ment).Regulations 1979 permit the symbol '%, vol to be used in declarations of the alcoholic strength of intoxicating liquor pre- packed for retail sale. This means that, for example, spirits, such as whisky and gin may be labelled '40% vol` instead of `700 proof'. The alcohol content remains exactly the same but is calculated and declared differently.

## **Average system**

2.19 Legislation which came into effect on 1 January 1980 permits 'average' instead of 'minimum' quantity declarations on pack aged goods. We have recommended to packers that.. where appropriate, they should adopt round metric quantities as they change to the average system.

## **Engineering**

2.20 In July 1968 the British Standards Institution published, after widespread consultations through trade associations and in other ways, an agreed metrication programme and guide for the engineering industry. This set a target of 75% metric production by the end of 1975.

2.21 Progress has been substantially less than planned and leaders in the industry attach importance to the early completion of the metric programme throughout the economy as a whole. They say that the industrial rate of change is greatly affected by progress in other sectors, especially retail trade. The phasing out of imperial units for retail sales would quickly bring about the use of metric units in everyday life and powerfully influence the changeover in industry. Until metric production is the norm for all but spares and replacements for existing equipment, companies compete at a disadvantage with overseas suppliers. Many say they face extra costs in working to dual standards, double stockholding, conversion problems and waste due to errors and scrap on the shop floor.

2.22 'Metrication - An Investment in Efficiency', a study meeting, was sponsored jointly by the Confederation of British Industry and the Metrication Board in April 1979. Its main conclusions were that: There are no legislative barriers to the industry changing, but the agreed engineering target of 75%, metric production by end-1975 has not yet been reached; some imperial production will be required for many years to provide spares and replacements for existing equipment; prolonged general working in the two systems of measurement harms efficiency and imposes substantial cost penalties; there is an urgent need to combine a programme of plant and equipment modernisation with metrication; manufacturing, wholesaling and retailing have to move together in the change; and, there is a clear need for a more positive commitment to metrication by Government.

2.23 In June 1979 the Director General of the Confederation of British Industry, while recognising that industry itself has a part to play in bringing about the completion of metrication in the economy as a whole, commented 'there is no room for two measurement systems in an efficient trading nation - one for the housewife and one for the businessman' ....'at the moment we are in the worst of both worlds'. The President of the Institute of Purchasing and Supply has estimated that fastener manufacturers and stockists alone have £40 million tied up in dual stocks.

2.24. The Board is collaborating with a firm of management consultants in a survey to try to quantify the cost of 1) changing to metric and 2) working in imperial as well as metric. Over 800 firms have taken part in the survey. Preliminary analysis of the replies indicates that over 50% of production is still in imperial; the costs of dual working are nearly 3c., 11% of the annual value of home sales; and the capital costs of metricating could be recovered in less than two years.

2.25 A limited survey of metrication progress in small firms was undertaken by the Metrication Board at end-1978. The Board found that some small firms claimed to have problems obtaining supplies of raw materials, especially

nonferrous metals and bright steel, at an economic price and within the required time-scale. All accepted the inevitability of metrication but found little incentive to accelerate the pace of change. However, those that had made the change experienced no major technical problems and none wished to revert to working in imperial.

2.26 To try to identify and help overcome alleged supply problems, the Board wrote in October 1979 to a wide range of small engineering firms inviting them to let us know, if they do have supply difficulties, their annual requirements for nonferrous metals and bright steel. The replies indicated that few firms have exactly the same problems. Wherever practicable, we have suggested how supply difficulties might be dealt with.

### **Swimming pools**

2.27 Recommendations for water depth markings in swimming pools were agreed at a meeting in 1979 called by the Board and attended by representatives from swimming pool designers, constructors, managers and users, Government departments and other organisations interested in water safety precautions. The recommendations are:

- i Pool depths of water should be marked clearly and conspicuously in metric units and, for the time being, in imperial units.
- ii Metric measurements should be marked in metres to one place of decimals.
- iii Depths below 1.0 m should show a zero before the decimal point.
- iv Except for depths of less than 1.0 m, where the markings may need to be more frequent, the depth of water should be marked at each end of the pool, at sudden changes of depth, and elsewhere at each increase of 0.5 m.

### **EEC Directives**

2.28 A new EEC Directive on Units of Measurement comes into effect on 1 October 1981 and provides for the use of 51 units for trade and other purposes throughout the Community. A decision on the future of the imperial units listed in the new Directive, which include the inch, foot, yard, mile, ounce, pound, pint and gallon, does not have to be taken until 31 December 1989. The Directive thus reflects the Government's view that the rate of change to the use of 51 units in the United Kingdom should not be determined by the Community.

2.29 A number of less widely used units, such as the cubic yard, the chain, the rood and the dram, have already been removed from use in legislation in accordance with an earlier Units of Measurement Directive; the hundredweight, cubic inch, hand and degree Fahrenheit are being removed.

2.30 Two other EEC Directives also affect the rate of change to metric in the food manufacturing industries. The Directive on standardisation of prepacks, which Member States have to implement by 17 January 1982, sets out ranges of prescribed weights and capacities for a wide variety of foodstuffs and household goods, from frozen vegetables to shoe polishes. Its effect is to require all Member States to permit the import of products prepacked in the quantities prescribed in the Directive. It will not prevent individual Member States permitting trade in these products prepacked in other sizes, but clearly it will be to manufacturers' advantage to produce packs which will be readily acceptable throughout the Community.

2.31 The Liquids Directive, from which the United Kingdom obtained a derogation until 31 December 1979, requires Member States to permit the import of a wide range of liquids, for example milk and alcoholic spirits, prepacked in the quantities prescribed in the Directive. The most notable change resulting from this Directive is that prepacked milk may now be offered for retail sale in metric. Statutory Instrument 1979 No 1752 added a metric range to the already permitted range of imperial quantities.

### **CHAPTER 3: INFORMATION**

3.1 With the sequence of metric changes in the shops awareness of metrication rose during the first eighteen months of this report. This was demonstrated by increased coverage in the media, by the marked growth of public enquiries and requests for information put to the Board and by the very strong demand for the Board's publications. which stretched staff resources to the limit.

3.2 The evidence is that the great majority of consumers took the new sizes for prepacked foods in their stride. Certainly very few complaints were made to the Board, or so far as we can judge, to consumer protection organisations. But the experience of 1979 suggests strongly that high levels of interest and demand for information must be expected when the remaining major retail changes eventually happen. There will then be more need to become familiar with metric units and to use them for every-day purposes. Consumers will also need more help in judging value for money during and after the transitions.

#### **Information Objectives**

3.3 The Board's main information objectives were, first, to help consumers, trade and industry with metric changes as they occurred; and second, help people acquire knowledge of metric units. During the period of this report most of our resources were applied to the first objective. We alerted consumers to the metrication of the prescribed quantity foods; explained the relationship between the new quantities and the old; and tried to protect consumers by helping them to judge value for money. We also gave practical help with using metric quantities in cooking. To reduce mistakes in the shops we made a point of drawing retailers' attention to the changes before they took place. Collaboration with trade, industry and consumers

3.4 All the Board's information campaigns were developed in consultation with retailers, manufacturers and packers, and consumers. We emphasised that consumers can be helped by information on the new packs additional to that required by law. We stressed the desirability wherever possible, of not charging more for the metric packs on a 'weight for weight' basis than for the imperial packs they replaced.

3.5 Our experience confirmed that discussions of this type can help consumers and traders; also that there is a need for an organisation to act as coordinator of information planning and to take the initiative, where necessary.

#### **Press and broadcasting**

3.6 Strong anti- and pro-metric views continued to be expressed in the media, with the latter probably more prominent than in earlier years. The metric changes of 1979 led to substantial coverage in the media and the Board's news releases were widely and mainly factually reported, particularly in the provincial press. Briefings with journalists and broadcasters resulted in considerable coverage and

a number of radio and TV programmes featured Board members. Pre recorded tapes were produced for BBC local radio.

## **Advertising**

3.7 Advertising campaigns were mounted in the national press to alert consumers to the metrication of margarine, butter, lard and other cooking fats, instant coffee and tea. The advertisements compared new sizes with the old and gave guidance on prices consumers should expect to pay. They also invited readers to write in for the Board's publications which usually included "analogues", or simple bar charts enabling people to make value for money comparisons at any appropriate level.

3.8 The Board also advertised in the retail trade press, in women's magazines to help with cooking in metric, and in publications published for elderly people. Altogether the Board made 137 insertions of advertisements in the national press 94 in the retail trade press, 30 in women's magazines, and 36 in publications for the elderly.

## **Publications**

3.9 In the period of this report the Board issued more than 12 million leaflets, mainly through retailers and to meet individual requests from the public. Over 2 million were existing titles mainly explaining metric units. The rest were new.

- *Metric for Shoppers*, published in January-m 1979, dealing with pasta-, cocoa, drinking chocolate, oats, dried fruits and dried vegetables and containing a price analogue (2 million copies).

- *Shopping in Metric 1979*, dealing with margarine, butter, dripping, lard and-cooking fats, solid vegetable oils, shredded suet, tea and tea bags and containing a price analogue (5.7 million copies).

- *Metric Cook's Guide*, May 1979, giving metric recipes and metric units. 1.6 million copies were inserted in a leading women's magazine and 630 000 were distributed through individual requests, exhibitions and consumer organisations.

- *Instant Coffee goes Metric*, June 1979, with information on the new coffee sizes (3715) 000 copies).

3.10 In addition the Board prepared three numbers of the *Going Metric* bulletin, a poster produced in conjunction with the Anglin Trades Association and National Anglers' Council, and a leaflet to publicise its new film *The Move to Metric*.

## **Films**

3.11 The fourteen minute 16 mm colour and sound film *The Move to Metric* released in September 1979, helps people to understand the use of kilograms, litres and metres, and shows where metrication has got to in shops, industry and schools. It has been available on free loan to consumer and adult education groups, other local organisations, schools, firms running training courses - and so far has been booked on well over a hundred occasions. The Board's earlier film for consumers, *Simply Metric*, has been booked on nearly a thousand occasions during the period of this report.

## **Exhibitions and Displays**

3.12 During the period of this report the Board arranged 166 consumer information displays including major exhibitions, public meetings and in Citizens' Advice Bureaux, Consumer Advice Centres, libraries and consumer groups. There was a large demand for the Board's publications and people welcomed the chance of getting firsthand information.

## **Enquiries**

3.13 In its advertising and other publicity the Board has made a point of inviting people to contact it for information and publications. Between July and December 1978 Information Division dealt with 5 700 enquiries; in 1979 as a whole the total was 42 700. The rate of enquiries rose more than seven fold during this period, from a monthly average of 830 in the third quarter of 1978 to a monthly average of 6 090 in the third quarter of, 1979. The peak month was October 1-0,79 with 8 140 enquiries.

## **Public knowledge and attitudes**

3.14 Surveys of public knowledge and attitudes to metrication were commissioned by the Board in September 1978, February and August 1979 and March 1980. The surveys showed that knowledge of metric units as compared with their imperial equivalents is highest for the metre with the kilogram and litre way behind.

## **Knowledge of metric units**

3.15 (in terms of imperial equivalents)

	July 1975	Sept 1978	Aug 1979
<b>The metre</b>			
Correct	53	67	64
Incorrect	11	8	8
Don't know	5	25	28
<b>The kilogram</b>			
Correct	21	38	37
Incorrect	18	19	21
Don't know	60	43	42
<b>The litre</b>			
Correct	30	35	31
Incorrect	37	34	41
Don't know	33	31	28

The August 1979 survey indicated that 95% of adults were aware the country was changing to the metric system and that 84% of those who knew this thought that it was Government policy to go metric. 31% of people who knew about the

change were in favour and 46%, opposed. Of those hostile to metrication 27% did not like change; 20% thought there is nothing wrong with the old system; 23% thought the metric system too complicated and 15% believed it would be too difficult for old people. On the other hand 72%, accepted that the metric system would make trade and business easier; and 84%, believed they would be able to cope when they had to. Despite the contrary results shown by Price Commission and Metrication Board investigations, 65%, felt that metrication puts prices up unfairly. (see paragraphs 2. 11 to 2.13).

## **CHAPTER 4: METRICATION OVERSEAS**

4.1 All major nations are now metric or are committed to adopting the metric system. Burma, Brunei, North Yemen and South Yemen are the only countries which have not decided to go metric.

4.2 In Australia, New Zealand, Nigeria and South Africa the changeover is substantially complete in the majority of their activities, even though these countries took the decision after Britain.

4.3 The United States commitment to voluntary change, announced in 1975, was reaffirmed in 1979 by the Carter Administration, Congress, and private sector interests.

4.4 Australia, Canada, New Zealand and South Africa wished to avoid compulsion as far as possible. But in Australia, New Zealand, and South Africa legislation has been needed to complete the metrication of retailing. In some cases governments have acted at the express request of retailers and consumers.

### **Australia**

4.5 The Australian Metric Conversion Board was set up in 1970. The aim was that conversion to the sole use of the metric system would be effectively completed in 10 years. This target has been virtually achieved.

4.6 Road speed and distance signs were converted in 1974. Sectors which are now wholly or predominantly metric include education, technical standards, primary industry, construction, transport and communications, fuel and power, land and surveying, sports, the media, public administration and the retail sector. The level of conversion achieved in the various segments of engineering is considered to be close to the maximum realistically attainable at this stage bearing in mind the need to retain some imperial production for maintenance and repair purposes. Voluntary programmes in the retail sector were originally introduced in three States but failed due to consumer confusion and trade disadvantage. Legislation was subsequently passed to require retail sales of weighed out foods and of goods sold by length or area to be conducted in metric units. By 1979 the use of imperial units for weighing, measuring, pricing and, in some cases, advertising these products was prohibited in most States and Territories, and legislation is pending in others. The Metric Conversion Board claims that resistance and confusion disappeared overnight when metric units became mandatory.

### **Canada**

4.8 The Canadian Metric Commission (established in 1971) drew up a national programme which envisaged that all normal daily transactions would be metric by

end-1980. It was recognised that the rate of change would be influenced by developments in the United States. Canada's metrication programme is now about 55 per cent complete.

4.9 Road signs, weather reporting and Post Office scales and tariffs are metric. Petrol retailing by either gallons or litres has been permitted since 1 January 1979 and 85% of petrol stations have now converted; with limited exceptions, only litres will be permitted after end-1980. About 60% of all car components made in Canada are produced in metric dimensions.

4.10 Although the retail programme was intended to be voluntary, the retail trade asked for legislation to ensure fair trading. Regulations issued in May 1979 incorporated a national programme for metricating retail sales of weighed out foods and converting scales by end-1981; implementation of this mandatory programme has since been postponed for a minimum of one year, though this decision does not affect voluntary arrangements. Under Regulations issued in November 1979 the retailing of home furnishings in metric is mandatory.

## **India**

4.11 In 1955 the Government accepted a recommendation that India should adopt the metric system. The Standards of Weights and Measures Act 1956 set up a Standing Metric Committee (later replaced by a permanent Directorate of Weights and Measures) and provided that the changeover should be completed by 1969.

4.12 Amongst the first to change to metric were government departments and public undertakings, including railways, posts and telegraphs, public works, excise and customs, meteorological services and ports. Education is metric from the primary to the university level. The import of non metric equipment is generally prohibited.

4.13 In 1968 the Government decided to adopt the metric system, in principle on a voluntary basis.

4.14 By 1972 the change to metric had been completed in the construction, building material, fuel, fertiliser, pharmaceutical, adhesive, paper, packaging and grain milling industries. Most other manufacturing sectors were generally metric by end-1975. By then the metric system had been adopted at all levels of education. Weather forecasting, telephone and postal services are now metric, and use of metric units is pressed forward by all Government departments. The programme for conversion of road signs (other than speed limit signs) is expected to be completed by end-1981.

4.15 Moves to metricate the sizes of prepacks (other than sugar and instant coffee which are already metric by Order) were postponed pending finalisation of the EEC Directive on prepackages and preparation of legislation for the average contents system. The metrication of retail sales of weighed out and measured out goods is not expected to be effected in advance of that of pre packs.

## **New Zealand**

4.16 The New Zealand Metric Advisory Board was set up in 1969. The aim was that the change to metric should be substantially completed by end-1976. Much

was achieved by the target date and virtually all the remainder by mid- 1979. The Board. was disbanded at end-1979.

4.17 In the case of retailing of weighed out and measured out goods, although much voluntary progress was made, it became apparent that shops would not be completely metric by end-1976. After retail federations requested that metric units should be made mandatory the Government issued regulations requiring metric sales, pricing and advertising of goods retailed by weight or measure as from 1 April 1978 and prohibiting the use of other units as from 30 June 1979. In practice most retailers had abandoned imperial before the 1979 deadline, apparently without consumer difficulties.

## **Nigeria**

4.18 Nigeria's metrication programme was announced by the Government in 1972 and aimed at completion by 1977 The target was not achieved but much progress has been made.

4.19 Metric units are now the legally recognised. system in Nigeria and are widely used. In industry a programme of gradual change has been supported by banning imports of new non metric equipment. Education at all levels is in metric, and virtually all newspapers, periodicals and Government circulars use metric terms.

## **Pakistan**

4.20 In 1972 the Government took the decision to go metric with the aim of completing the transition by 1980.

4.21 Early developments included adoption of metric in education, major government departments, the Pakistan Mint and insurance companies. Road transport, railways, manufacturing and exports followed. Some foods and other consumer goods are retailed in metric units. Quantity marking of prepacks in imperial or indigenous units only is not allowed. The Customs Tariff has been converted to metric. Petrol and diesel oil are sold by the litre. The change to metric in land measurement has begun. Planning for completing the transition in engineering is well advanced.

## **South Africa**

4.22 In 1966 the South African Government decided in principle that the country should change to the metric system. The change should be voluntary and legislation should be enacted only to consolidate a particular situation and to prevent any slipping back. Sometimes the legislation came about as a result of requests from trade or business. By end 1977 South Africa was substantially a metric economy.

4.23 By early 1972 the South Africa Railways and Post Office had changed to metric for their commercial operations, basic materials were available in metric dimensions, milk was sold in bottles of 5 00 ml or 1 litre in most urban centres and all teaching was in metric. By 1976 all major industries were changing to metric, the Customs Tariff and road signs were metric, and petrol pumps dispensed in litres.

4.24 The Government agreed to pay compensation for the conversion of assizeable measuring instruments used in trade, including retail scales and petrol

pumps. The use of imperial weighing or measuring instruments in trade is no longer permitted. Regulations published on 18 November 1977 (under the Trade Metrology Act 1973) have effectively meant that since that date all trade in South Africa has had to be exclusively in metric units.

### **United States of America**

4.25 The United States Metric Board was set up in 1978, under the Metric Conversion Act 1975, to co-ordinate conversion to the metric system under the national policy for voluntary change.

4.26 In 1979 the Carter Administration affirmed publicly that it believes metrication will bring significant benefits, that it supports a strong interpretation of the Metric Conversion Act, and that it is encouraging conversion both in Government and the private sector.

4.27 Metrication of parts of United States industry and business (for example, automobiles, computers, steel, fasteners, pharmaceuticals, bottled wine and spirits) has been taking place over the past 5 years or so. Some States and local government bodies have also taken steps towards metrication. The Metric Board intends to create a planning framework.

4.28 One State, California, has passed a Metric Conversion Act based on the 1975 Federal Act. Thirty-two States have official resolutions for metric education passed by State School Boards or have legislation making metric education mandatory. Some States have set target dates for the attainment of predominantly metric teaching in their schools. In the United States, as in Britain, the increasing price of petrol has stimulated interest in metricating retail sales of petrol and seventeen States have already started the change.

## **APPENDIX A**

### **METRICATION - SHORT CHRONOLOGY**

1790 - Invitation for Britain to join France in establishing an international system of weights and measures. No action taken.

1871 - House of Commons rejects by 5 votes a Bill to make metric system compulsory.

1897 - Weights and Measures Act legalises the metric system for use in trade and commerce.

1900 - 35 countries, including most leading European states, are now metric.

1950 - Hodgson Committee concludes that metric system is better than imperial and that its adoption in the UK is inevitable.

1960 - About 80 countries are now metric.

1963 - British Standards Institution survey reveals majority of industry favours change to metric.

1965 - Federation of British Industries informs Ministers that they favour adoption of the metric system.

1968 - British Standards Institution publishes 'The adoption of the metric system in engineering: basic programme and guide'.

1969 - Metrication Board established.

1970 - Electric Cable Makers Confederation complete change to metric.

- British Aerospace Companies Limited express drawing and documentation in metric.

- London Metal Exchange goes metric.

- Production of flat glass goes metric.

1971 - Paper and board products work to standard metric measurements.

- National Coal Board specifications, buildings and engineering products in metric.

- Engineering industries reach 25% metric production.

- Pharmaceutical trade completes change to metric.

1972 - White Paper on Metrication (Cmnd 4880) reaffirms Government support for completing the broad metrication programme by the end of 1975. Paint industry completes change to metric. Steel industry adopts metric quantities and sizes. Building Regulations go metric.

1973 - British Government emphasises commitment to metric change in House of Commons debate.

- Metrication Board publishes 'Value for Money in Metric: a report on safeguarding consumer interests.'

- Commonwealth Conference on Metrication recognises urgent need for change to metric by all member countries.

- Parliament approves first Orders permitting metric prepuces of 'shopping basket' foods.

1974 - Textile and wool industries trade transactions in metric.

Leading manufacturers of men's and women's wear give dimensions in both centimetres and inches.

Metrication Board publishes 'Metrication in the Retail Trade': a report on programming the change.

Department of Education and Science memorandum acknowledges substantial metric progress made in schools and recommends restricted use of imperial.

1975 - Retailers of fabrics and floor coverings start to sell and price by the metre and square metre.

Post Office metricates tariffs.

National Health Service - metric system introduced into medical and allied practice.

Engineering industries metric production substantially less than the 75% envisaged in BSI programme.

1976 - Weights and Measures Act empowers Government to phase out imperial units in retail trade.

Bulk sales of petroleum go metric.

Metrication Board publishes report 'Metrication and Elderly people'.

Agriculture, horticulture and allied industries essentially metric by year-end.

1977 - Parliament passes Orders setting cut-off dates for sale of sugar, breakfast cereal foods, butter, margarine, white fats, oat products, cocoa and chocolate powders, biscuits, bread, chocolate bars and tea in imperial prepacks.

Price Commission reports no evidence that metrication is cause of price increases.

Metric trading at livestock auction and deadweight markets.

South Africa virtually metric.

1978 - Government withdraws draft Orders which would have given legal effect to the already agreed target dates for completion of metrication in retail sales of weighed out and measured out goods.

Parliament passes Orders setting cut-off dates for pasta, dried vegetables, dried fruits, and flour in imperial prepacks, and permitting prepacking of potatoes and instant coffee in metric quantities.

Solid fuel retailing goes metric.

Cheese wholesaling and packing go metric.

Regulations ceasing to authorise chain, furlong, nautical mile, rood, cubic yard, dram, bushel, cental, inch of water, ton-force, foot - candle and knot come into effect.

Bread goes metric.

Teaching at all levels of education predominantly metric; metric units used in national school-leaving examinations.

Commonwealth Secretariat survey indicates that Australia, Botswana, Cyprus, Fiji, Ghana, India, Kenya, Malaysia, Malta,

Mauritius, New Zealand, Papua, Singapore, Sri Lanka, Swaziland, Uganda, Zambia are in late stages of metrication.

London commodity market completes change to metric.

Carter Administration announces it supports a strong interpretation of the Metric Conversion Act 1975 and will encourage conversion in the USA.

Major changes affecting prepacked foods completed.

Government states it has no plans to introduce further statutory metrication Orders.

Metrication Board reports to Ministers on prospects for completing change in retailing.

Motor Agents Association and Institute of Petroleum announce support for change to sales of petrol by the litre.

Australia and New Zealand virtually metric.

1980 - Metrication of Customs Tariff and Overseas Trade Classification completed.

Metric sizes of milk permitted.

111 countries are now metric, and 42 are in the process of change.

Metrication Board abolished.

**1980**

End