EVOLUTION OF THE GAS INDUSTRY

Lambeth Gas Works, London, 1872 (*wood engraving by Gustave Doré*)

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Malcolm W. H. Peebles

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Preface

In the beginning man relied solely upon muscle power, that of his own and no doubt that of animals as well. Then, at some unknown point in time, probably many thousands of years ago, prehistoric man discovered how to make fire and to burn wood and other primitive fuels such as dried peat and animal dung to keep him warm and to cook his food. The first use of coal is not recorded, but no doubt this also dates back several thousand years—certainly it was in relatively common use by Roman times. However, it was not until the Industrial Revolution that energy began to be used by man on a massive and widespread scale.

The Industrial Revolution was fuelled principally by coal. Thereafter coal remained king of the energy scene until shortly after the Second World War when it was displaced by oil, which then became the world's largest individual source of primary energy supply. Today oil supplies about 44 per cent of the world's energy requirements, or 55 per cent if the communist countries—which still rely heavily on coal—are excluded.

Natural gas, with a few exceptions, notably in the United States, is a relative newcomer to the energy scene compared with oil and in its turn has largely displaced manufactured gas (by definition a secondary form of energy) during the last two to three decades. One illustration of the rapid growth that natural gas has achieved over this period is Western Europe. In 1965 the contribution made by natural gas to total primary energy consumption was barely 2 per cent, but by 1977 this had expanded to over 17 per cent.

This remarkable increase in the use of natural gas in Europe, mirrored to a lesser or greater extent in a number of countries elsewhere in the world, has been realised primarily at the expense of coal. For example, in Western Europe coal's share of primary energy consumption for the same two years of 1965 and 1977 declined from 47 per cent to 24 per cent, in spite of the overall increase in energy consumption over this period. This was not just a decline in

coal's percentage contribution, but a substantial reduction as well in the absolute volumes of coal consumed. Moreover, apart from the displacement of coal *per se*, natural gas in replacing manufactured gas made largely from coal represented the loss of a further important outlet for coal as a gas-making feedstock.

Although coal was probably the principal sufferer from the inroads of natural gas, the expansion in the use of natural gas has also been partly at the expense of the growth rates that oil products, in particular fuel oil and gas oil (and also electricity), might otherwise have enjoyed but for the introduction of natural gas. Admittedly, various factors have favoured natural gas in many countries, including its low price relative to the prices of competing fuels, and its cleanliness and hence desirability as a fuel in a world growing ever more conscious of its environment. Furthermore, it should not be overlooked that indigenous natural gas, where available, was often preferred and received some form of encouragement over imported oil for political, security of supply, and balance of payment reasons. This was not true everywhere, but it was certainly the case in a number of countries.

The size of the world's proven natural gas reserves, coupled with high expectations for substantial new discoveries, indicate that supply availability could continue growing well into the next century. On the other hand oil supplies, based on existing reserves and future expectations, could well plateau out at an earlier date. Newer forms of energy such as nuclear power, solar, wind or tidal energy, have either yet to make a significant contribution, or pose considerable practical problems for which solutions will not be found overnight.

All this points to a bright future for a natural-gas-based gas industry. At the same time a return to a gas industry relying, as it did until fairly recently, on complicated and expensive manufacturing processes for converting solid and liquid fuels to combustible gases seems remote, other than the use of high calorific value manufactured gas as a supplement, where necessary and appropriate, to natural gas supplies.

The balance of probability is, therefore, that the world's gas industry will for many years to come rely increasingly or exclusively on natural gas as its prime source of supply. This book attempts to record, before memories fade and the facts become too obscured or lost with the passage of time, how the gas industry has evolved over the years since its creation in the early nineteenth century. Attention has been concentrated on certain selected countries. In each selected case the gas industry has developed in a unique way conditioned by local circumstances; no one country or market has followed a pattern of development which may be regarded as being typical for the industry as a whole. Obviously, there are other countries not described in this book where the pattern of development has not differed too dramatically from one or other of the countries reviewed, but even so there are usually subtle differences of consequence which the serious student would be well advised to

investigate in depth before arriving at any premature conclusions.

Each and every gas market has its own peculiarities of supply, government involvement, or lack of involvement as the case may be, pricing, and competition with other energy forms, exacerbated by the social and environmental conditions applicable therein. The gas business may be becoming more international in character, but it still falls a long way short of some of the more general influences that govern the conduct of the international oil and coal businesses which have received so much publicity and informed opinion in recent years.

Little attempt has been made to look too far into the future as we are concerned here primarily with what has happened in the past. I hope this book will serve as a factual base from which some readers may wish to start considering how the future conduct and prosperity of the business may evolve.

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M.W.H.P

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Finally, I wish to make it clear that the responsibility for any errors, significant omissions, expressions of opinion, interpretations of facts and statistics, rests entirely with me. This book has been a personal project and as such does not purport to represent the views of any particular organisation.