

INDUSTRIAL USE OF COAL AND CLEAN COAL TECHNOLOGY ADDENDUM REPORT JUNE 1990

PURPOSE

Based on a report completed in December 1988, on the use of coal in the industrial, commercial, residential, and transportation sectors, it appeared that an area for the short-term increased utilization of coal was in the industrial sector. Based on the 1988 study, the barriers to entry did not appear different from those in the utility industry, the potential users were considered sophisticated and motivated by lower cost options, and in several portions of the sector, potential for use was great. Because the potential for use was there but actual use was low and growth was flat, a more in-depth look at the sector was considered worthwhile to understand what the barriers really were and how to overcome them.

In order to obtain the best possible base of information for this report, it was decided to find and enlist the help of energy experts from various parts of the industrial sector. This report is unique in that it utilizes the contributions of a large number of individual experts in energy in their areas of the industrial sector, who were unrelated to the coal industry and the National Coal Council. It was believed that this report would, in a very realistic manner, point out what barriers exist to expanded coal use and whether those barriers can be removed in the short term. This report provides the hope-for assessment of this important energy-using sector, pointing out both methods of entry and problems with that entry.

FINDINGS

The industrial sector is not homogeneous in perspective, nor in approach to the use of energy. This sector's reaction to rising energy prices has been to improve energy efficiency and energy conservation, thus lowering the impact of increasing energy prices. Contrary to the electric industry, fuel costs in most areas of the industrial sector are not a major component of the cost of the product produced. Thus, the energy source utilized must be as easy to use and as compatible with the product produced as is possible.

An important way to increase coal use in this sector is to utilize breakthroughs which are developing from the Clean Coal Technology Program, in expanding the role of industrial boilers, and in the development of direct process heat applications. Work underway, through the Clean Coal Technology Program, to make coal gasification technology more competitive could enhance coal's use over the long term in process heat applications currently being serviced by natural gas.

In order for coal use to expand broadly in this sector, several problems must be overcome including improving the image of coal as a dirty fuel and as a fuel source that requires an inordinate amount of handling and environmental control. Coal is a variable material in both form and chemical composition, which also detracts from its use. The capital costs associated with handling, burning, and environmentally controlling coal use are 2.5 to 4 times greater than natural gas, and are further complicated by an uncertain regulatory climate. There are also environmental regulatory processes currently in place that clearly favor fuels other than coal. These include emission standards based on percent reductions instead of reductions per unit of output, best available controls without consideration of cost, and the inclusion of small units under similar compliance requirements with larger power systems.

RECOMMENDATIONS

The Clean Coal Technology Program and research efforts on the conversion of coal into liquids and gas, on developing deep-cleaned and sized coal processes, and on new processes that will allow for the competitive use of coal in process heat applications are recommended. Specific recommendations include the following:

- Industry should make use of available technology to clean, dewater, dry, and prepare coal fines rejected by the coal preparation plant. This beneficial use of coal wastes help minimize future waste liabilities and improve the image of coal.

- The Secretary of Energy should take action to expedite the resolution of regulatory uncertainties, should encourage federal and state governments to ensure transmission line access for independent power producers and co-generators, and should continue to support research on chemicals derived from synthesis gas from coal.
- The Secretary of Energy should appoint an industry advisory committee on increasing and upgrading the use of coal, and should continue efforts to improve the public's awareness that there is an important role for coal and that coal can be burned in an environmentally acceptable manner.