

power stations at the minehead — and is allowing coal to be imported for private power projects. There are, however, major infrastructure bottlenecks that will constrain the immediate scope of imports. The ability to arrange reliable private fuel supplies will be a significant factor in making independent power projects more attractive and bankable.

Meanwhile, the World Bank is contributing to a US\$ 2 billion program for turning Coal India into a "commercially viable and financially self-sustaining" enterprise.

Gas. Gas accounted for only 3 GW of installed capacity in 1992; the current Five-Year Plan expects 4.6 GW of gas-fired capacity to be added by 1997. India's planners would prefer to make more use of gas-fired (especially combined-cycle) generation, because of environmental and thermal efficiency considerations.

Gas supply, however, is a problem for India. Although there is now sizeable production from Bombay High and adjoining areas on the Western shore, significant expansion of gas-fired capacity would require the import of fuel. Pipelines from the Middle East would have to cross Pakistani territory. One option that is being explored is an undersea pipeline direct from Oman. A more likely solution, however, may be to secure LNG supplies by tanker from the Gulf region. Gas could also be imported from Bangladesh to fuel power stations in West Bengal.

Oil. India must import two-thirds of its oil consumption. Apart from start-up or low-load operations, oil is used for less than 5 per cent of electricity production (mainly for captive or small, stand-alone generators),

and no oil-fired capacity additions are planned. The Government has recently issued a liquid fuels policy, which bans the use of high-speed diesel in private power plants, but allows the burning of alternative fuels such as naphtha and furnace oil.

Hydro. India's vast hydroelectric potential, estimated at 84,000 MW, is concentrated in the far North, along the edge of the Himalayas, and in the South-Central Deccan Plateau. Many potential sites are located far from load centres, in difficult terrain. While the Central authorities would like to increase the role of hydropower, transmission difficulties, inter-state water rights disputes and environmental concerns, as well as the high initial cost of facilities, are an impediment to further development.

The pumped-storage potential, which could play an important role in meeting peaking requirements, is estimated at over 90,000 MW.

Nuclear. India's installed nuclear capacity has reached 2,225 MW. There are now 9 nuclear power plants in operation, and a further 4 are under construction or at the advanced planning stage.

Structural and organizational problems

According to the Asian Development Bank, India's lack of adequate power supplies "will be the single most important constraint to economic development in the coming years".

The power sector has not suffered from a lack of investment in generating facilities. Indeed, more than 20 per cent of central

