

CHAPTER I

Introduction

The economic development of a country depends to a large extent not only on the increased supply of energy but also on its efficient and economic use. The case for energy conservation needs no persuasion. Official data from the Planning Commission and the Advisory Board on Energy reveal that the country will be faced with the most serious energy crisis and consequently with economic stagnation in the near future. In India the overall conservation-al energy resources are equivalent to 500 years of supply at the existing rate of consumption of commercial energy (which is equal to 600 million barrels of oil per annum). But as the economy continues to expand with the expanding population in geometrical proportions, the period of supply will also shrink. Today the consumption of petroleum products is growing faster than what the country can afford. The petroleum products which meet about 55 per cent of the commercial energy requirements, are expected to rise to 90 million tonnes by the turn of the century. With the increasing demand for crude and fast depleting oil resources, it is necessary to revamp the other related supply sectors of energy, increase the efficiency, and encourage the inter-fuel substitution. Same is the case of other non-renewable energy resources. Since the demand for commercial energy is ever increasing, the supply will lag far behind the demand unless effective measures are taken to rationalize the use of energy resources.

The Inter-Ministerial Working Group on the Utilization and Conservation of Energy, set up in 1981, after detailed observations and research came to the conclusion that there was a scope of saving 20 per cent energy in the transport sector, 25 per cent in the industrial sector and 30 per cent in the agricultural sector, without any loss of productivity or efficiency, if appropriate measures were taken. In the industrial sector, which consumes 60 per cent of the total power provided in India, a meagre 5 per cent energy saving would save about 4,000 million units per year. This comes to about Rs 200 crores in electricity bills alone. However, if efforts are made in the right earnest to reduce waste and inefficient use, the level of consumption can be brought down by as much as 25 per cent or the equivalent of 6,000 MW.

Though the State Governments are always eager to build new power stations and large hydro-electric projects, no attention is paid to check the transmission and distribution losses which amount to an outrageous 20 per cent of the total production. Cutting down the losses by half will mean adding an extra 4,000 MW to the grid right now. Even 10 per cent reduction in the transmission losses would release enough power to wipe out the existing power shortage. Similarly most of the power plants in

the country operate at very low plant load factor. Even 1 per cent rise in the PLF would save about 500 MW of power, equivalent to Rs 500 crores.

The position in the agriculture sector is still worse. Though this sector consumes only 16 per cent of the electricity produced, 80 per cent of about 5 million pump-sets which are in use, operate on less than 30 per cent efficiency, thus wasting a huge amount of energy. From these facts it is clear that there is wasteful use of energy resources in all sectors of the economy—industrial, transport, agriculture and domestic.

In view of these disturbing facts, we have been left with no option but to conserve energy. Energy conservation is an integral part of total energy management. Energy conservation does not mean saving energy at the cost of industrial output, rather it is optimization and maximization of the use of energy. It does not mean power cuts or energy rationing which adversely affects production. On the other hand, the conservation of energy means the steps taken to reduce the quantum of energy used to produce a specific unit of goods or services. The Petroleum Conservation Research Association has been able to save in the last one decade about Rs 100 crores (recurring per annum) by adopting several energy conservation measures.

It was with this urgency to tackle the energy problem that the Energy Policy was enunciated and incorporated in the Sixth Five Year Plan in 1980. One of the main policy objectives mentioned in the Policy is to conserve energy and develop new techniques of management which will maximize productivity while minimizing energy consumption. To accomplish this objective Energy got the largest chunk of allocations—30.45 per cent of the total Public Sector outlay, in the Seventh Plan. Of an outlay of Rs 54,821.26 crores for energy sector, the Centre accounts for Rs 31,492.14 crores, the States for Rs 22,786.15 crores and the Union Territories for Rs 542.97 crores.

It must be noted, however, that although the Energy Policy and the Seventh Five Year Plan take note of the energy needs of the rural India, the Policy has actually addressed itself more on the urban and industrial needs. Within the specific model of development adopted by the governments, where industrial productivity is the measure of 'development', this emphasis is inevitable. Meeting the energy needs of the rural areas requires a different strategy and consequently a different policy—one that will take into account the timber, shrubs and cow-dung based resources management. These will require changes in the Forest Acts and the social forestry programmes. One may, therefore, conceive of the present Energy Policy to be an 'Industrial Energy Policy', and hope that with better understanding a more comprehensive Energy Policy will be worked out in the near future.

Scope of Work

Leaving aside the rural and tribal needs for energy resources, as mentioned earlier, even in the industrial sector there is an urgent need to conserve

and rationalize the use of energy. India's per capita consumption of commercial energy is only one-eighth of world average and will increase with the growth in GNP. After the first oil-crisis there was a fall in the rate of growth of commercial energy consumption. The rate of 7.2 per cent during 1953-71 came down to 4.7 per cent during 1971-80. Intensive exploration of oil and higher pricing in the Sixth and Seventh Plans saved India from facing the onslaught of the second oil-crisis. The rate of growth of commercial energy consumption increased to 5.9 per cent between 1979 and 1985. The dependence on oil, however, seems to have increased during the last three years of the Sixth Plan. Though the international oil scene may be said to be comfortable now it may still turn out to be unsatisfactory with the declining production from non-OPEC oil producing countries. Since we are not likely to become self-sufficient in oil in the near future, an intolerable burden by way of cost of oil imports will be cast on our economy should the oil prices rise again. On the other hand, there has been a rapid rise in the share of agriculture in commercial energy consumption during the sixties and seventies. Industry, however, has come to be the largest consumer of electricity and coal in India.

Keeping these factors in mind, it was decided that the legal study, the very first of its kind, concerning conservation and rational use of energy resources, must begin by looking at commercial energy resources, namely, of coal and electricity and must concentrate on the industrial sector. Subsequent studies could look at the rural sector separately.

The scope of this work is, therefore, internally defined: it concerns itself with commercial energy. In terms of sector-wise distinctions, the main focus is on the industrial sector; the agriculture, transport and domestic sectors are also covered in so far as the utilization of industrial goods in these sectors is concerned. Each of these sectors has its own specific problems and need to be dealt with by different legal strategies. In the domestic sector, for example, besides the machinery and gadgets used, there is also the question of appropriate architecture, if energy is to be conserved. Conserving energy in domestic sector will therefore involve rationalization of town planning laws, laws concerning housing material and construction, and so on.

There is another reason why a general legal strategy concerning all sectors cannot be evolved. In India's federal framework the Constitution demarcates the control and use of resources between States and the Centre. Housing laws, for example, are in the State list; hence only the States are competent to deal with them. Coal, on the other hand, is in the concurrent list; both the States and the Centre are competent to regulate its use. Oil however, is in the Union list and only the Centre can deal with it. Given this complexity of competence and capacity, if one is to look for a legal strategy for the conservation and rational use of energy, it is simpler to begin with a set of resources (such as coal, electricity and oil) for which there can be one central act. Otherwise a whole range of State laws will

have to be evolved, and this would make the scope of the work unmanageable.

The final aim of this work is to come up with one central Bill for energy conservation, as a consequence of the studies. This Bill, if enacted, would serve as the model on which the States can enact their own Acts, or frame rules in accordance with the central Act.

Research Methodology

One of the major problems of Indian legislation has been the lack of appropriate research to back it. Bills after Bills are framed on an *ad hoc* basis, with little reference to the complexities of the existing reality and very often without people's involvement in framing the legislation. It was important to avoid all this and democratize the law-making procedure as far as possible. To this end the research was divided into the following steps:

(1) *Doctrinal Studies*

(a) Study of the existing legal provisions in India and what can be achieved by amending them.

(b) Study of the foreign legislations; what lessons can be learnt from these; in particular, the legislations of U.S.A., U.K., Japan and Pakistan to be studied in detail.

(2) *Participatory Studies*

(a) Informing the major industries and getting their opinion on the nature of the law that needs to be framed. The *Questionnaire* method has been used for this purpose. About one thousand major industries were informed, the Questionnaire sent to them and their answers carefully studied.

(b) About one hundred functionaries in the industry, government and research institutions, who are concerned with research on energy or conservation of energy were personally *interviewed* by a team of experts from the Indian Law Institute. These interviews were conducted in Delhi, Madras, Calcutta and Bombay.

(c) The research findings of other involved agencies, such as Tata Energy Consultancy, Advisory Board on Energy, PCRA, were discussed with these agencies.

(3) *Expert Consultancies*

This was achieved through an intensive Workshop on the Draft Bill. Experts from law, management, industry and government were called to discuss main provisions of the Bill. Their views and criticisms were taken into account in re-drafting the Bill. This was necessary not only to obtain advice of experts and users but also to secure people's participation in the drafting of the law.

The extensive drawing upon people's knowledge and involvement was necessary to overcome one of the major shortcomings of Indian legislations relating to industrial regulation, namely, the assumption that the task of the law is to help the government in policing the society. Many laws, such as those concerning environment, adulteration of food, etc., work on principles of deterrence and criminal liability, where the major task of the state becomes one of enforcing the sanctions. We are not at all convinced that this policing strategy is suitable for matters, such as energy conservation which is wholly in the interest of the industries. There are various legal strategies for achieving the desired ends. These can be roughly classified as follows:

(a) *Deterrent Strategy*: This involves criminal liability and depends for its success on effective policing, e.g., the Environment Protection Act, 1986.

(b) *Regulatory Strategy*: This involves delegated powers and depends for its success on the administrative powers to give licences or incentives, or deprivation of opportunities, e.g., the Industries (Development and Regulation) Act, 1951.

(c) *Managerial Strategy*: This involves setting up organizational infrastructure that facilitates the achievement of the desired ends. It depends for its success on the effectiveness of the organization and the competence of the people in those organizations, e.g., the University Grants Commission Act, 1956.

The task before the legal researcher is to determine which of these, or other strategies, or the combination of these strategies, would be best suited for energy conservation; also to what extent any of these strategies would be effective. Legislation in India is often undertaken with prior assumptions or blindness to strategies; and without due consideration of the feasibility of implementation. The failure of the laws, therefore, is not due to 'lack of implementation', but because such legislations were blind to the feasibility of implementation in the first place.

We also do not start with the assumption that a separate central law for energy conservation is necessarily required. We first start with the survey of existing Indian laws and see if all that is desired can be achieved by amending these laws. It is possible that many things that can be achieved by amending the existing laws cannot be achieved through a central law. and also vice-versa, that a central umbrella law may bring more aspects into the picture, in a unified way that cannot be done through the existing state laws. It is only after studying the existing provisions, suggesting the necessary amendments, and finding out what remains to be done, that we proceed towards the legal framework for a central energy conservation law.

Presentation

The logic of the arrangement of chapters, following this introduction, is as follows. Having surveyed the existing legal provisions and finding out what is required within them and beyond them, we proceed to make a

detailed study of the legal strategies in other countries. Some of these have important lessons for us, but not all. We cannot follow these strategies, in major parts, because our polity, market system and culture are different. It is therefore inevitable that a composite indigenous strategy will have to be evolved. The next chapter contains our findings from the Questionnaire and the Interviews. This fieldwork gives us a solid base for determining the nature of the law that is required and that can be implemented. The letter with which the Questionnaire was sent to more than 900 firms and companies and the list of those addressed are at Appendix I. The list of those who responded to the Questionnaire will be found at Appendix II.

The following chapter contains the first draft Bill presented and discussed exhaustively at the workshop. The list of invitees to the workshop is attached as Appendix III. The suggestions received in this workshop helped us formulate the final 'Energy Conservation Bill', which is presented in the last chapter. This is the final outcome of our learning and research, and we hope that it will be enacted to make India economically stronger and more just society.