

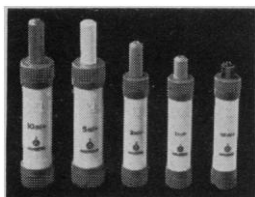
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LETTERS

Use of Energy

In his editorial, "Continuing increase in use of energy" (21 May, p. 795), Abelson notes five fundamental problems of our present economic system. The system will have to be redesigned to solve these problems if the aims of his editorial are to be realized.

1) Present incentives (profits, corporate growth, and so forth) operate to encourage high consumption, such as product proliferation, product inflation, rapid obsolescence, high turnover, and high waste. The incentives are weak that operate to satisfy needs with maximum efficiency, minimum inputs of labor and materials, and lowest real or long-term cost.

2) Progress in the direction indicated implies institutional restructuring that would displace many people from their present jobs. Can the system adapt smoothly without widespread disruption, maldistribution, unemployment, and economic depression?

3) How can the system handle the situations where the logic of "Tragedy of the Commons" or "tyranny of small decisions" operates? For example, my private decision to turn off unnecessary lights in my house is hardly influenced at all by the thought of the few cents saved. Yet the actions of millions of people thinking that way add up to a ponderable result. Electricity would have to cost much more to make me act differently; it is likely to cost less. And if it is deliberately made to cost much more, who gains? Similarly, when I decide to drive my car to work or hitch a ride with a friend, I do not take into account that my decision is helping to destroy a public transit system or a railroad that some other day I may want to use. It is widely believed that the system of private choice in the marketplace handles all these situations. The fact is that in many of them it breaks down. What kind of redesign will fix it?

4) The market system does not arrive at the best allocations if the relative prices of goods do not reflect their total real costs. Furthermore, study of many pollution cases shows that even a proportional distribution of the "total social cost" into the selling price or an industry's taxes will not accomplish the desired result, because of the presence of decision-making processes of the type previously discussed.

5) The system excessively discounts

the future. This problem is implicit in Abelson's concern about rapid consumption "at ridiculously low prices" of nonrenewable resources. The "discounted present value" criterion for the use of capital resources, at high interest rates, leads to some patently bad decisions, which can impose escalating costs of another kind on our descendants.

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A switch to low-sulfur natural gas and fuel oil would have implications for agriculture, since a considerable amount of the sulfur needed by crops comes from atmospheric sources. Soil and plant analyses and field experiments in many areas of the world show that sulfur is a limiting nutrient element in crop production, particularly in non-industrialized regions. There has also been a significant decrease in the sulfur content of fertilizers in recent years (1). Direct absorption of atmospheric sulfur dioxide by crops and plants has contributed significantly to the sulfur nutrition of crops.

In cleaning up the air, due allowances will need to be made for the removal of one unsought bonus of air pollution—the millions of tons of sulfur that are released annually into the atmosphere.

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Reference

1. *Sulfur in Agriculture* (Proceedings of a symposium at Johnstown Castle, Johnstown Castle Agricultural College, Wexford, Ireland, 1970).

Ecology

"There are no such people as ecologists. I don't know what ecology is. Ecology is a word; it isn't a science. It is the sum of all the sciences that must be brought to bear on the totality of the biosphere, so I am told.

"When I looked around at ecology a few years ago, the best that the ecologist, so-called, could hope to do was to understand the processes in what he called the 'terrarium' . . . or perhaps a goldfish bowl . . . and suddenly they wish to make extrapolations to Lake Erie or the totality of the grass lands of the United States."

Accompanying these remarks, along