Letters

The energy problem

SIR: I write this letter partly in response to E. Wesley Murbach's letter (C&EN, Jan. 27, page 5), and partly in response to the editorial summary under the heading "Nuclear power key to energy crunch" also published in the same issue (page 16).

Murbach rightly admits in the second paragraph of his letter that the fission reactor is not the long-term solution to the energy problem. It is implied in his letter that he advocates the development of nuclear reactors as a stopgap arrangement until exploitation of solar energy in prodigious amounts is technologically feasible.

According to your summary, the foregoing also seems to be the primary concern of the 34 scientists.

Let me recite some historical dates in order to refresh our memories. Fission of the uranium atom was found by Hahn and Strassmann at the close of 1938. Without large sums of government money, or manpower, a handful of scientists successfully operated the first reactor in December 1942, only four years after the discovery of fission. The Manhattan Project was created in September 1942, and the first atomic bomb was exploded on July 16, 1945. Within a period of six years U.S. scientists and engineers developed a technology never heard of before and achieved the objectives (good or bad). The immensity of this achievement has been recorded in numerous government documents, scientific articles and books.

What I want to say is that with total dedication, and with the same grim determination that produced the bomb, this nation is capable of developing in six to 10 years the technology for the exploitation of solar energy in prodigious amounts.

With 200 reactors operating in this country, and several thousand all over the world, it is absolutely irrational to assert that there will be no accident anywhere. Of course, the natural direction of reactor economy is eventually towards more dangerous reactors. The word accident has been used here in its broadest possible connotation, which includes not just the reactors as implied by 34 scientists. An accident may occur at the storage facilities, at the processing plant for the radioactive debris, at the plutonium processing plant, during transportation, etc. Any of these accidents may be catastrophic.

The real problem is not of bridging the gap. It is a moral and ethical problem. Does this generation intend to leave this planet habitable for the future generations, say for another millennium? What shall we do if we have to make a choice between maintaining our standard of living and the safety of the future of mankind? Other nations will certainly follow the U.S. example. In view of our achievements in the past, these proclamations about the impossibility of exploiting solar and other forms of energy in six to 10 years seem to me cries of defeatism and stagnation. We can develop the technology of utilizing solar energy for most of our energy requirement in 20 years if we make up our mind. Of course, it will call for total national dedication. Is there a better alternative?

Buddhadev Sen
Professor of Chemistry, Louisiana State University, Baton Rouge

Misusing technology

SIR: I read with interest your editorial, "Another problem to solve" (C&EN, Jan. 20) and fully agree that it would be wrong to "blame science and technology because its users have applied its discoveries incorrectly."

But you oversimplify public disenchantment. If a scientist or technologist recognizes that his discovery, which he is about to put into the public's hands, can do good or ill, then surely he should inquire into which is most likely to do good and how likely it is to do it. If he can reasonably foresee that, on balance, the public will do evil with it, then he may rightly be held accountable for (unfortunately) giving them the means without which they cannot do it.

Moreover, some inventions are intended to do evil. Fragmentation bombs, for instance, which have a specific purpose to maim people, add unnecessary brutality and cruelty to war. And the technologists who invented these bombs not only could have foreseen their actual use but intended the effects of using them (although the particular victims were indeterminate). These technologists cannot plead that their well-intended invention was misused.

Robert Hoffman
Associate Professor of Philosophy, York College, Jamaica, N.Y.

Let's take a long view

SIR: In a recent column in the Washington Post (Feb. 8, A-15) Clayton Fritchev's "The Growing Glut of Petroleum" reported—or at least suggested—that sometime in the next few to several years, we will have, worldwide, more than enough petroleum to meet our needs, because of vast new finds. I submit that this might be good reporting, but also that it is overoptimistic as far as the long-term needs of petroleum are concerned.

First of all, what are we to do in the meantime until these new fields become producing entities? Second, there are needs for petroleum other than fuel and/or power. Third, the earth's crust is finite and petroleum resources eventually will run out.

Why not take the long view of resources now, and meanwhile permit our great grandchildren the time to develop safe, dependable, and economical energy resources for their lifetimes (and for still future generations), in the meantime "banking" some petroleum for nonenergy purposes? Also give them time to realize the wisdom incorporated within the fundamental laws of energy, that it would be prudent to reduce world population to some fraction of what it now is.

We, as a responsible and responsive scientific society, owe it to our nation and to the world to promulgate such facts and ideas—if not as a scientific society, certainly as individuals, wherever and whenever we can.

As societies or so-called civilizations are concerned, a hundred or a few hundred years are but a few ticks on the historical clock. Should we bear the burden of stopping the clock, in the not too distant future?

Frank L. Holloway
Silver Spring, Md.

Feast and famine

SIR: Your editorial "Feast and famine" (C&EN, Dec. 2, 1974) is very interesting. I fully agree with you that charity can never solve the world's food problems. The solution lies not in massive food aids but in strict population control. The greatest disservice that the developed nations are doing is to keep aiding these countries indolently with no solution in sight.

The best service that these countries or the UN can render (if they are sincerely interested) is to help migrate permanently some 100 million Indians to the nations which badly need manpower (e.g., Canada, Australia, Venezuela, etc.).

I do not, however, agree with the idea that India's effort needs to be restricted to the development of fertilizers, not in atomic explosions. The production of energy by atomic explosion is the only hope for countries with insufficient oil reserves. Moreover, scientific inquiry and research must be continued by the developing nations at an ever accelerating pace. Just feeding the hungry is not the only task of the developing nations. All kinds of development must go hand in hand.

Krishan K. Khullar
Merida, Venezuela

Interested in group travel?

SIR: I urge members to participate in group travel programs to ACS meetings. Having worked on a reduced air fare program to ACS meetings for over three years, I am delighted that the council Committee on Meetings and Expositions has authorized the M&E department to go ahead with this experimental program. All of us owe thanks to Dr. Glenn Ullot, former chairman of the committee, Dr. Bruno Zvolinski, current chairman, and Dr. Herman Skołnik, secretary, for their efforts in this matter.

I am asking members who have any comments on this travel program to write to me at P.O. Box 5006, Stanford, Calif. 94305. Would you, e.g., prefer to have travel handled on a local/regional basis?

I.J. Wilk
Councilor

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