

Conversation Pieces

FUELING THE FUTURE

Only yesterday, space flight challenged the world of technology to new heights of achievement. Now, the twin problems of energy and environment challenge the growth, even the survival of society. But quick solutions can create more problems than they solve. That's why so many different options are being so carefully examined.

TRW, for example, has multidisciplinary teams working with government, labor, and industry on conservation studies and pollution control as well as on specific energy development projects.

We're working on advanced electric batteries for load leveling in power plants and for vehicle propulsion... designing solar energy systems for heating and cooling buildings and dehydrating fruits and vegetables... and

developing geothermal and shale oil technology as well as investigating the use of ocean thermal gradients to produce power.

Our new smokestack scrubber uses charged water droplets to remove more than 90% of the particles from flue gases. Smaller and less costly than conventional scrubbers, it has no moving parts, so it's silent and vibrationless. It's a direct offshoot from our spacecraft attitude control technology.

Another group has developed a special burner for oil or gas-fired furnaces. It reduces emissions of nitrogen oxides and costs no more than conventional burners.

Yet another team is now ready for pilot-plant tests of a simple, low-cost system for removing pyritic sulphur from coal. It is expected to make some 30% of the Appalachian reserves clean enough to meet EPA standards.

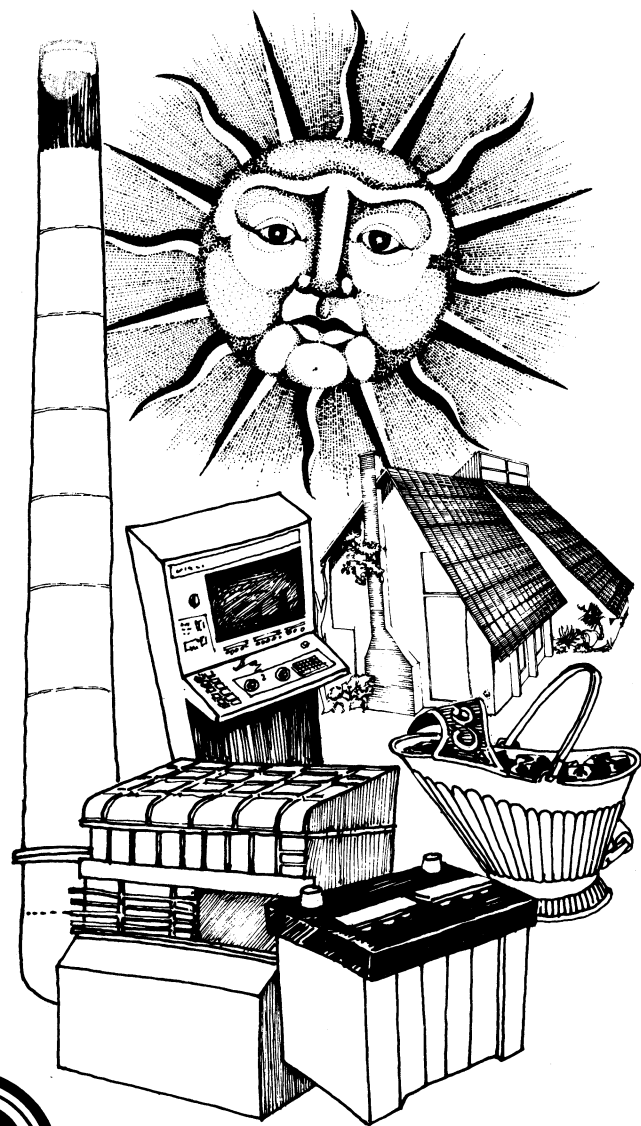
The total energy problem, however, is the most challenging of all. It requires objective trade-offs between supply, conversion, and distribution capabilities and the varying parameters of demand. Of real value here is the fact that our people are not directly involved in the production of fuels. This frees them to ask the kind of basic questions that are essential to objective analysis.

Our work in space technology, which may seem irrelevant to energy problems, also turns out to be useful. Among other things, it has given us a lot of experience in using very little energy with maximum efficiency.

Our most recent interplanetary probe, for example, has just enough power to light an ordinary desk lamp; yet it warms components in temperatures far below zero... energizes a whole complex of sensing, recording, and computing systems... and transmits streams of pictures and other data over distances as great as half a billion miles.

Admittedly, that's not the same as powering a city but it does induce a miserly attitude. That helps in a practical way: What we've learned about handling milliwatts efficiently is surprisingly useful when you're trying to get more megawatts out of increasingly precious fuel supplies.

If you are interested in using TRW's capabilities in any of these areas, we invite you to write and tell us about your specific needs.



TRW

SYSTEMS AND ENERGY

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