

Energy: 1971, 1975, and 1,000,000 AD

By Storm Kauffman

Although the United States has less than a twelfth of the population of the world it uses over a quarter of the energy produced. This was but one of the facts presented by David White, Ford Professor of Engineering, and Electrical Engineering doctoral candidate Marty Boughman in the "Energy Crisis" seminar last Thursday.

There is apparently a correlation between a nation's Gross National Product and its consumption of energy. The US with a level of about \$4000 per capita uses some 300 million BTU per person per year.

The rate of energy expenditure has been growing at a steady four percent a year for the past century and a half. If this were to continue for another one hundred and fifty years, the thermal release of energy consumed would be approximately one percent of

the sun's incoming radiation.

In referring to this aspect, White said "It could be like we're all living in Miami; then, again, it could be like we're living somewhere else."

To bring the prediction closer to home, it was noted that the US already releases one six-hundredth of the solar energy it receives. If this were magnified to a global scale, the environment could not withstand it. Not to mention melting of the polar cap, there would also be a gigantic release of carbon dioxide from the oceans which contain some sixty times the atmospheric concentration.

Returning to economic considerations, energy concerns take up nearly one-fifth of the capital investment in the US, though energy is still cheap at three percent of the GNP. Now, as nuclear plants become increasingly necessary, the capital investment per plant will

increase but be balanced by the lesser cost of fuel.

Nationally, five energy sources are used but there is regional diversification. New England depends on oil for ¾ of its energy and, as it has no such resources, it is an energy deficient region. The East and North rely mostly on solid fuels and oil while the West and South use gas and oil. The national breakdown is 20% coal; 33% gas; 43% petroleum; 1% nuclear; and 3% hydroelectric.

Humble Oil Company has projected nearly a doubling of petrochemical requirements by 1985 with 28 million barrels per day compared to a domestic production of only 6 million. Even sooner, in 1975, the US will be producing only 8 million barrels to meet a demand of 18 million.

The Alaska find, and any others that may be discovered in the region, will not boost our reserves greatly. The Alaskan oil

fields now known hold only three years supply. Presently, we are in fact robbing underdeveloped countries of their natural resources to support our high standard of living.

White noted that now that there is a flattening of gains in efficiency of power production at 40%, the only recourse will be nuclear plants. There is effectively a delay of 30 years between the time when a new energy source is discovered until the time it can become a significant factor. Solar energy is impractical at the present state of technology and geothermal sources are already being moderately tapped; neither can become important until the turn of the century.

It is very likely that by 2000, as electricity becomes more and more the energy common

denominator, forty percent of our energy will come from nuclear sources; There is presently a thirteen year construction time for such plants, but this should decrease. Present fuel processing capabilities are sufficient because of military drives of the past. More importantly, there are significant proven reserves of nuclear fuel; many were found during explorations in the '60's but as uranium is now cheap such efforts have all but ceased.

From what is known of the fuel supplies, a worldwide extrapolation leads to the belief that our energy worries would be over for a long time. If the breeder reactor is added to the calculations there is no practical limit; and the introduction of fusion power should be able to supply us for the next billion years.

Mordecai?... Marijke?

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in with fine bottleneck. And other stuff, too. Cajun Mojo, Swamp-Cowboy, Prairie Navigator. Recorded at Link's shack in Accokeek, Maryland, *Mordicoi Jones* is a bluesy album of unrefined, down-home music. It's loose. It's happy. And it's good.

Son of America — Seemon & Marijke — A&M

Seemon and Marijke play what might be called American-Gypsy music. Personally, it didn't appeal to me, but perhaps it might to you if you dig tambourines and bazoukis. The album is produced by Graham

Nash, and among the people who lend a hand or voice from cut to cut are Joni Mitchell, Rita Coolidge, Booker T., and Chris Ethridge and Sneaky Pete, of Flying Burrito Brothers fame. The title cut is probably the best, a C&W hit about Jack Tyrie, a Hollywood stuntman who was killed in Vietnam. It seems his friends have erected a life-size fiberglass statue of Jack somewhere in the Hollywood Hills, and the album publicizes the fact that they'd like to replace it with one 150 feet tall. If that interests you, write to A&M records.

—Mark Astolfi

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