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TEKTRONIX AGENDA

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LOOKING AT THE WORLD THROUGH BLUE-COLORED GLASSES: ECONOMIST VIEWS ENERGY "CRISIS"

A not-overly-cheery portrait of the energy shortage and its expected near-term impact on the US economy was shared with Management Council members recently by Dr. Walter Mead, economist from University of California, Santa Barbara, and an annual Tek visitor. Bleak as it might have seemed, his talk described the possible context in which Tek will operate in the coming months, noted President Earl Wantland, so Dr. Mead's comments are paraphrased below, for you to read—and share with any of your people you might wish to.

He made these points:

1. The energy crisis is no short-term matter. It's been a long time coming, and won't go away very fast—whether or not the Arabs shut down their oil supply.

2. Its effect on the US economy will be to create a recession of **production**, and we've never faced one of those before. It will probably last longer than most forecasters think.

3. The government is not for rationing; but the public is, which may force that system on us, with all its bureaucratic frustration.

4. The logical solution (but one not likely to happen) is to let the market operate freely, with no controls, so rising prices will bring demand into line with supply.

The above is an oversimplification, of course. Dr. Mead's reasoning, and additional comments, are summarized below.

(Future issues of AGENDA will deal with Tek's use of energy and ways to improve it. A lot of letters are coming in to us on that very subject.)

Dr. Mead: The "crisis" should have come as no surprise. We were warned often enough, but we were doubters. The oil companies, among others, told us but, since they're self-serving (like all of us), we didn't believe them.

(Even **before** the Arab cutback, only a warm winter could have saved the US from fuel problems.)

For a long time the US has been living on a philosophy of low-cost energy; thus our usage has been prodigal. Of the world's energy supply since the time of Christ, we've consumed 40 per cent. (We're **still** consuming 17 per cent.)

The US produces 17 per cent of the world's oil supply. Russia, 15 per cent; Saudi Arabia

14 per cent. But we have only 7.1 per cent of the world's known reserves. Obviously, we can't go on producing as we have.

(Arab countries total 29 per cent of the world's production; they represent 26 per cent of US imports and 7 per cent of US consumption. Canada, by comparison, represents 34 per cent of our imports and 8 per cent of our consumption.)

As to the world's known oil reserves, however (650 billion barrels), Saudi Arabia has 150 billion. Second is Iran (a non-Arab country); third is Iraq (Arab), 40 to 50 billion.

The US reserve is only 7.1 billion barrels. In the American Southwest, however, are deposits of shale oil totaling **600 billion barrels.**

All that's needed for shale-oil development to begin is approval of an environmental impact statement. Oil shale's day has clearly come. But development will take three to four years; we need a **short**-term solution.

The Magnitude of the Problem

Arab oil supply is 7 per cent of US consumption. However, things are worse than that: Canada also will have oil problems. Although it is an oil exporter, including to the US, there is no trans-Canadian pipeline from their oil fields in Alberta to the maritime provinces. Fifty per cent of the oil imports to Eastern Canada are Arab oil; thus the present 25 per cent cutback in Arabian crude oil will hurt Canada. With less oil for the maritime provinces, probably the US will have to send them some of **our** crude oil.

The net effect of this oil trading may mean a reduction to the US of 4 per cent of Canadian oil imports.

American refineries abroad (in Holland, Puerto Rico and so on) have been cut off by the Arab squeeze also. Subtract another 4 per cent of our oil supply.

The maximum import cutoff we face is 15 per cent. But add to that figure another 5 per cent, representing the normal US growth.

Offsetting the reduction, however: Some non-Arab countries are **expanding** their output in the next eight months: Iran by 19.5 per cent; Indonesia by 26.8 per cent; Nigeria by 11.1 per cent and Venezuela by 5.2 per cent.

If this expansion comes to 20 per cent, and if the US gets half of that, it will still represent only 1 per cent of our consumption.

How Solid are the Arabs?

A big unknown as we look ahead is Arab solidarity. In the past, their attempts at an oligarchy have failed; but this time they might just work, because they've found an important thing: Elasticity of demand for oil is less than one; in other words, a slight cutback in production means a substantial rise in prices. Thus the Arab states can now produce less oil, yet make more money. For them—at least in the short-term—oil is money in the bank.

One thing the US government hasn't recognized is that oil isn't like wheat—it's exhaustible. You can produce a barrel of oil only once, whereas you can continue producing a bushel of wheat from the same ground again and again.

Thus the Arabian question is: **When** do we want to take our profit? All at once? Or spread out?

Leaders of the individual Arab states have two great incentives: One is to join together; the other is to cheat. They're already cheating, some of them.

Strangely, two of the most militant Arab states—Iraq and Libya—are the worst cheaters. They're surreptitiously shipping oil to the US. Iraq is poor, so their action is understandable; but Libya is **not** poor, which makes their behavior strange.

President Nixon misled the US public by referring to the fuel shortage as a "short-term" crisis. We really have no chance of going back to our old growth rates. My best guess is that the growth rate in energy usage is going to be zero for quite awhile.

Suppose three unlikely things: (1) The Arab-Israeli war gets settled; (2) The Arabs and Israelis embrace as brothers; (3) The Arabs like the US. Even so, the Arabs' long-term interest is to husband their oil resource, tighten their monopoly and not flood the market, and enjoy the resulting high price (and political bargaining power).

If that happens, the crisis will not be temporary at all—lasting at least four years for the

United States, and much longer for other industrialized countries.

The US now consumes 22 per cent of the world's crude oil; this consumption **has** to end. Gas prices will go up steeply, and we'll have the incentive to do a lot of economizing. Next year will be rough; even the economic forecasts that do predict economic trouble are too rosy, I feel.

One such forecast assumes a .7 per cent growth rate in the US economy in the first half of 1974 and 1.6 per cent in the second half. But this assumes only a three-to-four-month Arab cutoff; that doesn't seem likely to me.

A Different Kind of Recession

Thus we face a recession vastly unlike past ones, one of **production** rather than demand. So, our response also must be vastly different. We must economize and conserve, particularly energy; and we must substitute more-available for less-available fuels and materials.

(If nine months or so should pass, however, this recession **could** turn into a standard recession, one of receding demand. It's hard to forecast how people will operate in this new situation.)

The question rises automatically: What should Washington do? My suggestion is that they do **nothing**—fiddling with price controls and so on only clouds the issue.

The greater the Arab cutback, the greater the impact on the US; but even if oil companies comply with government demands for increases in crude oil; a 55-mile-per-hour speed limit is enforced; gasoline supply is reduced, outdoor lighting is shut off; home heating is lowered, and so on—all this will save only 10 per cent—and the President himself believes we need a **17 per cent** reduction.

One analyst thinks we could resolve the crude-oil crisis by reducing gasoline consumption by 20 per cent; since a 10 per cent increase in gas price would reduce consumption by 5 per cent, a 40 per cent price increase would bring about the necessary 20 per cent reduction in demand.

Free Market is the Solution

My suggestion is:

Let the pricing system do the "rationing." First, it would cause people to economize and reduce demand; second, it would cause some increase in **supply.** For instance, thousands of "stripper wells" exist, that yield only a small residual output, and aren't worked because it's uneconomical to retrieve the oil. They'd now become profitable again.

(The Nixon administration would prefer to go toward a free market, rather than to rationing; but the strong public demand on him and Congress may force rationing anyhow. When people push Washington to "do something," that something means rationing.)

A rationing program, "which would frustrate people," would cost an estimated $500 million a year to administer.

Another "solution" is to put a high tax on gas. That **would** reduce demand, but it would have no effect on supply.

(In a typical new oil field, we recover only 30 to 40 per cent of the oil, because it's not profitable to get the rest; a tax, which would go to the government, would do nothing to encourage companies to develop the necessary secondary and tertiary recovery methods.)

Shale oil, geothermal and solar-energy supplies are the things of the future. Research into these areas would be encouraged by allowing price increases. But I'm not optimistic about those increases occurring.

The oil industry opposes the free-market concept, because it would lose its tax benefits and subsidies. And the voting public, which doesn't understand all the complexities involved, keeps pushing toward rationing.

The typical bureaucrat's question, when faced with any crisis, is "What should Washington do about it?" But it's the things Washington **has** done that have **caused** our present problem.

For example, subsidiaries to oil companies have caused a depletion of our reserves, aided by government policies that for many years barred foreign oil from the US.

All of this was done in the name of "national security"—so we wouldn't depend on foreign supplies. So, here we are, depending on other nations—just the position our policies sought to **avoid.**

An even worse policy has been 19 years of controls on gasoline, holding prices down and stimulating demand.

If "the market does the rationing," the supply will equal the demand; through economies in use, there would **be** no shortage. The price increase also would make oil and gas exploration more profitable.

But if we get rid of price controls, two objections arise. Both are true:

1. What about the poor?
2. What about windfalls to oil companies?

First, the poor **do** spend more of their income on energy than the rich, and thus would suffer disproportionately; second, the oil companies **would** make higher profits.

It's true the poor will suffer more than the wealthy. But what we must do is **separate** the two problems: One is optimum allocation of resources; the other is income distribution. If the poor suffer, we can increase our low-income supplements, for instance.

But Washington is **not** separating the problems—and that's a terrible mistake.

(The history of all regulatory agencies is that, in time, the industries regulated dominate the agency itself; thus, unreasonable subsidies have been granted to oil companies; along with removal of price controls, there should also be a removal of those subsidies.)

It Wouldn't Help if Arabs were our Friends

Before the Arab-Israeli flare-up, we were making some progress (unofficially, and in the face of "official" policy) toward giving more control of US-owned oil facilities in Saudi Arabia in return for that nation not placing their quotas on US oil imports.

The US support of Israel—clearly setting this kind of negotiation back severely—needs to be re-examined.

Secretary Kissinger's talk of "retaliation" against Arab countries is "utter nonsense." With their huge supply of US dollars, they can buy elsewhere almost anything the US denies them. All we really have to bargain with is support for Israel.

Nor is there any likelihood—in today's world climate—of US military pressure. If **all** pro-Israel nations got cut off, a group of countries might ask whether a raw material so vital to the world ought to be controlled by a few nations. Yet military action is **very** doubtful.

I believe what happens will be based largely on common-sense **business** decisions by the Arabs.

Federal R&D Support Necessary

We need federal financing of R&D—on pure economic grounds. For instance, the government actually **owns** 80 per cent of shale-oil-bearing lands; thus it would profit directly from such research.

Recession won't be like any Other

What are the economic implications of all this? First, in ability to produce: The cost of fuel as a percentage of gross profits ranges from 17.1 per cent in primary metals to under 1 per cent in tobacco. Worst hit will be the paper industry, because it relies on distillates and residual fuels. The pretrochemical industry also will be badly hurt.

As to weakened demand, the automotive industry will be worst hit (as auto production costs rise). Forecasts are for a decline in US car demand from $11 million to $10 million. A high proportion of those cars will be small—and a high portion of **them** foreign-made.

People haven't really wised up to the gas problem yet; it's been only three weeks since the last Arab tanker unloaded. We've had adequate tank reserves; so the shortage hasn't really been felt.

But once it **is,** who'd want a car that gets only 10 miles to the gallon?

The recreation industry also will be hard-hit; electronics, however, probably won't. I expect a strong demand there, partly stemming from a large increase in research budgets. Also, electronics uses little energy for its dollar output.

Comments from Council: There will probably be an increased shortage of components, however. And a scramble for top people in R&D areas.

Dr. Mead: The Economic Stabilization Act is on its way out—as fast as Congress will allow it. But Congress politically must push for price controls—even though they **know** they're nonsense; so must the President.

I think the recession will last longer than most people are talking about. One survey estimates a 1.6 per cent increase in gross national product in 1974; another figures on a **minus** 1 per cent growth in the first half of that year—that is, a recession.

As we look ahead, the big questions are:

1. What will the **Arabs** do? Hang together, or cheat on each other? Work for long-term profits, or go for the short-term kill?
2. What will **industry** do?
3. What will the **public** do? Stop spending, become cautious and save instead?

(I expect unemployment will rise in the next two weeks, first in the auto industry, then in housing. This injects an uncertainty into consumer planning.)

4. What will **government** do? Probably it will move in the worst possible direction (allocation of supply, plus price fixing.)

There are Some Strengths in the Economy

The more optimistic economic forecasts are built on two admitted strengths of the US economy:

1. There is a capital-goods boom—for instance, for machinery—that looks as if it might continue.
2. There is a low ratio of inventory to sales—unlike most recessions, when inventories built very large.
3. The foreign-trade picture is now **very** attractive. For the first time in some while, balance-of-payments is shifting toward the US—thanks largely to a probably undervalued US dollar.

Comment from Council: But the economic impact of a recession on **other** countries could offset some of these factors.

Dr. Mead: Yes, but some of our major exports, such as grain, are necessities of life, and thus exempt from discretionary economic decisions. Foods in general will grow as US exports. The oil embargo is **bound** to improve our balance of payments. (Some other nations **will** get clobbered with high prices—Holland and Japan, for instance.)

Whereas our problem in the US is to reduce a luxurious rate of consumption, these countries haven't been lavish users of energy, and thus have nothing to "cut back" into.

The stock market, as it usually does, has over-reacted to the crisis. Even in such hard-hit industries as chemicals, profits may be very high—since scarcity of demand is bound to increase prices. So they may be pretty good investments. (I wouldn't invest in the auto industry, however.)

Question from Council: What is the long-term answer?

Dr. Mead: Education of the public—so they'll know what's going on, and thus have a more enlightened input to their elected officials.