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# Federal Energy News

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REMARKS PREPARED FOR DELIVERY BY  
THE HONORABLE FRANK G. ZARB, ADMINISTRATOR  
FEDERAL ENERGY ADMINISTRATION, BEFORE THE

PHOENIX CHAMBER OF COMMERCE  
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FRIDAY, MARCH 26, 1976, 1:00 PM, MST.

Good afternoon. I am pleased to be back in Arizona, and I would like to thank Senator Fannin for his kind invitation to join you here today. But, most of all, I'd like to thank the Senator for his vigorous and continuing support for actions I feel are essential to the accomplishment of this Nation's energy goals.

As all of you know, Arizona held a record of sorts for nearly fifty years -- it was the 48th and last State to enter the Union, until Hawaii and Alaska were admitted in 1959. The residents of this State worked hard to build the reputation and accomplishments of Arizona so that the last would also be the best in many ways.

The United States recently established a record of sorts, too. For the week ending two weeks ago today, our imports of crude oil and petroleum products exceeded our domestic production for the first time in the history of the Nation.

Now that is what I call a crisis in energy -- one which cries out for corrective action. Yet there has been little public notice of this ominous sign of our ever-increasing dependence on foreign oil.

There has been and there remains only one way to regain our domestic energy invulnerability, and that is to proceed with all possible avenues of energy conservation, energy development, and energy research. And -- again -- I appreciate the constant support of Senator Fannin for this effort.

Arizona may not be known as the Sunshine State, but as all of you here know, this state has the benefit of more Btu's of sunshine than any other state.



Harnessing the awesome power of the sun has been a dream of mankind ever since the first primitive lens concentrated the sun's rays and started a fire.

For many years, the idea of using sunshine productively was only a dream -- pursued diligently by zealous inventors, but not really capturing the attention of the vast majority, who became used to having adequate supplies of "conventional" energy available at downright cheap prices.

When the energy crisis emerged suddenly from the closet where it had been lurking for years, people suddenly began asking searching questions about what new energy sources could be tapped that would be both adequate and inexpensive.

Putting the virtually limitless energy of the sun to work for us in our everyday lives has become a necessity, rather than the laboratory experiment it was for so long. And, while no energy source is ever again going to be cheap to develop and supply to consumers, the supply of sunlight is surely going to be around in quantities more than sufficient to meet a large and growing share of our future total energy needs.

I'm looking forward to touring the Arizona State University solar experimental facility later today. The development of workable solar concentrators and solar energy conversion cells is essential if solar energy is ever to become a realistic and significant contributor to our power needs. It is projects such as the Arizona State one and others now underway at other sites which can lead to the engineering developments we will need to fully utilize the power of the sun.

I am sorry that I will not have the time to see some of the other solar programs now being developed here in Arizona. I know that the University of Arizona at Tucson has been working on development of improved solar collector plates, and this state's electric utilities have been actively working with private industry and state and Federal agencies to encourage solar development.

As many of you know, the Energy Research and Development Administration has -- just within the past several weeks -- solicited proposals for construction and operation of a major solar energy research facility. Of course I can't tell you today that the facility will be in Arizona, but I am certain that proposals to build the installation here will be carefully weighed as ERDA reaches its decision.

The solar energy program we are pursuing at FEA is aimed at accomplishing two goals -- promoting the accelerated commercialization of solar energy technologies, and integrating solar energy policies into the national energy strategy.



Arizona is cooperating with us in several important ways. State officials met with members of our solar energy division recently in Washington, to identify areas where Arizona and the Federal government could work together to accomplish mutual goals.

By the end of April, we expect that the Arizona Solar Energy Research Commission will have a proposal to FEA outlining plans for state action to accelerate commercialization of solar energy.

The first step is expected to be in cooperation with the Federal program to identify a number of Federal buildings throughout the country which could be retrofitted to use solar energy for heating and hot water.

Providing a market for first-generation solar technology in existing government buildings would help in developing the economic infrastructure necessary to support a viable solar energy industry.

Arizona State University is already conducting a feasibility study to determine the possibility of converting four state-owned buildings to solar power for much of their energy requirements.

Tying state building conversion programs in with similar Federal programs can result in standardization of procedures and requirements, providing benefits for all concerned.

The use of photovoltaic energy is already cost-effective in remote military installations where on-site generation of power or transportation of energy over long distances becomes extremely expensive.

Expanding the potential markets for solar energy and developing new and improved methods of solar energy conversion are the two keys to encouraging the economies of scale which can eventually bring down the cost of solar power.

FEA is assessing the feasibility of implementing, along with ERDA and the Department of the Interior, a cooperative venture to assure substantial utilization of solar electric power generation in the greater Southwest area. This program would be known as the "Southwest Project," would cover eight states, including Arizona, and could be underway by late summer or fall of this year.

Solar energy will play an increasingly important role in our energy future but -- as with all other energy sources -- we cannot count on it alone to fulfill our energy requirements, even in the distant future.



Each of the contributors to our total energy supply -- now, two years from now, ten years hence, and even farther in the future -- has its advantages and its drawbacks.

We have seen all too clearly over the past several years the danger of overdependence on oil, particularly imported oil. Granted, we must develop our domestic resources of petroleum to meet current and projected needs. But our supply of oil, as is the case with all fossil fuels, is finite, and we cannot continue to count on it forever.

The same is true of natural gas. There is an immediate and urgent need to encourage more exploration and development activity to find and produce the potential gas resources which exist beneath our nation and off our shores, but even optimistic projections of future gas supplies show that they will not provide for all of our future needs.

Increasingly, we are going to have to rely on electric power to meet our industrial, commercial, and residential energy requirements. And, alternative technologies such as solar, geothermal, synthetic fuels, and the like will require many years before they can make a major contribution to our overall energy needs.

The fact that we cannot count on any one source of energy to meet our needs does not mean that we will be unable to provide energy for a growing economy and for the needs of our citizens. It simply means that we will have to develop every possible source of energy available to us, and develop each of them in a manner consistent with protecting and improving the environment we all share.

This country is fortunate indeed to have the wealth of natural resources it possesses, and the abundance of energy resources we have, if we undertake to use them sensibly.

To provide the electric power we shall need, we can and must depend to a greater extent on our massive coal reserves, and on our proven and successful nuclear energy technology. It is these energy sources which can provide the bridge to bring us through energy shortages to the time when solar and other relatively inexhaustible energy supplies will begin to provide a significant share of our requirements.

We do not have to sacrifice our environment to use coal to generate more electricity. Coal can in fact be produced using environmentally sound surface mining techniques, and burned to generate electric power in ways which do not adversely affect the health or safety of our citizens.



In fact, in many cases strip-mined areas can be restored to conditions which are far more useful and productive for human beings than the prevailing situation before mining. And new techniques for burning coal even more cleanly and effectively are being constantly developed and improved.

The fact is that energy and the environment can coexist if careful planning precedes energy development.

It is encouraging that this State's two largest utilities, Arizona Public Service and the Salt River Project, are proceeding with plans for the Palo Verde nuclear project west of Phoenix.

This is especially important to Arizona, since this state has negligible reserves of crude oil and natural gas, and only between one and two percent of the Nation's total coal reserves.

It is extremely disappointing to me to see the increasing public attention given to the prophecies of doom publicized by the vocal opponents of nuclear energy. Rarely do the views of those who support the safety, economy, and necessity of nuclear power get anything like the space in print or on the airwaves that the opinions of opponents receive.

It was a refreshing change to see, a little more than two weeks ago, a full page advertisement which appeared in the Hartford, Connecticut, Courant. That ad was paid for by 160 employees of C-E Power Systems, Inc., which is based near Hartford, and it took strong exception to the recent widely-publicized blasts leveled at nuclear power by a few nuclear critics.

Of the critics, the ad said in part: "These people represent a tiny minority in a large profession. The huge majority of us, as engineers, scientists, and responsible citizens, are deeply concerned over ill-founded criticism of nuclear power and publicity given this criticism."

The advertisement concluded: "Nuclear power is safe. No member of the public has ever been injured by a reactor accident. We feel that nuclear power is also necessary. When a fair comparison is made of available energy sources, most people will agree that nuclear power makes sense."

I hope the opinion of those 160 nuclear industry employees -- who put their own money where their mouth is -- and the others who agree with them is heard as widely as the opinion of three ex-nuclear industry employees, but I have my doubts that it will be.

At the risk of harping on one subject, I would reiterate that we need the contributions of all domestic energy sources to reduce our growing dependence on energy supplies which lie beyond our control.



The Energy Research and Development Administration published last year a comprehensive document entitled "A National Plan for Energy Research, Development, and Demonstration."

That publication assesses six possible scenarios for our energy future: no new actions; improved efficiencies in end use; synthetic fuels from coal and shale; intensive electrification; and limited nuclear power.

The sixth assessment made was of a combination of all technologies, and that option was the only scenario under which the ERDA study shows imports of oil and gas consistently declining between now and the year 2000.

The only other scenario which shows import reductions at all is the "improved efficiencies" one, and that only in the near term.

The point is clear here, as it is in virtually every other forecast of our energy future by government agencies or private organizations. We need oil, we need gas, we need coal, we need nuclear, and we need solar and the other alternative forms of energy.

We cannot afford to exclude even one of the possibilities from our efforts to reduce energy imports and regain energy self-reliance. Only a combination of all will do the job.

In the past, when the nation has been confronted with problems of seemingly insurmountable proportions, we have always exhibited a willingness, an ability, and a desire to work to overcome whatever obstacles must be mastered.

I am confident that we can and will do it again now to overcome our energy problems.

Thank you.

