AOARD REPORT

The New Sunshine Program, Japanese Long Term R&D Program For Solving Energy and Environmental Issues

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AOARD

A summary of a new energy and environmental program called the New Sunshine Program is provided. The Minister of International Trade and Industry (MITI) of the Japanese Government established new guidelines in Mar 93 for dealing with energy and environmental issues for the next 27 years. The new guidelines are spelled out in the New Sunshine Program.

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ABSTRACT:
A summary of a new energy and environmental program called the
New Sunshine Program is provided. The Minister of International
Trade and Industry (MITI) of the Japanese Government established
new guidelines in Mar 93 for dealing with energy and
environmental issues for the next 27 years. The new guidelines
are spelled out in the New Sunshine Program. This program, as
part of the overall restructuring of MITI programs, is set up to
increase Japanese participation in international energy and
environmental programs and take up a leadership role in the
international arena via foreign technology development programs.

Purpose: Attend the 12th Science and Technology Symposium on
Energy-environmental Issues and Its Resolutions at the Tsukuba
Research Center, in Tsukuba City

Comments:
The 12th Science and Technology Symposium was sponsored by the
Minister of International Trade and Industry (MITI) as an open
forum to discuss energy and environmental issues. This forum
served to consolidate two on-going programs, namely Sunshine and
Moonlight programs, into one program called the New Sunshine
program starting in 1993. The theme of this forum is the
continuing progress in simultaneous solutions to energy and
environmental problems. The forum lasted for two days where
presentations and discussions were divided into opening session
and seven technical sessions, covering such topics as electric
cars, clean coal technology, hydrogen energy system, global
warming, and solar energy. I attended only the first day of the
two day forum. The objectives of the new sunshine program are
three folds: 1) Increase research in the exploration of new
technologies in energy-environmental related fields under the
auspice of international organizations; 2) Deal with global
energy-environmental issues; and 3) Utilize developed countries'
technology to assist underdeveloped countries.
The total budget for the New Sunshine program is 1.55 trillion
yen (13.5 billion dollars based the current conversion rate of
one dollar = 115 yen ) for 27 years, starting in 1993 and lasting
until 2020. Under this program it is expected that the annual
energy consumption of Japan is reduced to 1/3 of the present
value and the CO2 emission is reduced to 1/2 of the present value
by the year 2030. The estimated 1993 budget for this program is
539 million yen (469 million dollars) and 503 million yen (325
million dollars) in the 4 years later. The breakdown of the total
budget into three objectives is as follows:
Category 1) - 500 billion yen (4.35 billion dollars)
category 2) - 900 billion yen (7.83 billion dollars)
category 3) - 150 billion yen (1.30 billion dollars)

Considering the up-to-date expenditure of 580 billion yen (5.04 billion dollars) for now defunct Sunshine and Moonlight programs which lasted from 1974 until the beginning of 1993, the New Sunshine program would cost MITI almost three times more in its total expenditure over a 27 year period. However, if we consider inflation and the length of the program, the inflation adjusted annual expenditure for the New Sunshine program is almost of the same order as Sunshine and Moonlight programs.

Benefits to the Air Force:
The electric car and solar energy research are of special interest to the US Air Force. Considering energy-efficient storage and low energy usage systems that may come out of this program, we can use the same technology to operate space vehicles in space. Other research areas such as clean coal, hydrogen energy system, and global warming may not have any direct applications to the Air Force weapon systems at the present time.