

Speech to Durham Rotary Club

November 1, 1976

SOLAR ENERGY

IF I HAD TO PICK OUT ONE ISSUE THAT WE, AS A NATION SHOULD BE ADDRESSING, I THINK RIGHT NOW IT WOULD BE ENERGY. ENERGY IS ONE OF THOSE VERY BROAD, LONG-TERM CONCERNS, LIKE THE ENVIRONMENTAL ISSUE AND TAXATION, THAT TOUCHES EACH AND EVERY ONE OF US EVERY DAY. EVERY TIME WE TURN ON A LIGHT SWITCH OR START OUR CAR, WE ARE CONNECTED TO A CHAIN OF EVENTS THAT REACHES BACK IN TIME MILLIONS OF YEARS, TO THE AGE OF THE DINOSAURS. AND THIS CHAIN OF EVENTS REACHES OUT ACROSS THOUSANDS OF MILES TOO--AROUND THE WORLD TO THE PERSIAN GULF, MOST LIKELY.

WE GOT WAKED UP A LITTLE BIT BY THE ARAB OIL EMBARGO IN OCTOBER 1973, BUT WE STILL HAVEN'T LEARNED THOSE LESSONS VERY WELL. WE ARE INCREASINGLY DEPENDENT ON IMPORTED OIL. THE PERCENTAGE OF THE IMPORTED OIL THAT COMES FROM THE ARAB NATIONS IS INCREASING. OUR AVERAGE DOMESTIC PRODUCTION PER DAY IS STILL GOING DOWN. OUR PROVEN RESERVES, INCLUDING THE ALASKAN NORTH SLOPE OIL, ARE STILL GOING DOWN--WE'RE NOT FINDING OIL FAST ENOUGH TO EVEN KEEP A CONSTANT LEVEL.

TO SAY THAT THE ENERGY CRISIS IS NOT OVER IS AN UNDERSTATEMENT. THE TRENDS TOWARD HIGHER CONSUMPTION, LOWER RESERVES, AND GREATER DEPENDENCE ON THE ARABS SEEM TO INDICATE THAT THE CRISES TO COME WILL BE WORSE.

WE STILL DON'T HAVE AN ENERGY POLICY IN THIS
COUNTRY. WE STILL DON'T HAVE THE KIND OF STRONG,
LONG-RANGE PLANNING THAT CAN MEET OUR ENERGY NEEDS.

DURING THE SESSION OF THE CONGRESS JUST ENDED,
WE PASSED SOME LEGISLATION THAT WILL HELP, BUT THE
NATURE OF THAT LEGISLATION IS SUCH THAT IT DOES NOT SOLVE
THE PROBLEM, BUT RATHER, POINTS UP THE NEED FOR
A CO-ORDINATED ENERGY POLICY LEAD BY THE PRESIDENT.

ONE PART OF THE ENERGY LEGISLATION THAT WAS LESS
CONTROVERSIAL THAN MOST, WAS THE SECTION IN WHICH WE
TRIED TO OUTLINE WHAT OUR ENERGY GOALS ARE, AS A NATION.
HERE'S WHAT WE SAID WE SHOULD BE WORKING FOR:

--REDUCTION OF OIL IMPORTS

--INCREASING OUR DOMESTIC SUPPLIES

--PROTECTING AGAINST AN INTERRUPTION OF IMPORTS

--MINIMIZING ADVERSE ECONOMIC EFFECTS

--PROMOTING CONSERVATION OF ENERGY.

WE KNOW WHAT WE HAVE TO DO, AND THE REASONS FOR IT ARE OBVIOUS. FOR ONE THING, EVERY TYPE OF ENERGY WE NOW CAN USE IS NON-RENEWABLE. THEY ALL EXPEND FUEL, AND THAT WHOLE IDEA IS SOMETHING WE HAVE TO START TRYING TO CHANGE. EVEN NUCLEAR ENERGY, WHICH IS A LONG WAY FROM BEING READY TO ASSUME A DOMINANT ROLE IN OUR ENERGY PRODUCTION, WILL EXPEND FUEL. URANIUM DOES NOT COME FROM NOWHERE, AND IT IS NON-RENEWABLE.

I THINK WE NEED TO CONTINUE TO DEVELOP NUCLEAR ENERGY, ESPECIALLY THE SAFER NUCLEAR FUSION METHODS, BUT IT IS NOT BEING VISIONARY TO START TALKING ABOUT SOLAR ENERGY, FOR EXAMPLE.

I AM NOT A GREAT BELIEVER IN CURE-ALLS, BUT SOMETHING LIKE SOLAR ENERGY IS WHAT WE NEED, IN THE LONG RUN. IN THE SHORT RUN, WHAT WE NEED IS TO DEVELOP OUR COAL RESERVES. THERE WILL DEFINITELY BE LEGISLATION ON BOTH OF THESE SUBJECTS IN THE NEXT CONGRESS, AND HERE ARE SOME OF THE WAYS WE CAN APPROACH THE ENERGY DEVELOPMENT ISSUE.

WE NEED TO CONTINUE SUPPORTING THE ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION, AND WE, IN THE CONGRESS,

SHOULD TRY TO GUIDE THEM IN THEIR WORK.

SOME TYPE OF LOAN AUTHORITY TO HELP PRIVATE INDUSTRY DEVELOP SYNTHETIC FUELS, SOLAR ENERGY AND GEO-THERMAL TECHNOLOGY, WILL KEEP THE PRIVATE SECTOR INVOLVED, AND ALLOW THE GOVERNMENT TO PROVIDE SOME DIRECTION.

COAL CAN BE USED MORE EFFICIENTLY THAN JUST BURNING IT IN A FIRE-PLACE, WHICH IS REALLY WHAT WE'RE STILL DOING WITH IT.

COAL GASIFICATION IS A CHEMICAL PROCESS, IN WHICH YOU TREAT COAL WITH STEAM OR HYDROGEN AT VERY HIGH TEMPERATURES, AND PRODUCE A GAS VERY MUCH LIKE NATURAL GAS. THEY'VE BEEN GASIFYING COAL IN SOME EUROPEAN COUNTRIES SINCE 1901, ON A COMMERCIAL SCALE. WE HAVE JUST BEGUN, IN 1976, TO DEVELOP PILOT PLANTS IN THIS COUNTRY. WHY HAS THIS HAPPENED?

IT WAS LACK OF FORESIGHT. IT WAS LACK OF PLANNING FOR THE FUTURE. EVEN IF WE HAD SOME COMMERCIALY VIABLE WAY OF LIQUIFYING OR GASIFYING COAL, THAT WOULDN'T SOLVE OUR ENERGY PROBLEMS FOREVER. BUT THE GASIFICATION SITUATION POINTS UP THE SHORT-SIGHTEDNESS THAT HAS CHARACTERISED OUR ENERGY POLICY, OR RATHER, OUR LACK OF ENERGY POLICY.

WE HAVE ONE OF THE LARGEST RESERVES OF COAL IN THE WORLD. WE ARE, RELATIVELY SPEAKING, RICHER IN COAL THAN IN ANY OTHER ENERGY-PRODUCING RESOURCE. NOW, ASSUMING THAT WE CAN GET TO ALL THAT COAL, AND SECONDLY, ASSUMING THAT WE CAN USE IT IN ONE OF THE ENERGY-EFFICIENT WAYS THAT WE'RE STARTING TO DEVELOP, WE WILL STILL NOT BE ABLE TO MEET OUR ENERGY NEEDS,

ONE HUNDRED YEARS FROM NOW.

I AM GOING TO ASK YOU TO TAKE THE BROAD VIEW OF THIS SITUATION, AND TO CONSIDER HOW IMPORTANT TO US, HERE AND NOW, THAT DAY IS A HUNDRED YEARS FROM NOW, WHEN WE RUN OUT OF COAL. IT IS EASY FOR US TO SHRUG OUR SHOULDERS AND SAY, "WELL, I WON'T BE AROUND," AND TO THINK THAT IT WON'T MATTER. BUT THINGS THAT HAPPENED IN THIS COUNTRY A HUNDRED, EVEN TWO HUNDRED YEARS AGO, HAVE MATTERED TO THIS VERY DAY IN THE MOST PROFOUND WAY. THE FRAMERS OF OUR CONSTITUTION, ALMOST TWO HUNDRED YEARS AGO DIDN'T THROW TOGETHER SOMETHING THAT WAS JUST FOR THE MOMENT. THEY HAD FAITH THAT THE

FUTURE WOULD OCCUR, THAT THE WORLD WOULDN'T END, AND
THAT THERE WOULD BE A CONTINUITY AND STABILITY IN THIS
COUNTRY THAT MADE IT IMPORTANT FOR THEM TO DO THEIR
BEST, AND TO BE MEN OF VISION. HAPPILY, THEY WERE
INSPIRED WITH SUCH FAITH, THAT THEY THOUGHT ABOUT US,
YOU AND I, WAY BACK THEN, AND THEY GAVE US A GOVERNMENTAL
SYSTEM THAT HAS SAVED ITSELF FROM ERROR AND PAID FOR THEIR
INVESTMENT OF TIME AND THOUGHT A THOUSAND TIMES OVER.

SO WHEN I ASK YOU TO CONSIDER THE YEAR 2076, DON'T
THINK IMMEDIATELY THAT IT WILL NEVER HAPPEN, ^{DON'T JUST SAY,} ~~BECAUSE~~ WE'RE
ALL GOING TO BLOW OURSELVES UP ANYWAY. AND DON'T THINK
THAT WHATEVER WE DO NOW WON'T MATTER TO YOU. YOUR GRAND-
CHILDREN'S CHILDREN DESERVE BETTER THAN THAT. THE FUTURE
BEGINS RIGHT NOW.

OF ALL THE KINDS OF ENERGY KNOWN TO US, THE
BEST ONE IS SOLAR ENERGY. WE CAN MAKE THAT STATEMENT
FLATLY--BECAUSE IT DOESN'T RUN OUT OF FUEL, BECAUSE IT
DOESN'T POLLUTE AT ALL, AND BECAUSE IT WILL BE CHEAP,
IF WE EVER GET SET UP TO USE IT.

I THINK WE HAVE TO CONTINUE OUR WORK ON GASIFICATION
AND LIQUIFICATION OF COAL, DEVELOPMENT OF OIL IN SHALE,
NUCLEAR ENERGY, AND ALL THE OTHER AREAS, BUT ESPECIALLY,
I THINK IT IS TIME TO TAKE A FIRM STAND AND MAKE IT
A NATIONAL PRIORITY TO DEVELOP SOLAR ENERGY.

WE BUILT THE ATOMIC BOMB IN LESS THAN HALF THE
TIME THE EXPERTS SAID IT WOULD TAKE. WE PUT A MAN ON
THE MOON IN LESS THAN TEN YEARS AFTER WE DECIDED TO DO IT.

AS FAR AS DEVELOPMENTS IN THE SCIENTIFIC WORLD GO,
THIS NATION HAS THE TALENT TO DO ANYTHING THAT IT
DECIDES THAT IT SHOULD DO. IT IS TIME TO DECIDE THAT
WE WILL DEVELOP SOLAR ENERGY.

WE SHOULD GIVE GRANTS TO PRIVATE INDUSTRY TO
CONDUCT RESEARCH AND DEVELOPMENT OF SOLAR ENERGY.

WE SHOULD SUBSIDIZE THE INSTALLATION OF SOLAR ENERGY
EQUIPMENT IN HOMES AND INDUSTRIES. WE SHOULD MAKE IT A
REQUIREMENT OF ALL NEW FEDERAL BUILDINGS THAT THEY BE ABLE TO
USE SOLAR ENERGY. AND WE SHOULD HAVE INCENTIVES IN THE TAX
STRUCTURE TO ENCOURAGE THE USE OF SOLAR ENERGY.