

ENERGY - EVERYBODY'S BUSINESS

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BANQUET ADDRESS

NINTH ANNUAL INTERNATIONAL CONFERENCE ON COAL GASIFICATION,
LIQUEFACTION, AND CONVERSION TO ELECTRICITY

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GOOD EVENING - ONE OF MY FAVORITE STORIES IS A CHRISTMAS CAROL WRITTEN BY CHARLES DICKENS. YOU ALL REMEMBER THAT STORY - THE "GHOST OF YEARS PAST" RETURNS TO CONVINCING SCROOGE THAT HE SHOULD HAVE DONE THINGS DIFFERENTLY. THIS STORY HAS INFLUENCED MY TALK TONIGHT AND YOU'LL HEAR A LITTLE BIT OF FANTASY MIXED WITH A WHOLE LOT OF TRUTH.

WHILE WORKING ON THIS TALK LATE ONE NIGHT SOMEWHERE BETWEEN FULL AWARENESS AND SLEEP, STRANGE THOUGHTS BEGAN GOING THROUGH MY HEAD. I IMAGINED THAT I WAS ADDRESSING THE 209TH ANNUAL MEETING OF THIS CONFERENCE IN THE YEAR 2182. IT WAS STILL IN PITTSBURGH, BUT INSTEAD OF 200 ATTENDEES THERE WERE ONLY 20 OR 30 SINCE THERE WAS NO PUBLIC TRANSPORTATION. THE SETTING WAS MUCH DIFFERENT THAN I EXPECTED BUT SOMEWHAT REMINISCENT OF AN EARLIER TIME - THE 1930'S. (PAUSE) I COULD NOT SEE THE AUDIENCE CLEARLY IN THE CANDLELIGHT.

THE PEOPLE I COULD SEE WERE WEARING COARSE, HOMESPUN COTTON OR WOOLEN CLOTHING. THEY SWELTERED IN THE AUGUST HEAT AND FANNED THE AIR WITH THEIR PROGRAMS BECAUSE AIR CONDITIONING DID NOT EXIST. THE MEAL CONSISTED ONLY OF FOOD WHICH HAD BEEN GROWN NEARBY. THERE WAS NO REFRIGERATION, NO CHEMICAL PRESERVATIVES, AND NO FAST TRANSPORTATION. THE DINING TABLES AND CHAIRS NEEDED REPAIR. THERE WERE FEW NAILS LEFT, WOOD WAS SCARCE, AND GLUE ALMOST NONEXISTENT. THERE WAS NO PAINT ON THE WALLS, NO WAX ON THE FLOORS, NO DRAPERIES ON THE WINDOWS, AND NO LINENS ON THE TABLES. THE SUBJECT OF MY TALK WAS THE ENERGY CRISIS AND WHAT SHOULD HAVE BEEN DONE TO PREVENT IT.

I STARTED BY STATING THAT ALL OF OUR PROBLEMS IN THE YEAR 2182 REALLY BEGAN 200 YEARS BEFORE - IN THE 1970'S AND THE 1980'S. THE FREE ENTERPRISE SYSTEM HAD MADE OUR COUNTRY AN EXAMPLE TO THE REST OF THE WORLD. WE HAD ONE OF THE HIGHEST STANDARDS OF LIVING EVER KNOWN TO MANKIND. THERE WERE FEW IF ANY PROBLEMS THAT AMERICAN INDUSTRY COULDN'T SOLVE IF ENCOURAGED TO DO SO. THEN IN THE MID-1900'S, THE SITUATION BEGAN TO SUBTLY CHANGE. GOVERNMENT BECAME BIGGER AND BIGGER AND MORE RESTRICTIVE TOWARD INDUSTRY. DEFICIT SPENDING BECAME SO HUGE THAT INFLATION RATES AND INTEREST RATES ROSE TO FRIGHTENING HEIGHTS. INDUSTRY WAS STIFLED BY LOWER AND LOWER POTENTIALS TO MAKE PROFITS AND BY THE RESTRICTIVE BLOCKS PUT ON THE ROAD TO PROGRESS.

NUCLEAR PLANTS WERE CONSTRUCTED, THEN CLOSED BEFORE THEY WERE COMPLETED AS EXTREMISTS PICKETED AND PROTESTED AND GOVERNMENTS WAVERED ON POLICIES. OUR PEOPLE WHO HAD PROSPERED WITH THE FREE ENTERPRISE SYSTEM BEGAN TO LOSE THEIR GREAT PRIDE AND INDEPENDENCE AND TO DEPEND UPON THE GOVERNMENT TO "TAKE CARE OF THEM." THE WILL TO BE THE BEST SLOWLY DISAPPEARED AND THE GRANDIOSE IDEA THAT THE MANY WHO WORKED WOULD HELP SUPPORT THE FEW WHO COULDN'T CHANGED TO THE FEW WHO WOULD WORK TAKING CARE OF THE MANY WHO WOULDN'T. THE ATTITUDE TOWARD COAL WAS IT WAS TOO DANGEROUS TO MINE AND TOO DIRTY TO BURN. EVENTUALLY, PRIVATE INDUSTRY GAVE UP AND THE ONLY REMAINING OPTION WAS TO PUMP MORE AND MORE OIL AND GAS FROM UNDER THE GROUND UNTIL THERE WAS NONE LEFT.

TOWARD THE END, WARS RAGED OVER THE SHRINKING ENERGY SUPPLIES, POPULATIONS WERE REDUCED, AND COUNTRIES DECIMATED. THE TECHNOLOGY AND KNOW-HOW ON ALTERNATE ENERGY SOURCES WAS FORGOTTEN.

MY AUDIENCE NODDED IN DISMAY AND ONE PERSON SHOUTED "WHY DIDN'T SOMEBODY DO SOMETHING?" SUDDENLY, A GHOSTLY FIGURE APPEARED BY MY SIDE. HE WAS THE "GHOST OF YEAR'S PAST" AND ONLY I COULD SEE HIM. "COOVER," HE SAID, "WHY DIDN'T YOU PEOPLE DO SOMETHING? YOU PEOPLE OF THAT GENERATION LIVED ONLY FOR YOURSELVES WITHOUT ANY THOUGHT OF FUTURE GENERATIONS."

YOU KNEW PETROLEUM WAS RUNNING OUT. YOU KNEW THAT THE WORLD WAS SITTING ON TOP OF HUGE SUPPLIES OF COAL. YOU KNEW THAT GEOTHERMAL, SOLAR, AND NUCLEAR ENERGY WERE TECHNICALLY FEASIBLE, BUT YOU SAT IDLY BY AND LET THIS DISASTROUS SITUATION DEVELOP. WHY? TELL ME WHY." PERSPIRATION RAN DOWN MY FACE. I HAD NO ANSWER. I STUMBLED OUT OF THE ROOM AND MOUNTED MY HORSE FOR THE THREE-WEEK TRIP BACK TO TENNESSEE.

THEN I AWOKE IN A COLD SWEAT. IT WAS 1982 AGAIN. I THOUGHT TO MYSELF. "MY GOD!! COULD SOMETHING LIKE THAT REALLY HAPPEN? IS IT POSSIBLE?" YES, POSSIBLE, BUT UNLIKELY. POSSIBLE UNLESS WE TAKE ACTION NOW. ACTIONS THAT WILL DETERMINE THE FUTURE FOR US, OUR CHILDREN, AND OUR CHILDREN'S CHILDREN.

SHOCKED BACK TO COLD REALITY, I THOUGHT ABOUT THE HISTORY OF ENERGY AND THE WAY WE REACHED TODAY'S SITUATION. ACTUALLY, IT WASN'T UNTIL THE 19TH CENTURY THAT EVEN SCIENTISTS RECOGNIZED ENERGY AS THE CAPACITY FOR DOING WORK. UP TO THAT TIME, HEAT, MOTION, AND STATIC OR ELECTRICAL SPARKS, WERE THOUGHT TO BE INDEPENDENT AND UNRELATED. LONG AGO, MAN USED HIS MUSCULAR STRENGTH TO CONDUCT HIS DAILY LIFE AIDED ONLY BY THE BURNING OF WOOD FOR LIGHT AND HEAT. GRADUALLY, HE LEARNED TO EMPLOY ANIMALS TO HELP DO HIS WORK. HE SOON FOUND THAT HE COULD HARNESS OTHER ENERGY SOURCES, SUCH AS WIND TO PROPEL SHIPS, WATER TO TURN WHEELS, AND, MUCH LATER, COAL TO DRIVE STEAM ENGINES.

BY THE 1970's. HE WAS TRAVELING TO THE MOON ON THE FIRST SPACESHIPS AND USING COMPUTERS TO ACHIEVE TASKS NEVER BEFORE THOUGHT POSSIBLE. AS MAN'S NUMBERS INCREASED AND HIS LIFESTYLE IMPROVED, SO DID HIS CONSUMPTION OF ENERGY. INITIALLY, HE CUT DOWN TREES FASTER THAN THE SUN'S ABILITY TO REPLACE THEM AND FOR THE FIRST TIME, ENERGY APPEARED TO BE IN SHORT SUPPLY. BUT THEN, WE DISCOVERED SEEMINGLY VAST RESOURCES OF THE SUN'S ENERGY WHICH HAD BEEN STORED MILLIONS OF YEARS BEFORE. THESE WERE THE DECAYED REMAINS OF PLANT AND ANIMAL LIFE IN THE FORM OF COAL, PETROLEUM, AND NATURAL GAS. IT WAS MUCH LATER BEFORE MAN REALIZED HOW RAPIDLY HE HAD USED UP A LARGE PART OF THESE NEW RESOURCES.

ALSO IN THE 1970's, SIGNS OF REAL TROUBLE BEGAN TO APPEAR. THERE WERE DISRUPTIONS IN THE FLOW OF OIL FROM THE MIDDLE EAST WHICH SUPPLIED HALF OF THE OIL AND CONTAINED 75% OF THE REMAINING RESERVES. THIS RESULTED IN LONG LINES OF CARS WAITING TO FILL UP WITH GASOLINE. JOBS WERE LOST AS CHEMICAL PRODUCTION WAS CUT BACK DUE TO LACK OF FEEDSTOCKS. THOSE WHO CONTROLLED THE MAJOR OIL FIELDS RAISED PRICES AND RAISED PRICES. EACH \$10 JUMP IN THE PRICE OF A BARREL OF OIL ADDED 1% TO THE RATE OF INFLATION AND DECREASED THE GROSS NATIONAL PRODUCT BY 3/4%. RESULT: YOU AND I, LIKE ALL CONSUMERS, SPENT MORE AND MORE OF OUR INCOME ON ENERGY AND LESS ON OTHER THINGS AND OUR OVERALL STANDARD OF LIVING BEGAN TO DECLINE.

IN 1980, THE WORLD CONSUMED 62 MILLION BARRELS OF OIL EACH DAY, ALMOST 1 TRILLION GALLONS PER YEAR. TODAY, MOST OF THE 4.5 BILLION PEOPLE WHO LIVE ON EARTH DEPEND ON PETROLEUM AND NATURAL GAS FOR ALMOST EVERY FACET OF THEIR EVERYDAY LIVES. THE UNITED STATES CONTAINS ONLY 5% OF THE WORLD'S POPULATION, BUT WE CONSUME 30% OF THE OIL SUPPLY, 3.5 GALLONS PER PERSON PER DAY. WE SEEM TO BE DIVIDED INTO TWO CAMPS. ONE GROUP SAYS, "BAH, HUMBUG, THERE'S NO SHORTAGE; OIL WILL LAST OUR LIFETIME AND NOTHING HAS TO BE DONE. THE OTHER, SMALLER GROUP DISAGREES AND BELIEVES ALTERNATE ENERGY SOURCES HAVE TO BE DEVELOPED.

INDEED, THE 1980'S ARE TRYING TIMES FOR BOTH ENERGY SUPPLIERS AND CHEMICAL PRODUCERS. THEY SHARE A COMMON DEPENDENCE ON OIL AND NATURAL GAS FOR ENERGY AND FEEDSTOCKS. STRANGE AS IT MAY SEEM, AS THE SUPPLY OF OIL AND GAS IS BEING RAPIDLY DEPLETED, THE UNITED STATES HAS AT LEAST 438 BILLION TONS OF COAL, A 400-YEAR SUPPLY WHICH IS CALLED UPON FOR ONLY 20% OF OUR ENERGY NEEDS.

THE CHEMICAL INDUSTRY CURRENTLY USES 7% OF THE OIL AND GAS SUPPLY, BUT ESSENTIALLY NO CHEMICALS ARE BEING MADE FROM COAL. WE'VE KNOWN HOW TO PRODUCE CHEMICALS FROM COAL FOR ALMOST 300 YEARS. LIQUID PRODUCTS WERE FIRST OBTAINED FROM COAL IN ENGLAND DURING THE 1700'S.

COAL WAS HEATED IN THE ABSENCE OF AIR AND THE COAL TAR PRODUCT WAS USED BY THE SHIPBUILDING INDUSTRY AND BY 1880. THE GERMANS WERE REFINING THE TARRY BY-PRODUCTS FROM COAL GAS PLANTS AND COKING OPERATIONS TO SUPPLY THE WORLD'S DEMAND FOR PHARMACEUTICAL AND PHOTOGRAPHIC CHEMICALS. THE UNITED STATES COAL CHEMICALS INDUSTRY DID NOT DEVELOP UNTIL THE GERMANS CUT OFF THE SUPPLY OF AROMATICS, PARTICULARLY TOLUENE NEEDED FOR TNT, DURING THE FIRST WORLD WAR. IN THE EARLY 1900'S, COAL GAS WAS USED TO PRODUCE SYNTHETIC METHANOL AND AMMONIA IN THE UNITED STATES BUT THIS PRACTICE ENDED IN THE EARLY 1950'S AS LOW-PRICED NATURAL GAS BECAME AVAILABLE THROUGH PIPELINES FROM THE SOUTHWEST.

THE PETROCHEMICAL INDUSTRY HAD ITS BEGINNINGS IN THE UNITED STATES IN THE 1920'S WITH THE PRODUCTION OF CHEMICAL INTERMEDIATES FROM REFINERY BY-PRODUCT STREAMS. THE MIDDLE EAST OIL FIELDS WERE DEVELOPED IN THE 1950'S TO PROVIDE LOW-PRICED CRUDE OIL TO ALL PARTS OF THE WORLD. NEW INDUSTRIES GREW UP OVERNIGHT FOR THE PRODUCTION OF SYNTHETIC RUBBER, MAN-MADE FIBERS SUCH AS NYLON AND POLYESTER, AND DURABLE PLASTICS MADE FROM POLYETHYLENE AND POLYPROPYLENE. THROUGHOUT THE 1960'S, THE CHEMICAL INDUSTRY EXPANDED RAPIDLY TO MEET THE EVER INCREASING CONSUMER DEMAND. THIS WAS DUE, IN PART, TO THE REPLACEMENT OF NATURAL PRODUCTS BY LOWER COST SYNTHETICS WITH BETTER MATERIAL PROPERTIES.

IN 1981, THE UNITED STATES CHEMICAL INDUSTRY CONTRIBUTED AN 11 BILLION DOLLAR SURPLUS TO THE INTERNATIONAL TRADE BALANCE, SECOND ONLY TO AGRICULTURE. TODAY, CHEMICAL PRODUCTS ARE ALL AROUND US IN OUR DAILY LIVES. AS YOU LOOK AROUND THIS ROOM TONIGHT, YOU SEE LADIES WEARING DRESSES OF POLYESTER, NYLON, AND ACETATE FIBERS; TABLEWARE POLISHED WITH CHEMICAL CLEANERS; AND RICHLY COLORED WALLPAPER. CERTAINLY, TONIGHT'S VEGETABLES WERE BEAUTIFULLY GROWN WITH THE AID OF FERTILIZERS AND INSECTICIDES. THE DINNER ROLLS CONTAINED CERTAIN TEXTURING AGENTS. THE WATER WAS MADE SAFE TO DRINK BY CHEMICAL TREATMENT WITH CHLORINE. AFTER WE LEAVE TONIGHT, THE DISHES WILL BE WASHED WITH DETERGENTS AND THE FLOORS WILL BE WAXED AND PROTECTED WITH SYNTHETIC POLYMERS.

IF THE CHEMICAL INDUSTRY IS TO CONTINUE TO SUPPLY ITS PRODUCTS AT AFFORDABLE PRICES, WE MUST IMPROVE THE BUSINESS CLIMATE WHICH HAS PREVAILED SINCE THE 1970'S DURING WHICH TIME THE UNFORESEEN PRICE INCREASES FOR CRUDE OIL DEMANDED BY OPEC SENT SHOCK WAVES THROUGH THE WORLD'S ECONOMIC SYSTEM. THIS UNDUE RELIANCE ON OPEC REDUCED OUR COUNTRY'S WILLINGNESS TO ACT ON ITS OWN BEHALF. AT VARIOUS TIMES, THE GOVERNMENT ISSUED REGULATIONS WHICH ATTEMPTED TO CONTROL ALMOST ALL ASPECTS OF AMERICAN BUSINESS. ON OCCASIONS, INDUSTRY WAS TOLD WHICH FUELS TO BURN, WHAT PRICES TO CHARGE FOR ITS OUTPUT, AND WHEN TO INTRODUCE NEW PRODUCTS.

REGULATIONS CONTINUALLY CHANGED AND THE YEAR-TO-YEAR UNCERTAINTY OVER WHAT NEW REQUIREMENTS WOULD BE IMPOSED ADDED TO THE CONFUSION.

IN 1982, THAT "GHOST OF YEARS PAST" IS NOW THE "GHOST OF YEARS YET TO COME." TODAY, HE IS STANDING BY OUR SIDE WHISPERING, "DO SOMETHING BEFORE IT'S TOO LATE."

EASTMAN CHEMICALS HAS STARTED DOING SOMETHING. EASTMAN CHEMICALS IS AN OPERATING DIVISION OF EASTMAN KODAK AND RANKS AMONG THE 20 LARGEST DOMESTIC CHEMICAL COMPANIES WITH SALES REVENUE OVER 2 BILLION DOLLARS WHILE SUPPLYING OVER 300 INDUSTRIAL CHEMICALS, FIBERS, AND PLASTICS. EASTMAN IS BUILDING A COAL GASIFICATION COMPLEX IN KINGSPORT, TENNESSEE AND WE BELIEVE THIS PLANT WILL BE THE FIRST IN THE UNITED STATES TO PRODUCE A MODERN GENERATION OF INDUSTRIAL CHEMICALS FROM COAL. THE PRIMARY CHEMICAL PRODUCT, ACETIC ANHYDRIDE, WILL BE USED IN THE MANUFACTURE OF MOTION PICTURE FILM, AUTOMOBILE STEERING WHEELS, CIGARETTE FILTERS, DRAPERIES, ASPIRIN, AND MANY OTHER PRODUCTS. EASTMAN ORIGINALLY MANUFACTURED ACETIC ANHYDRIDE FROM TREES USING A WOOD DISTILLATION PROCESS. LATER WE SWITCHED TO PETROLEUM-DERIVED FEEDSTOCKS. TODAY, WE ARE CONVERTING TO A MORE PLENTIFUL RESOURCE, COAL.

MORE THAN 50% COMPLETE. THE COAL GASIFICATION COMPLEX INCLUDES A TEXACO GASIFICATION PLANT FOR SYNGAS MANUFACTURE, GAS CLEAN-UP FACILITIES, AND CHEMICAL PLANTS TO CONVERT THE SYNGAS INTO ACETIC ANHYDRIDE. THE COAL IS MIXED WITH WATER, GROUND, AND GASIFIED IN THIS AREA OF THE COMPLEX. COAL GASIFICATION IS MORE ENVIRONMENTALLY ACCEPTABLE THAN THE DIRECT BURNING OF COAL SINCE THE SULFUR IS CONVERTED INTO A MORE EASILY REMOVABLE FORM. IN FACT, ENVIRONMENTAL EMISSIONS WILL BE HELD TO A MINIMUM BY PLANTS WHICH CAPTURE OVER 99.7% OF THE SULFUR ORIGINALLY CONTAINED IN THE COAL. THE CHEMICAL PLANTS WILL BE OPERATED FROM THIS CENTRAL CONTROL ROOM, THE RED BRICK BUILDING IN THE FOREGROUND.

AT ITS PEAK, OVER 2,500 WORKERS HAVE BEEN EMPLOYED ON THE CONSTRUCTION OF THE EIGHT PLANTS IN THIS MAMMOTH COMPLEX. THIS ORANGE CRANE, TOWERING OVER THE GASIFICATION PROJECT, WAS SHIPPED TO KINGSPOUT FROM PITTSBURGH IN 44 TRUCKS AND ON 4 RAILCARS. AFTER TAKING SEVERAL WEEKS TO REASSEMBLE, THE BIG CRANE HAS THE ABILITY TO LIFT OVER 1 MILLION POUNDS AND THE SKYLINE CHANGES FROM DAY TO DAY AT THE CONSTRUCTION SITE AS THE HUGE CRANE LIFTS THE HEAVY MANUFACTURING EQUIPMENT INTO ITS FINAL PLACE.

EASTMAN'S PROJECT IS A SMALL, BUT IMPORTANT, STEP IN REDUCING THE NATION'S DEPENDENCE ON CRUDE OIL BY ONE MILLION BARRELS PER YEAR. THE VENTURE IS FINANCED ENTIRELY WITH COMPANY EARNINGS.

NO FEDERAL ASSISTANCE HAS BEEN OR WILL BE SOUGHT. WHEN COMPLETED IN 1983, EASTMAN'S USE OF COAL AS A RAW MATERIAL WILL STRENGTHEN OUR ABILITY TO SUPPLY CHEMICAL PRODUCTS TO OUR CUSTOMERS AT REASONABLE PRICES AND WITHOUT DISRUPTION. EASTMAN IS DOING SOMETHING.

THE CHEMICALS INDUSTRY AND THE ENERGY INDUSTRY ARE FACING THREE COMMON PROBLEMS. FIRST, THE WORLD IS DEPLETING THE KNOWN RESERVES OF CRUDE OIL AND NATURAL GAS. NOT ENOUGH ALTERNATE SOURCES ARE CURRENTLY BEING BROUGHT ON-STREAM AT A PACE WHICH WILL SIGNIFICANTLY SLOW THIS DECLINE. SECOND, NONE OF THE ALTERNATE ENERGY AND FEEDSTOCK SOURCES CAN BE DEVELOPED CHEAPLY. THEREFORE, WE HAVE TO BE CAREFUL TO MATCH NEW ENERGY RESOURCES WITH THE PROPER END USE. THAT IS THE ONLY WAY WE CAN REMAIN COMPETITIVE WITH ENERGY AND CHEMICALS PRODUCED BY THE OIL-RICH COUNTRIES. FINALLY, ALL ENERGY SUPPLY OPTIONS HAVE TO CONSIDER THEIR ENVIRONMENTAL IMPACT AND INCLUDE THE APPROPRIATE SAFEGUARDS.

SOME CRITICS OF THE UNITED STATES SAY THAT WE HAVE NO ENERGY POLICY. ACTUALLY, WE HAVE AN ENERGY POLICY THAT IS DEPENDENT ON THE FREE ENTERPRISE SYSTEM TO PROVIDE THE NEW ENERGY SOURCES.

INDEED, AS CONVENTIONAL SUPPLIES ARE DEPLETED, MARKET PRICES WILL RISE AND EVENTUALLY SHOULD STIMULATE DEVELOPMENT OF A SYNTHETIC FUELS INDUSTRY. HOWEVER, THIS IS NOT HAPPENING IN TODAY'S POOR BUSINESS ENVIRONMENT BECAUSE OF THE UNCERTAIN SITUATION OVER FUTURE ENERGY COSTS AND THE EVER-INCREASING INVESTMENT REQUIRED FOR SYNTHETIC FUEL PROJECTS:

IN THE FREE WORLD, WE HAVE EVERYTHING NECESSARY TO MEET OUR FUTURE ENERGY REQUIREMENTS. WE HAVE THE NATURAL RESOURCES, BOTH CONVENTIONAL AND UNCONVENTIONAL. WE HAVE THE SCIENTIFIC EXPERTISE TO DEVELOP THE TECHNOLOGIES REQUIRED. EVENTUALLY, THIS WILL INCLUDE THE MEANS TO EMPLOY RENEWABLE RESOURCES. WE HAVE THE CAPITAL TO FUND THE CRITICAL PROJECTS, NO MATTER HOW LARGE. ALSO, WE HAVE AN EFFICIENT MARKETING AND DISTRIBUTION SYSTEM TO PLACE THE END PRODUCTS IN THE HANDS OF CONSUMERS. WHETHER WE DEVELOP OUR ENERGY RESOURCES IN A TIMELY MANNER DEPENDS ON THE INTERACTION AND COOPERATION AMONG INDUSTRY, GOVERNMENT, AND SOCIETY.

HOW CAN WE CHOOSE THE PROPER COURSE TO ASSURE ADEQUATE ENERGY SUPPLIES? AN IMMEDIATE ANSWER IS TO REDUCE THE GROWTH IN ENERGY DEMAND THROUGH CONSERVATION. OVER THE PAST 10 YEARS, THE INDUSTRIAL SECTOR HAS RESPONDED TO HIGHER ENERGY PRICES BY DECREASING ITS OWN ENERGY CONSUMPTION BY 14%.

THE LARGEST INDUSTRIAL ENERGY CUSTOMER IS THE CHEMICAL INDUSTRY WHICH HAS CUT ITS CONSUMPTION EVEN MORE, BY 24%. IN THE MEANTIME, THE TOTAL USE OF COAL IN THIS COUNTRY HAS BEEN INCREASED BY OVER 25%. CONSERVATION ALONE WILL NOT BE ENOUGH TO SUSTAIN OUR ECONOMIC GROWTH. AT BEST, THE RESULT IS A POSTPONEMENT OF DOOM.

THE ONLY REALLY EFFECTIVE ANSWER TO OUR ENERGY AND FEEDSTOCK PROBLEMS IS THE SUBSTITUTION OF SCARCE RESOURCES WITH MORE PLENTIFUL ALTERNATIVES, SUCH AS COAL. IF THIS IS TO BE ACHIEVED, A BUSINESS CLIMATE MORE FAVORABLE TO RISK-TAKING MUST BE ESTABLISHED. IN FACT, WE NEED TO EMBRACE THE FREE ENTERPRISE CONCEPTS WHICH MADE THIS COUNTRY GREAT. THE FEDERAL GOVERNMENT WILL HAVE TO PROVIDE CERTAIN INCENTIVES SUCH AS LOAN GUARANTEES, ACCESS TO FEDERAL LANDS, AND GOVERNMENT PURCHASE COMMITMENTS. THE GOVERNMENT MUST RESIST TEMPTATIONS TO PASS STIFLING ENERGY TAXES TO REDUCE FEDERAL DEFICITS OR TO DELAY CONSTRUCTION PERMITS ON PROJECTS OF NATIONAL IMPORTANCE TO PROTECT LOCAL INTERESTS. IF UNDIVERTED BY THESE SIDE ISSUES, THE PRIVATE SECTOR WILL BE FREE TO CONCENTRATE ITS EFFORTS ON DEVELOPING THE PIONEERING TECHNOLOGY. GOVERNMENT AND INDUSTRY MUST WORK TOGETHER SO THAT NO PRIVATE COMPANY WILL HAVE TO TAKE UNREASONABLE RISKS.

INDUSTRY WILL BE ABLE TO ARRANGE THE PROJECT FINANCING ONLY IF THE BANKING INSTITUTIONS CAN BE ASSURED THAT THE BEST PROJECTS WILL EVENTUALLY EARN A SATISFACTORY RETURN AND IT SHOULD BE POINTED OUT THAT MANY OF THESE LARGE PROJECTS REQUIRE THE DEVELOPMENT OF ENTIRELY NEW PLANT SITES IN REMOTE LOCATIONS. THIS INCREASES THE FINANCIAL BURDEN AS THE COST OF PROVIDING NEW BACKUP FACILITIES IS INCLUDED, SUCH AS ROADS, RAIL LINES, POWER PLANTS, AND EVEN ENTIRE COMMUNITY DEVELOPMENT FOR WORKERS. THE ULTIMATE COST OF SYNTHETIC FUELS FROM THESE PIONEER PLANTS WILL SURELY DROP AS PLANT OUTPUT IS EXPANDED WITHOUT THE NEED TO PROVIDE ADDITIONAL BACKUP FACILITIES. ONLY THEN IS A SYNTHETIC FUELS PROJECT LIKELY TO BE ABLE TO COMPETE IN THE NEAR TERM WITH FREE MARKET PRICES OF STILL READILY AVAILABLE, CONVENTIONAL, ENERGY SOURCES. THE BIG ENERGY PROJECTS WITH 10-YEAR LEAD TIMES MUST BE STARTED NOW IN ORDER TO FUEL AN EXPANDING ECONOMY IN THE COMING YEARS.

THE UNITED STATES IS THE LARGEST PRODUCER, CONSUMER, AND OWNER OF ENERGY RESOURCES IN THE NON-COMMUNIST WORLD. OUR SUCCESS IN MOVING TO MORE PLENTIFUL SUPPLIES WILL HAVE A SUBSTANTIAL IMPACT ON WORLD ENERGY MARKETS. I RECOMMEND THREE ENERGY GOALS. GOALS WHICH CAN BE MET ONLY IF THE UNITED STATES DEMONSTRATES TO THE REST OF THE WORLD THAT WE HAVE THE ABILITY TO BUILD SYNTHETIC FUEL PLANTS ON A COMMERCIAL SCALE. FIRST, DEVELOP ALTERNATE ENERGY SOURCES AT A RATE WHICH WILL SUPPORT LONG-TERM GROWTH IN OUR ECONOMY.

SECOND. REDUCE OUR DEPENDENCE ON FOREIGN OIL TO 20% BY THE YEAR 2000 AND EVENTUALLY ELIMINATE ALL IMPORTS. FINALLY, ACHIEVE THESE FIRST TWO GOALS WITHOUT ENDANGERING OUR PRECIOUS ENVIRONMENT. YES, I'M OPTIMISTIC ABOUT THE FUTURE AND I BELIEVE OUR EFFORTS WILL BE MATCHED BY OTHER ENERGY-IMPORTING COUNTRIES OF THE FREE WORLD. IF WE WORK TOGETHER TO REACH THESE COMMON GOALS, WE CAN REDUCE THE DESIRE TO CONTROL ENERGY SUPPLIES AS A THREAT TO WORLD PEACE AND THE RISE IN WORLDWIDE ENERGY COSTS WILL BE SLOWED AS A VIABLE SYNTHETIC FUELS INDUSTRY PLACES EFFECTIVE PRICE CEILING ON CONVENTIONAL SUPPLIES.

OUR FUTURE IS A MATTER OF CHOICE. WHAT IS YOUR CHOICE IF THE "GHOST OF YEARS YET TO COME" APPEARS AT YOUR SIDE ASKING, "WHAT ARE YOU GOING TO DO?" MAY I SUGGEST, FIRST, ADD TO CONSERVATION SAVINGS BY THE MILLIONS OF DECISIONS AND ACTIONS YOU TAKE AS CONSUMERS, HOME-OWNERS, HOUSEWIVES, AND EMPLOYEES. THINK CONSERVATION IN YOUR DRIVING HABITS, LOWER THERMOSTAT SETTINGS, AND USE ELECTRICAL APPLIANCES PRUDENTLY. SECOND, ACTIVELY PROMOTE THE DEVELOPMENT OF ALTERNATE ENERGY FORMS. YOU ARE ATTENDING THIS CONFERENCE BECAUSE OF YOUR INTEREST IN COAL AND THE BELIEF THAT ITS UTILIZATION SHOULD BE INCREASED. EXPAND YOUR KNOWLEDGE AND INTEREST TO INCLUDE SHALE OIL, THE SAFE USE OF NUCLEAR POWER, AND, EVENTUALLY, SOLAR ENERGY. USE YOUR TECHNICAL SKILLS TO EDUCATE CONSUMER GROUPS ON THE IMPORTANCE OF ENERGY TO THEIR OWN WELL-BEING. THIRD, TAKE THE TIME TO FULLY UNDERSTAND ENERGY ISSUES AND EXERCISE YOUR RIGHT TO VOTE ACCORDINGLY.

YOUR VOTE IS IMPORTANT. ENERGY POLICY SHOULD BE DETERMINED BY THE NEEDS OF SOCIETY IN RESPONSE TO LOGICAL REASON, NOT POLITICS. AFTER ALL, ANY GOVERNMENT, WHETHER LOCAL, STATE, OR FEDERAL, IS ONLY THE AGENT OF THE PEOPLE WHICH IT SERVES. IN ORDER TO BE MORE RESPONSIVE TO THE TRUE NEEDS OF SOCIETY, OUR LAWMAKERS SHOULD RECEIVE THEIR SIGNALS DIRECTLY FROM THE CITIZENS. LET YOUR CONGRESSMEN AND SENATORS HEAR FROM YOU. GENERALLY, ELECTED OFFICIALS ARE NOT TECHNICALLY TRAINED AND THEY NEED YOUR ADVICE ON ENERGY MATTERS. INSIST ON RESPONSIBLE GOVERNMENT SPENDING. A BALANCED FEDERAL BUDGET WOULD GO A LONG WAY TOWARD SOLVING MANY OF OUR PROBLEMS.

IN SUMMARY, THE FUTURE BELONGS TO THOSE WHO PLAN FOR IT. INDUSTRY, GOVERNMENT, AND SOCIETY MUST WORK TOGETHER TO STRETCH OUR CONVENTIONAL ENERGY SUPPLIES AND TO DEVELOP ALTERNATIVE LONG-TERM SOURCES. ALLOW THE FREE ENTERPRISE SYSTEM THE OPPORTUNITY TO SATISFY OUR NEEDS. CONTRIBUTE BY CONSERVING AS MUCH ENERGY AS YOU CAN, PROMOTE THE DEVELOPMENT OF ALTERNATE ENERGY SOURCES, SUCH AS COAL, AND VOTE ON ALL IMPORTANT ENERGY ISSUES. ENERGY IS YOUR BUSINESS AND MINE - IT'S EVERYBODY'S BUSINESS. LET'S GO HOME TONIGHT WITH A COMMITMENT TO DO EVERYTHING WE CAN TO MAKE SURE THAT MY NIGHTMARE HAS NO CHANCE OF EVER COMING TRUE. WE SHOULD LIVE IN THIS WORLD AS IF WE INTEND TO STAY AND IN THE WORDS OF TINY TIM - "GOD BLESS US, EVERYONE!"

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