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Message from EURATOM delivered by Alfred Iddles, President of the Atomic Industrial Forum, at the 1957 Nuclear Congress Banquet

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This address at the 1957 Nuclear Congress Banquet describes the success of the latest efforts in Europe to reach a comprehensive agreement on atomic energy with the United States.

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A message from EURATOM
Prepared in Europe
Delivered by Alfred Iddles, President
Atomic Industrial Forum
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Gentlemen: We have received this morning, telegraphed from Luxembourg, the following statement from Mr. Franz Etzel, Vice President of the European Community for Coal and Steel and a member of the Euratom Committee which visited the United States last month:

I am most grateful for this opportunity to speak to you today through Mr. Iddles, whom I met during our visit to the U. S. A. last month and tell you something about the latest efforts in Europe in connection with atomic energy. As you know, my French and Italian colleagues, M. Armand and Professor Giordani, and myself recently were able, at the invitation of the American Government, to see at first-hand the stage reached in atomic development in the United States and to hear the views of your Administration and of some of your leading economists, scientists, engineers and businessmen. The visit made a deep and lasting impression upon us. Now, more than ever, we stand in admiration of your achievements in the atomic field. The first-hand experience we shared left us with the conviction that the old continent of Europe must seize upon the opportunity to use nuclear power for peaceful, economic purposes. This conviction of ours has been shared by your Administration and nuclear specialists who have generously offered to help us toward this goal. I should like to take this opportunity to say how grateful we are to them.

First, I would like to say a few words about the work we are doing in Europe in regard to atomic development. Five years ago, six European countries -- Belgium, France, Western Germany, Italy, Luxembourg, and the Netherlands -- joined together under the Schuman Plan to take a first step in the direction of a United States of Europe. They surrendered sovereignty over their coal and steel economies

to a common executive, the High Authority, to a European Parliamentary Assembly, and to a Court of Justice. In July, 1955, the same six Governments met at Messina, Sicily, to extend their common action to other sectors of Europe's economy. On the basis of the conference at Messina, work was started, under the leadership of the Belgian Minister for Foreign Affairs, M. Paul-Henri Spaak, to frame two treaties. This month, leas than two years later, the Chiefs of State of the six nations will meet in Rome on the 25th to sign a treaty for the creation of a European economic community -- called the Common Market -- and a second for the establishment of a European atomic energy community, known as Euratom.

It will interest you, I think, to hear something about this second treaty. Following the American example, it provides for setting up an atomic energy commission, to be directly responsible to a European assembly, whose members will be elected from and by the Parliaments of six countries. Although the situation in Europe today is quite different, the European atomic energy commission will have a number of tasks similar to those of your ABC. It will be expected to co-ordinate and promote atomic research and development in the six countries. To enable it to do so, it will spend two hundred million dollars for this purpose in the first five years. This amount, though probably not sufficient to cover all requirements, will represent a good beginning for Europe. The commission will also concern itself with health and safety. In addition, it will provide counsel and guidance concerning investments and may propose the common financial underwriting projects considered too large or costly for the resources of one country. The Commission, further, will be charged with ensuring the existence of a free common market in Europe for all products in the atomic field, so that it will operate as efficiently as the United States' market.

But the main functions of the European atomic energy commission will concern supply, inspection, and international relations.

It has the responsibility for supplying the six countries with nuclear fuel of all kinds, ores, and special fissile (fissionable) materials. It will be the sole agency with the power to acquire the nuclear fuels produced on the soil of the member countries and to conclude agreements of supply with "third countries."

The commission will, in addition, carry out the most stringent inspection, during all stages of the processing and use of nuclear materials. Its job will be to ensure that materials are not used, either in whole or in part, for purposes other than those for which they were originally intended. European inspectors will be authorized to make whatever investigations may be necessary in all establishments in the member countries. The commission's inspection task will be made very much easier by the fact that Euratom will itself actually own all special fissile materials, whether imported from third countries or produced in the Community area. The system is thus exactly the same as that in force in the United States.

Finally, the commission will be responsible for framing international agreements. Not only will it be empowered to negotiate and conclude new treaties, but the treaty creating Euratom also provides that individual member countries, in co-operation with the commission, may negotiate to have the rights and obligations of existing bilateral treaties transferred to the responsibility of the Euratom Commission.

Before the Euratom treaty comes into force -- we expect it to be ratified early this summer -- our Report will have been presented to the six Governments containing recommendations for producing quantities of atomic power in Europe. This is the task we were assigned by the Foreign Ministers of the six nations and which has led us -- Messrs. Armand, Giordani, and myself -- to visit the United States, Canada, and Great Britain, in search of a possible nuclear answer

to Europe's problem -- the shortage of energy.

When our Committee began its work, it had first tried to assess the past, present, and future energy supply situation of the six nations. During the nineteenth century, Europe not only produced all the energy it needed, but at the same time, had an important export surplus, which it sent all over the world. This situation began slowly to change during the years after the first World War. But because the change came slowly, no one realized what was happening. It was only after the second World War that experts became aware of the serious implications of this change for the future of the European economy. It can even be said that only the difficulties over the Suez Canal and the European oil supply alerted public opinion on the importance of this question. Let me give you a few figures to illustrate what I have just said: In 1870, the total world energy production was 185 million tons of coal. From these 185 million tons, England produced 112 million tons, or two-thirds. Forty-four million tons were produced by our six countries. Only 30 million tons, or 15 per cent, were produced by the USA. In this one figure lies the whole story of Europe's and England's position in the 19th century world.

On the eve of the second World War, the six nations with which we are here particularly concerned imported only a very small percentage of their total energy requirements -- 5%. When recovery in Europe started, thanks to the Marshall Plan, import requirements began to rise steeply. At first it was generally thought that this development was only a temporary one, but in the early 1950s, it became clear that the increase in power production in Europe was lagging far behind the increase in industrial and agricultural production and that dual demand was therefore rapidly outrunning the European fuel supply. Today, the six countries together, which once supplied large parts of the world with energy, are importing 25% of their total energy requirement, that is the equivalent of 100 million tons of coal.

My colleagues and I have sometimes been called the "Three Wise Men". This title should make us very careful not to prophesy too much about future developments. Our mandate, nevertheless, makes it necessary to try to estimate how the European energy situation is going to develop. As you know, there exists a relationship between the increase in national product and the increase in energy consumption. Economists of the European Coal and Steel Community have made thorough-going studies of this relationship.

As a point of departure, we have taken an increase in national product over the next twenty years, of 3.5-4.0 per cent per annum -- considerably less than the increase has actually been since the end of World War II. It seems to me that, for very obvious reasons, Europe will go on increasing its national product, at least on this modest level. Statistics on Soviet Russia's economy are extremely difficult to interpret. This is a field where "wise men" should fear to tread. Nevertheless, I think one remains on safe ground in supposing that the increase in national product in the Soviet Union and in the Communist-dominated countries of eastern Europe is not much less than the figure which we used.

Allowing for a maximum increase in supplies of coal, oil, gas, and hydro-electricity, European energy <u>imports</u> will rise, assuming the increase in national product of 3.5-4.0 per cent, to an equivalent of 200 million tons of coal, or 35 per cent of total consumption, by 1965, and to the equivalent of 300 million tons of coal, or 45 per cent, by 1975. This development poses serious economic and political problems. Let us look at the economic problems first: power produced in Europe already is considerably more expensive than power produced in the United States.

The difference is mainly due to the geological differences between American and European coal fields. For instance, European coal producers have been forced

to exploit marginal coal veins, which would be regarded in America as hopelessly uneconomic. The difference between American and European power prices is even more striking when we regard that part of Europe's energy requirements which must be imported. The same coal which costs 4-6 dollars a ton at American pitheads, costs 20-22 dollars in our countries after the shipping charges have been added. The cost of power is thus becoming more and more a limiting factor to the growth of Europe's economic strength.

If no new sources of energy are added to the sources now existing in Europe, its fuel import bill, now already at $2 billion a year, will rise to 4 billions in 1965 and 6 billions in 1975. This will put a heavy and possibly unbearable strain on Europe's balance of payments. The six nations will have to pay this sum with increased exports of finished products, because as you well know, Europe has no raw materials to speak of which it could use in order to pay for imported fuel.

No doubt, added imports of the magnitude I have mentioned would have a very adverse influence on our terms of trade. However, provided that the bulk of these imports were American coal and as long as Europe could earn the dollars needed to pay the bill, our supply of power would be assured. But the development of comparable prices for coal and oil and the fact that demand in Europe, as in the United States, is for more and more oil, make it probable that the bulk of energy imports Europe will need will be covered not by American coal, but by Middle East oil.

Now let me say at once that even after the Suez difficulties, I have nothing against Europe importing Middle East oil. On the contrary, the flow of oil from these countries to Europe should be an immense advantage, both to the oil-producing, still underdeveloped, countries of the Middle East and to Europe. But, as has often been stressed by my friend, Jean Monnet, with whom I have been

working toward European unity since we first met in the early days of the European Coal and Steel Community, oil must remain a commodity and not become a weapon. Europe must keep its oil imports from so volatile a region as the Middle East is today, within manageable proportions. The closing of the Suez Canal and of certain pipelines leading toward the Mediterranean has posed great problems to our nation. Thanks to the help of other oil producers, the economic machinery of Europe has not been seriously slowed. But if Europe's dependence on Middle East oil increases, as the figures I have cited indicate, Europe's economy could be brought to a standstill by halting the flow of fuel from this region.

We would hazard peaceful relations between Europe and the Middle East and even place world peace in peril if we let a situation develop which gives over the European economy into the hands of one region of the world. Europe must take necessary measures to avoid the birth of a new kind of colonialism, of Europe as an economic dependent of the Middle East.

These are the political and economic dangers inherent in the European power supply situation. These are the major reasons why we undertook to study Europe's energy problem, and to learn if the production of nuclear power would provide a solution. Our target is not to make Europe self-sufficient in power production, but to stabilize, as soon as possible, Europe's growing fuel imports.

It happens that the rise in total energy imports happens to be about equal to imports of coal and oil needed to keep pace with growing demands for electricity. Therefore, we have, for the time being, concentrated upon the possibility of substituting, for the construction of new oil and coal-fired power stations, nuclear power stations.

Europe's energy needs will, in any case, go on increasing during the next four to five years. Even if our nations decide upon a crash program for the development of nuclear energy, it would take at least four or five years before

atomic power stations could come into operation. Therefore, we have taken as a target the stabilization of Europe's import level by the early 1960s. We, then, have considered how much nuclear electricity should be produced within the Euratom countries during that period. Our energy imports by the end of 1962 will be at a level of 160-170 million tons of coal, equivalent to about 30 per cent of Europe's total energy requirements. Thus, to reach our target, that is to stabilize our imports at the 1962 level, we must commission by the end of 1967, nuclear power stations with an installed capacity of 15 million kilowatts. Not all new installed capacity requirements in this period would be nuclear. In fact, the total capacity to be commissioned at the same time will be 24 million kilowatts.

I have explained to you how we found our target. Our second task was to find out if this goal was attainable. First, we talked with people in our countries who are engaged in the development of nuclear energy for peaceful purposes. We were very much impressed by the work undertaken in our countries, but it soon became clear that efforts undertaken on a national scale could not meet the timetable we had set. An obvious conclusion, therefore, was that the setting up of Euratom to pool the scientific and industrial resources of our six nations would be the first prerequisite to the realization of our program. Europe's political and economic fragmentation and the war and its aftermath have put Europe far behind the United States, Canada, and the United Kingdom in the development of nuclear energy for peaceful purposes. This is despite the fact that Europe's scientists laid the foundation for the development of nuclear energy.

It is Euratom's task to set up and provide the framework into which private industry will bring life and growth. I particularly wish, as I address a group representative of private industry, to stress this point: Euratom is not the agency which is going to order atomic plants. This is purely a job for private industry. But it is our Committee's task to prove that a quick start is needed

and it is Euratom's task to make this quick start possible for private industry. And if we want a quick start, and I think I made it clear why we urgently need one, we need the help of those countries who are ahead of us, particularly the United States. We need the help of the United States in two extremely important fields. In the first place, our countries produce only small quantities of natural uranium and no enriched uranium. Because we will want to base at least an important part of our program on reactors requiring enriched uranium, we can do it only if we can be sure of a supply from the United States during the crucial early years. Indeed, the possibility of starting with imported U-235 makes particular sense in our immediate circumstances. Power is too scarce and costly to make U-235 on a large scale in Europe -- at least until it becomes amply clear that isotopic separation will be a vital and lasting component process of nuclear power production. Of course, we do not know what the final, cheapest, and best solution will be for producing power in our six countries. Therefore, we are also greatly interested in the work being done in the United Kingdom and in Canada in the use of natural uranium.

Here let me say how gratified we were, during our fortnight's visit in the United States, to find such strong encouragement and support for our objectives from all quarters. President Eisenhower greatly impressed us with his knowledge of our problems in building a United States of Europe. We came away realizing that he shares with us a deep conviction of the importance of our present work.

You may have read the Communique which was issued following our visit in Washington by Mr. Dulles, Mr. Lewis Strauss, and our Committee. It testified to the high degree of agreement we found in our talks with your Secretary of State and the Chairman of the Atomic Energy Commission. Mr. Strauss and his colleagues in the AEC joined us in expressing the view that our Euratom goal for nuclear power development is entirely a feasible one. Our later talks in Canada and in

the United Kingdom closely confirmed this general conclusion.

A second conclusion reached in Washington -- that the availability of nuclear fuels will not be a limiting factor to our program -- has been very heartening to us. Just as important has been the readiness shown by the Atomic Energy Commission to offer the services of its own experts to examine with us the technical problems posed by our objective. In fact, this first group of specialists from the AEC will arrive in Europe this weekend. We have every reason to believe that once the European Atomic Energy Community is set up, the Atomic Energy Commission will put at the disposal of the new organization a task force composed of their most able technicians to assist the new Community in undertaking its program.

The scientific and industrial experience and the raw materials which your country is able to provide will make it possible for us to move off to a rapid start and to realize our goal. Europe will gain much through this cooperation with the United States of America. But we are convinced that America, too, will gain by this partnership.

I pointed out to you the great difference in the cost of energy between Europe and the United States. In Europe, electricity produced in new conventional power plants based on imported energy now costs 10 to 12 mills, compared to 6 to 7 mills in most parts of the United States. If you consider too that all new thermal stations in Europe will have to burn imported fuel, the difference in the cost of electricity means that atomic power will be economic in Europe long before it will be so in the United States. The amount of research and development work going on in your country both through the Atomic Energy Commission and through private industry is extremely impressive. But the stage of large-scale industrial application of this immense potential still seems five to ten years off. Europe, however, needs atomic power on a large scale right now. Within

the framework of Euratom, Europe could start very soon in the building of large nuclear power plants with several reactors of optimum unit capacity on each site. The reactors would include most of the types that are available today for commercial application. This program would provide an invaluable opportunity to prove and improve these designs and to define and progressively reduce their costs in actual operating conditions. Therefore, a partnership with the United States would provide Europe with the necessary prerequisites for success and could provide you with invaluable experience through the large-scale industrial application of atomic power.

We should be able to start, with a minimum of delay for redesign or testing, by ordering plants more or less identical with those full-scale units already in course of construction in the United States and the United Kingdom. Perhaps we will have the first million nuclear kilowatts in service by 1961. Long before these first units come into service, we will want to develop further refinements in reactor designs to suit Europe's particular needs as well as to exploit all general improvements to date. Our requirements are, in many respects, unique. For one thing, we will not have a military counterpart program to shoulder the main burden of technical development and to provide U-235 and absorb PU-239. Our big-scale peaceful program will also pose the problem of what reactor types we must develop, to what extent we should concentrate our early efforts upon a natural uranium system with a high burn-up, and upon the enriched throw-away approach, therefore postponing the problem of reprocessing fuels on a large scale.

Alternatively, to what extent should we bank upon the economic feasibility of plutonium recycling, and on a thorium fuel cycle in the type of reactors we will build in the first years. Further, to what extent should we plan our program so that it yields a surplus of fissile material, that is to say U-235 and PU-239, in the later 1960s, to be in a position to provide fuel to start off the homogenous

breeder reactors we expect to be ready for commercial use by that time. We hope to work out many of these difficult problems in very close collaboration with our American friends.

A new relationship between the United States and Europe seems to be within our reach. An association between the United States and Europe for the development of the peaceful uses of atomic energy will help us in many ways: It will help solve our power supply problems and will thereby contribute to a healthy and normal political relationship between the Middle East and Europe. Together with the efforts your Government is making in this area, this step will be of great importance for safeguarding peace in one of the most troubled areas of the world. At the same time, our association would provide you with the immensely practical experience of having your technical accomplishments tested through full-scale commercial application. Lastly, it would go far toward making a great contribution in the field of nuclear power and lend new hope to those countries in the world who, in relation to our nations, are regarded as economically underdeveloped.

Again Europe needs your help, but this time we will build a two-way street. Our relationship will not be that of one country giving and another receiving, but of two great united nations, the United States of America and the United States of Europe, working in association with each other to the mutual benefit of themselves and the world.

NOTES on TALKS

which took place on WEDNESDAY, FEBRUARY 6, 1957

1. At 8:45 A.M. a breakfast with the Joint Congressional Committee on Atomic Energy took place in the presence of Admiral Strauss. Among those present were Pastore, Durham, Anderson, Hickenlooper, Gore and Cole. Mr. Giordani, in thanking for the kind reception, made a short statement on the political and economic aims of Euratom.

2. At noon a meeting with Admiral Strauss took place in which Mr. Jerry Smith and Mr. Hall participated. After an expose by Mr. Armand three points were mainly discussed. First, the general position of the American Government towards Euratom; second, the kind of assistance in technical know-how, etc., America could give to Euratom; and thirdly, the availability of fuel. Mr. Strauss said that it was not up to him to define the position of the U.S. Government towards Euratom but that we undoubtedly know how great the hopes were which the Government had for the success of Euratom. He personally would do all he could to back it. As far as the assistance in know-how was concerned, the only limiting factor would be the fact that certain types of information were still military secrets. The largest part of the meeting was devoted to a discussion of the fuel problem. Mr. Strauss said that the thoughts on fuel availability had developed with extreme rapidity. In 1954, the U.S. Government had announced its decision to put

200 kg. of enriched material to the disposal of the world. Two years later 20 tons had been made available. The Euratom project was a big project but a feasible one. He thought that the U.S. would be able to meet a fuel requirement of 3 million KW a year. The only two aspects which could deprive Euratom of the necessary raw materials could be, first, if America could not acquire the necessary ore as a result of uranium mines becoming exhausted, and secondly, if the world situation would make it necessary to use every ounce of uranium in weapons. Mr. Strauss said that he could not see either of these things happen and pointed out that the American companies which were building reactors were having exactly the same problems. It would be difficult to give a fixed obligation on price but Euratom would be assured as American industry itself of the intend of the U.S. Government and of its good faith. The Atomic Energy Commission could never act in a whimsical and foolish way and would be extremely careful not to support a program if it felt not capable of doing so. Mr. Strauss said further that one day he expects that in the long run a free world market for uranium would develop but that this was not yet in sight.

3. At the luncheon given by the Italian charge d'affaires Senator Anderson spoke at length about the American willingness to support the development of peaceful atomic energy in the interest of Europe, of the U.S. itself and of the world.

4. At the meeting with the President, Mr. Etzel stressed Europe's need to build up a new source of fuel. He mentioned that Euratom was a step towards European unity, a step in the economic field, but a step which would have political consequences. He underlined the possibilities of an actual partnership, of an association between Euratom and the U.S., and mentioned the fuel problem and Euratom's control apparatus. The President spoke with great warmth and deep conviction on the need for European unity. For Europe there was only one way and that was the way of unity. Nothing would be more important to safeguard the peace of the world as a unified Europe. Europe would thus become the third world power and being a safe country for human dignity and liberty make communist domination of the world impossible. He said that the day on which ~~European~~ economic unity would become so intense that political unity would be a result of it, would be the greatest day of our age. He seized upon Mr. Etzel's words on the ~~actual~~ mutual partnership as the most telling phrase Mr. Etzel had pronounced. He then went into the Wise Men's program which he knew through the chart which the State Department had sent to him. He asked Mr. Strauss whether the raw materials necessary for the execution of this program would be available. Mr. Strauss said that he thought that fuel would not be a limiting element. The President pointed out that the engagements of the American Government to buy uranium went only to 1963 and gave as his opinion that it might be wise to lengthen

this period in order to give uranium producers a greater incentive to do the necessary prospecting for uranium. The President also asked what the price of power in Europe was and was answered by Mr. Giordani who mentioned as a price 11 to 13 mils. The President asked Mr. Strauss whether American reactors could produce power at that price and mentioned Shippingport. Mr. Strauss pointed out that the price of power produced by the Shippingport reactor would be well above the figure mentioned by Mr. Giordani but that other types were under way which would produce power well within the range mentioned by Mr. Giordani. Mr. Strauss named the Yankee reactor in Massachusetts. The President ended the interview saying that Euratom could be assured of the whole-hearted support of his Administration and himself.

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Confidential

4 February 1957

AIDE-MEMOIRE FROM MM. ARMAND, ETZEL, AND GIORDANI
TO THE
SECRETARY OF STATE AND THE CHAIRMAN OF THE ATOMIC ENERGY COMMISSION:

1. The Governments of our six countries -- Belgium, France, Germany, Italy, Luxembourg, and the Netherlands -- have appointed our Committee to report:

> "on the amount of atomic energy which can be produced in the six countries during the next years and on the actions to be taken to that end."

Our Committee is preparing the ground for joint European action under Euratom, which the six Governments are setting up in current treaty negotiations in Brussels. However, our concern now is with the industrial atomic power program that our six countries will need and be able to undertake in the immediate future. We are considering the organizational aspects of atomic development in Euratom (research, training, control, safety, etc.) only insofar as they affect production in the early stages. Our task is to assess the needs for atomic power, the economic and technical conditions that will define its practicable extent, and the means to carry out the necessary program.

2. We have studied Europe's needs with the Governments and industries of our countries and assessed our resources. Our visit to America is an essential further stage of our inquiries, which you have so generously made possible through your kind invitation. We are grateful for this opportunity you have given us and we are convinced that our talks with you, with other representatives of the Government and with United States industry leaders are going to be of the

greatest value to us. We are here first, to discuss with you our joint needs and possibilities; second, to seek the benefit of your experience of building and operating power reactors, so we can define our own program more realistically; third, to explore the possibilities of a permanent association between a United Europe and the United States of America in the development of atomic energy for peaceful purposes. Before reporting to our Governments, we shall also visit Ottawa and London.

3. It is already clear to us that only by mobilizing, in common, our scientific, industrial, and financial resources can Europe really take advantage of the enormous possibilities offered by atomic energy. European scientists laid its foundations, but war and the dispersion of efforts have made Europe lag far behind in industrial application. Only a common effort will make it possible for us to contribute to these developments.

4. In the past year, the six countries have pushed further forward towards the United States of Europe along two parallel lines. One line is the Common Market. The other is Euratom which provides the framework for joint development of nuclear energy and provides the essential system of control on lines closely analogous to those of the United States' Atomic Energy Commission. Already the six Parliaments have discussed the principles of both Euratom and the Common Market, and declared their support for this approach. At the present moment, our Governments are working intensively, at the ministerial and expert level, to

have the treaties ready for signature in the next weeks, in order to insure parliamentary ratification before this summer.

5. Euratom is thus one of the steps towards a United States of Europe. We would add that it is a uniquely important step; for the atom is the future. Euratom makes it possible to build, where Europe's nations separately cannot, a considerable atomic capacity quickly, and so transform the face of European industry. It will lead to a practical solidarity of interest among our countries on the moving frontier of progress, which will no doubt one day become a major settled part of the whole structure of our society. Euratom is, therefore, not only a vehicle for technical advance, but of prime political significance for the future of our peoples.

If we can make a success of it in association with the United States of America, it will forge new links between us which are essential to peace and progress. This is the perspective in which we would like to place our talks.

6. Europe has staged a remarkable economic recovery in the last five years, but its future growth is threatened by the power supply situation. America produces the power it needs, cheaply. Western Europe, where new power is twice as expensive, must import more and more of it, dearly. Western Europe has become the one great industrial region of the world that does not produce the energy necessary for its development.

Our six countries import one-quarter of their energy requirements already, equivalent to 100 million tons of coal a year. In the absence of nuclear power, but assuming a reasonable increase of all conventional energy supplies (coal,

lignite, hydroelectricity, oil, gas), imports would reach 200 million tons about 1965 (35% of needs), and close to 300 million tons by 1975 (over 40%). These energy requirements are the essential prerequisites for a moderate but steady rise in the standard of living of our peoples.

These figures imply an energy import bill rising from $2 billion now to $6 billion within 20 years, which would put the most severe strain upon Europe's balance of payments. Our solvency is at stake. We are trade-minded nations and we will never take recourse to energy autarky. But what we can and must do is to set a limit to the increase of our energy imports.

7. The anticipated rise of energy imports happens to be just about equal to the coal and oil required for the necessary growth of electricity production. Therefore, if the future increase of thermal electricity output could be met by nuclear instead of coal or oil stations, it should be possible to stabilize our net fuel imports at the level reached when the nuclear program begins to take effect. Allowing for the time required to design and construct the first plants, this would enable imports to be levelled out by about 1963, and would require a program of some 3 million KW of nuclear capacity brought into service in that year and each year thereafter. This is a very large program, comparable pro rata with that now envisaged in Great Britain. Indeed, it means action on a continental scale, which America has made familiar in so many industrial fields.

8. We are confident that such a program is not beyond

the capacity of our industries; but it clearly implies a radical change of perspective. So far, our countries separately have done useful research work and begun to build a basis for future atomic development. But in the world context, these efforts have been limited by national horizons and resources. Today, we are for the first time able to take a collective view of the needs, the tasks, and the opportunities that we face.

Tackling our problems as Europeans, we can and must think of embarking immediately on a massive atomic power program, amounting if possible to 15 million KW in the first five years (1963-67). Nuclear power will certainly become progressively more competitive in future years. Euratom will provide a market free of all frontier barriers for atomic equipment between our six countries. Thus, we will be able to pool our material, inventive, and financial resources, to execute a big program on a sound basis.

9. Our plans assume that we can move off to a rapid start. We shall need, in the early stages, the industrial experience and raw materials you can provide. We shall gain immediately through co-operation with the United States of America. However, we are convinced that through such a partnership, you too will gain.

The European inventive capacities which contributed so much to the first discovery of the possibilities of the atom must now be applied to the development of nuclear power

for industrial uses. It will be economic in Europe long before it can be in the United States. No amount of research can be a substitute for the practical knowledge to be gained by the large-scale industrial application of atomic power. Thus, we may envisage the early development of a close and enduring partnership between the United States and Europe in the nuclear field. The United States would insure some part of the supply of fissile materials and some of the industrial resources essential for our rapid development. Europe, in turn, would work on the largest possible scale to advance the technology and so reduce the costs of atomic power -- making available to the United States the results of this experience. This association could thus develop on the healthiest footing, that of mutual benefit and equality.

10. The effect of a successful nuclear energy association between us would go far to remedy one of the most dangerous situations in world politics today and in the coming years: The excessive and increasing dependence of Europe on Middle East oil. It is in the interests of everyone, our countries and those of the Middle East included, that oil remain a trading commodity and not become more and more a political weapon. That one great world area should so depend on another, and a particularly unstable one, is a continuing threat to world peace.

As Europe builds up its nuclear power production, the danger of this precarious relationship will be progressively lessened. Thus, the social and economic development essential to the healthy growth of Europe and to the cohesion

of the free world would not be jeopardized by the threat of recurrent shortages. Lessening the Middle East's practical hold on European industry's lifeblood would thus tend to limit the risks the United States has herself accepted in that area.

11. The very fact that we have come here together, not as a Frenchman, a German, and an Italian, but as Europeans, to explore the prospects for an association with the United States of America is in itself a political program. It will be further extended if Britain associates with Europe in the making, as the British Government's Free Trade Area Proposal gives us every reason to hope.

We have been able to take a wide view of our problems and a hopeful view of their solution because we have looked at them together, as if we were already citizens of Europe, so we see them as a single whole and not as rival parts. If Europe has been able to do little hitherto in the atomic field, this is largely due to its divisions. Now, we shall act as one. Our visit stands at the crossroads of the old order which has been unable to seize the opportunities of our century, and of a new unity in which we are determined to grasp them. We would like our visit to be a sign of the changing times.