An Atlas of the European Economic Community

Dept. of Geography
Indiana University
An Atlas of the
EUROPEAN ECONOMIC COMMUNITY

maps and texts by:
Kitty Sue Kelley
George E. Lynch III
Robert A. Pawlik
Agris Petersons
Robert D. Sawvell
Robert E. Seidel

with an introduction by:
Norman J. G. Pounds

edited by:
Robert D. Sawvell

prepared under the supervision of:
Robert C. Kingsbury

Occasional Publication No. 2
Department of Geography
Indiana University
Bloomington, Indiana
1964
PREFACE

This atlas presents the results of a semester project in a cartography course at Indiana University—the cumulative and cooperative efforts of a half dozen advanced undergraduate and beginning graduate students in geography.

Most cartographic products are, or, at least, should be prepared for reproduction and a college level cartography course must consider the many problems of map publication and printing. Unfortunately, this is made rather difficult from the cost point of view because students seldom have an opportunity to see their own maps in print. This present collection of maps solved the cost problem by being drawn for use of a specific college course in political geography and thereby provided valuable means of cartographic instruction in compilation, design, and execution as well as in map publishing and printing.

The method of procedure was, as follows: First a tentative list of map subjects for the atlas was drawn up. Then, one student prepared a base map that could be common to all the maps in the atlas. Two others worked upon a system of standardization for lettering faces and point sizes, line weights, symbolization means and methods, and nomenclature and spellings. The other three students worked in the University Library and in the Geography Department's Map Collection preparing bibliographies of appropriate map sources, statistical data, and other reference material. The last group also collected further information by writing to embassies and other organizations of the Community countries. After this preliminary work was completed and discussed in class, each student selected a group of three to four maps to compile, design, and execute and to prepare short accompanying explanatory texts. Possible methods of expression and alternate methods were discussed in some detail, especially with reference to the limitations of black and white reproduction and to the expected atlas audience—college undergraduates with no background in either cartography or European geography.

As each map and text were completed, they were examined critically by the instructor and at least one or two other students in the class, reviewed by the whole class, and corrected or changed, as needed, by the original author. While there was uniformity in size (all maps were prepared for one-third reduction), type, lines, symbols, and spellings, there was no attempt at uniformity in means of expression. Indeed, individuality was urged and as the following map pages will indicate, individuality was the result.

A wide variety of map and statistical sources were used; the major ones are listed at the end of the atlas. Some maps depended entirely upon statistical sources; others depended upon a combination of map and statistical sources. Copying existing maps was not permitted although, of course, existing maps proved in some cases important sources of some needed locational data.

The final results of these students' efforts vary, as might be expected. Some maps reflect a great deal of research and original thought and are very well executed. Others are not up to such standards.
While this collection of maps is concerned with the nations of the European Economic Community (or the "Common Market"), it must be realized that these same nations are also members of the European Coal and Steel Community and Euratom (European Atomic Energy Community or E.A.E.C.). The term "European Community" is used in this atlas more or less interchangeably with "European Economic Community" although it is realized that the former term actually refers to membership in all three of the organizations. It has been suggested that the title "European Community" might have been more appropriate to the atlas than "European Economic Community", especially because of the inclusion of several non-economic maps.

Among the various authors, I especially wish to commend Robert D. Sawvell who, in addition to his original contribution of maps, also spent a very considerable amount of time checking and correcting all the maps in the collection.

We are all indebted to Professor Norman J. G. Pounds for writing an introduction to this atlas.

Robert C. Kingsbury
Assistant Professor of Geography
Indiana University
## CONTENTS

<table>
<thead>
<tr>
<th>Location</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOCATION OF THE EUROPEAN ECONOMIC COMMUNITY</td>
<td>George E. Lynch III</td>
<td>front cover</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>Norman J. G. Pounds</td>
<td>1</td>
</tr>
<tr>
<td>THE NATIONS OF THE EUROPEAN COMMUNITY</td>
<td>Robert E. Seidel</td>
<td>2</td>
</tr>
<tr>
<td>RELIEF AND DRAINAGE</td>
<td>George E. Lynch III</td>
<td>4</td>
</tr>
<tr>
<td>POPULATION DENSITY</td>
<td>Robert E. Seidel</td>
<td>6</td>
</tr>
<tr>
<td>MAJOR LAND USE</td>
<td>George E. Lynch III</td>
<td>8</td>
</tr>
<tr>
<td>LAND HOLDINGS</td>
<td>Agris Petersons</td>
<td>10</td>
</tr>
<tr>
<td>MAJOR CROPS</td>
<td>Agris Petersons</td>
<td>12</td>
</tr>
<tr>
<td>SPECIAL CROPS</td>
<td>Agris Petersons</td>
<td>14</td>
</tr>
<tr>
<td>LIVESTOCK AND FISHING</td>
<td>Agris Petersons</td>
<td>16</td>
</tr>
<tr>
<td>COAL AND LIGNITE</td>
<td>Kitty Sue Kelley</td>
<td>18</td>
</tr>
<tr>
<td>NATURAL GAS AND PETROLEUM</td>
<td>Robert A. Pawlik</td>
<td>20</td>
</tr>
<tr>
<td>ELECTRICITY</td>
<td>Kitty Sue Kelley and Robert D. Sawvell</td>
<td>22</td>
</tr>
<tr>
<td>MINERAL DEPOSITS</td>
<td>Robert A. Pawlik</td>
<td>24</td>
</tr>
<tr>
<td>INDUSTRIAL AREAS</td>
<td>Kitty Sue Kelley</td>
<td>26</td>
</tr>
<tr>
<td>STEEL</td>
<td>Kitty Sue Kelley</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Section</td>
<td>Author(s)</td>
</tr>
<tr>
<td>---</td>
<td>-----------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>15</td>
<td>TEXTILE INDUSTRY</td>
<td>Robert A. Pawlik</td>
</tr>
<tr>
<td>16</td>
<td>PORTS AND WATERWAYS</td>
<td>George E. Lynch III and others</td>
</tr>
<tr>
<td>17</td>
<td>RAILROADS</td>
<td>Robert D. Sawvell</td>
</tr>
<tr>
<td>18</td>
<td>HIGHWAYS</td>
<td>Robert D. Sawvell</td>
</tr>
<tr>
<td>19</td>
<td>TARIFF WALLS</td>
<td>Robert E. Seidel</td>
</tr>
<tr>
<td>20</td>
<td>INTERNAL TRADE</td>
<td>Robert D. Sawvell</td>
</tr>
<tr>
<td>21</td>
<td>EXTERNAL TRADE</td>
<td>Robert D. Sawvell</td>
</tr>
<tr>
<td></td>
<td>MAJOR SOURCES</td>
<td></td>
</tr>
</tbody>
</table>
INTRODUCTION

In May 1950, Robert Schuman, then the Foreign Minister of France, proposed the establishment of a common market among the countries of Western Europe in coal, iron, and steel. The treaty establishing the European Coal and Steel Community came into effect a little over two years later, and its success encouraged the creation of the other communities, the Atomic Energy Community and the European Economic Community itself. The latter began to operate at the beginning of 1958 and extended to the whole field of international trade the principles which underlay the original common market in coal and steel.

The Community remains restricted—as far as full membership is concerned—to those six countries which ratified the original treaty in 1952. The United Kingdom, which participated in the discussions at all stages and in 1961 actually sought membership, was excluded by the opposition of France. Greece and most of the former colonial dependencies of France have been admitted as Associate Members of the Community, which means in effect that their exports enjoy some tariff preference in its markets.

No movement as ambitious and as revolutionary as that which is creating an economic unity in Western Europe, could have been successful without unusually favorable circumstances. When the Community was first conceived, the strength of the Soviet Union was, at least relatively, at its greatest, and its aggressive designs most apparent. The Soviet danger was the external force that gave shape and momentum to the movement. But it was internal factors that made it successful.

The half dozen industrialized countries which were to join to make the Community were, despite the superficial appearances of hostility and competition, heavily dependent on one another. German coal was needed for the blast furnaces of much of Western Europe; French iron ore was needed in Belgium and Luxembourg. France, beginning to experience a food surplus from her farms, looked to the markets offered by German cities. It was not only, however, in the products of the mines and farms that the "Six" complemented one another. The industrial economy of Western Europe was becoming so complex, the range of its requirements in manufactured goods so varied that no one country, however broad its industrial base, could possibly supply its full needs for factory products. International specialization was becoming an absolute necessity.

A third factor assisted the development of the Community. Formerly all its members had been exporters of manufactured goods to the underdeveloped nations. Many of these new nations were now building factories of their own, and there were fears that the export trade would diminish. The Common Market, however, aimed by eliminating tariffs and discriminatory freight rates and other charges, to lower the costs of production and thus to improve Western Europe's competitive position with regard to the rest of the world.

Twelve years have passed since the Coal and Steel Agreement became effective, and some of the factors which contributed to the formation of the Community have
changed. World demand for European factory products has not diminished. The monolithic and aggressive power of the Soviet Union and its allies is seen to be shot through by its own internal differences and divisions, and the unity of purpose of the Six has weakened. The advantages of international specialization and trade have, on the other hand, grown with the years and with the building not of national, but of community projects. It is these forces that this Atlas seeks to illustrate, the distribution of resources and the mutual dependence of the six countries which share and use them. It is the functional aspects of the Community which should be paramount, and of these the following pages give a geographical description.

Norman J. G. Pounds
Professor of Geography
Indiana University

1. THE NATIONS OF THE EUROPEAN ECONOMIC COMMUNITY

Six countries of central and western Europe, as shown on the map, form the European Economic Community.

<table>
<thead>
<tr>
<th>Nation</th>
<th>Capital</th>
<th>Area (sq. mi.)</th>
<th>Population (1964 est.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>Brussels</td>
<td>11,779</td>
<td>9,300,000</td>
</tr>
<tr>
<td>France</td>
<td>Paris</td>
<td>212,822</td>
<td>47,200,000</td>
</tr>
<tr>
<td>Italy</td>
<td>Rome</td>
<td>116,304</td>
<td>50,400,000</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>Luxembourg</td>
<td>998</td>
<td>330,000</td>
</tr>
<tr>
<td>Netherlands</td>
<td>Amsterdam</td>
<td>12,616</td>
<td>12,000,000</td>
</tr>
<tr>
<td>West Germany</td>
<td>Bonn</td>
<td>95,923</td>
<td>57,400,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>450,442</strong></td>
<td><strong>176,630,000</strong></td>
</tr>
</tbody>
</table>

In addition, specially associated with the European Economic Community are a number of non-European states and territories, mainly former colonial areas of the European members. In Africa these include Mauritania, Senegal, Mali, Upper Volta, Ivory Coast, Togo, Dahomey, Niger, Chad, Cameroun, Central African Republic, Gabon, Congo (Brazzaville), Congo (Leopoldville), Ruanda, Burundi, Somalia, and Malagasy. In the Americas these include St. Pierre and Miquelon, French Guiana, Surinam, Guadeloupe, Martinique, and the Netherlands Antilles. Others include Reunion, New Caledonia and dependencies, and French Oceania. The total area of these associated states and territories is 4,582,000 square miles and their population is estimated at 53,000,000.
2. RELIEF AND DRAINAGE

Although the countries of the European Economic Community contain less than one per cent of the land area of the world, their shore and surface features are among the most highly diversified in the world and include wide variety in hills, mountains, and plains.

All of Europe west of the Soviet Union is, of course, actually a huge, irregular peninsula attached to the western part of the great Asiatic land mass. The Community occupies only the central part of this large peninsula and has a long, highly irregular coastline characterized by many smaller peninsulas (especially the Italian peninsula), off shore islands (especially Sicily, Sardinia, and Corsica), and a great many indentations by bays, seas, and gulfs.

An east-west high mountain area of the Alps and Pyrenees splits the Community physically into northern and southern sections despite the fact that this mountain line contains many gaps and passes. South of the mountains are a variety of hills, a north-south mountain chain (the Apennines), and many coastal plains bordering the Mediterranean, Tyrrhenian, and Adriatic Seas. North of the high mountains is an upland hill belt represented by the Central Massif, Jura, and Vosges. This upland area gradually sinks into a vast rolling plain of northern France, Belgium, Netherlands, and northern West Germany which borders the Bay of Biscay, the English Channel, and the North Sea.

The Community is well endowed with rivers, many of them navigable (see map 16), some usable for hydro-electricity generation (see map 11), and a few useful for irrigation. Into the Mediterranean flow the Rhone of France, the Po of Italy, and a great number of small rivers along the Italian peninsula. The most important rivers flowing northward towards the Atlantic are the Loire, Seine, Meuse, Rhine, Weser, Elbe, and their many tributaries. The headwaters of the Danube are in southern West Germany (and Switzerland) and it flows eastward into Eastern Europe.
3. POPULATION DENSITY

About 180 million people now live in the countries of the European Economic Community. West Germany, France, and Italy each contain approximately 50 million inhabitants with West Germany (1963-58 million) slightly larger than either of the other two. Belgium, Netherlands, and Luxembourg together account for only about 20 million people. This large total Community population—a tremendous producing and consuming public—is only slightly less than the United States population. (It is worth noting, however, that while the population of the Community and the United States are not much different, the Community occupies a land area only just over 12 per cent of that of the United States.)

The regions of densest population correspond most especially with the location of manufacturing industries (see map 13) for the majority of the working population are employed by such industries or in transportation and other ancillary services. Other high population densities coincide with coal (see map 9) and other mineral reserves (which often are also within main manufacturing areas) and with the most favorable agricultural sections (see maps 6 and 7).

A belt of high population density can be seen on the map to be stretching along the coast and inland through northern France, Belgium, Luxembourg, Netherlands, and northern West Germany (including the Saar and the Rhine Valley). Here, large sections centered around such urban areas as Paris, Brussels, Amsterdam, Essen (Ruhr Valley), Bremen, Hamburg, and others, contain on the average of 300 persons or more per square mile.

South of this main density belt the map shows four other smaller but particularly heavily settled areas. In France two are shown along the Rhone Valley—on the upper Rhone around Lyons, and on the lower Rhone and the adjoining Mediterranean Sea coast around Marseilles. In Italy, an area of high density is seen along the Po Valley and southwestward to Genoa, its major seaport. A final high density area is shown along the western Italian seacoast at Naples, a belt which extends northward to include Rome.
PERSONS PER SQUARE MILE

0-30 0-50
30-61 50-100
61-123 100-200
123-185 200-300
185-247 300-400
247 and over 400 and over

POPULATION DENSITY
4. MAJOR LAND USE

Originally this area was in natural forest but after 4,000 years of continued human occupancy, little if any of the original forest cover remains. Today, the bulk of the land is devoted to agricultural purposes either as cropland or as pasture land.

Scattered here and there are small forested areas. Many of these are found in the more rugged and agriculturally less usable highlands (viz., Apennines, Alps, Pyrenees, Central Massif) while others are placed on relatively infertile lowland soils (viz., sandy landes of western France and the heaths of West Germany and the Low Countries). Unproductive land—land not in crops, pasture, or forest—is restricted to small patches in the high Alps of Italy and France and in the Pyrenees of France.

A map of this type which represents land use conditions in a densely populated and long settled area is, of necessity, very highly generalized. The classification "cropland" represents land in various crop combinations and details on its use will be found in map 6 on Major Crops and map 7 on Special Crops. The classification "pasture" is especially a generalized one as it includes not only improved pasture land but unimproved land such as alpine meadows, heath, and maquis of varying quality and utility. Some pasture land is found also within the area marked "cropland" and some cropland is found also within the area marked "pasture".
MAJOR LAND USE

Cropland
Pasture
Forest
Unproductive
5. LAND HOLDINGS

Farming in the European Economic Community is practiced on many scales, and holdings range from small gardens to large estates. The map indicates by shading patterns the per cent of agricultural land in holdings of 25 acres or more on a regional basis; the heavier the pattern the higher the per cent of holdings of 25 acres or more as shown by the map legend. Although holdings of 25 acres or more cover a larger area, more than two-thirds of all farms are less than 25 acres in extent.

France has the largest percentage of land holdings of 25 acres or more. Indeed, some departments of France consist almost entirely of holdings over 25 acres, most of them being over 100 acres.

Terrain has been one factor influencing size of landholdings. Thus, the relatively flat land of northern and western France and northern West Germany has permitted large scale farming to be economical. By contrast, in the more rugged terrain of parts of eastern France, of central and southern West Germany, and of northern Italy, small-sized land holdings prevail.

A variety of historical reasons have influenced size of landholdings too. One example of this are the long established large estates which control much of the land in major parts of southern Italy.
LAND HOLDINGS
Percent of Agricultural Land in Holdings of 25 acres or more

81-100
71-80
51-70
31-50
20-30

0 50 100 200
Miles
6. MAJOR CROPS

Much of the land of the Community is suited to agricultural purposes and, as the map shows, about one-half of the total area is in crops. Most of the remaining land, especially in the cool and moist hills and mountains, is devoted to pasture and some fodder crops.

Two rather distinct types of agriculture are shown by this map. Along the Mediterranean coast of southern France, the Italian peninsula, and on the Mediterranean islands, winter and spring are the main growing season. Temperatures are mild then and rainfall is at its maximum. Crops such as olives, grapes, hardy grains, and various subtropical fruits and vegetables predominate. This is the area of "Mediterranean agriculture".

North of the Mediterranean agricultural area and especially north of the Alps, the winters are too severe for much cropping, and summer, the period of ample rainfall, is the main growing season. Grains predominate although a wide variety of other crops are grown also (see map 7). In the wetter west (France and Belgium), wheat is the main cereal; eastward into West Germany wheat often is grown on the best soils while rye occupies the poorer. Oats, barley, corn, and rice ("other grains" on the map) are grown also and locally, crops such as potatoes and sugar beets (not shown on the map) may be more important than grains.

Vineyards predominate in such large areas in both the Mediterranean and northern sections of the Community that they are shown on the map as a major crop.

Grain production by the several Community countries is graphed below. (The Benelux nations are considered here as one country unit.) The leading grain producer was France with 20.3 million tons; Italy followed with 13.8 million tons; West Germany with 11.1 million tons; and the Benelux nations with 3.5 million tons. Production of the six major grains is shown also by this graph. Wheat is the single most important cereal in each of the four countries. Most of the Community's corn is grown in France and Italy; its barley in France and West Germany; its rye in West Germany; its rice in Italy. Oats are grown in all the nations.

![Graph of grain production in the Community countries](image-url)
7. SPECIAL CROPS

The European Community produces a large number of special crops (other than cereals) with perhaps Italy producing the greatest variety. Market gardening, found mainly in the vicinity of urban areas, includes the growing of tomatoes, onions, peas, beans, and other vegetables, as well as flowers and fruits.

Sugar beets are grown mainly in northern France, central Belgium, northern Netherlands, and in many parts of West Germany, but there is also a considerable sugar beet production along the lower part of the Po Valley and around Rome in Italy. The production chart indicates that all the countries grow sugar beets but France and West Germany clearly led in 1963.

Deciduous fruits include apples, pears, peaches, apricots, and plums. Apples, peaches, and pears, in particular, occupy the area north of the lower Po Valley in Italy and apple groves are especially extensive in the area around Nantes in western France. Although France is the major apple producing country a high percentage of these are cider apples. Italy is the main exporter of dessert and cooking apples. The production charts show the output of apples and pears in the Community countries in 1963.

Citrus fruits, mainly lemons and oranges, are grown along the coast of peninsular Italy, the islands of Sicily and Sardinia, and in southern France in the vicinity of Marseilles and Nice. Olive groves are scattered through central and southern Italy. Tobacco is grown extensively in Italy and along many river valleys in France, and as the graph indicates, these two countries dominated the tobacco production in 1963.

### PRODUCTION - 1963

- **SUGAR BEETS**
  - 1. France: 6,015,000 tons
  - 2. W. Germany
  - 3. Italy
  - 4. Netherlands
  - 5. Bel.-Lux.

- **TOBACCO**
  - 1. France: 131,240 tons
  - 2. W. Germany
  - 3. Italy
  - 4. Netherlands
  - 5. Bel.-Lux.

- **APPLIES**
  - 1. France: 360 million bushels
  - 2. W. Germany
  - 3. Italy
  - 4. Netherlands
  - 5. Bel.-Lux.

- **PEARS**
  - 1. France: 95 million bushels
  - 2. W. Germany
  - 3. Italy
  - 4. Netherlands
  - 5. Bel.-Lux.
SPECIAL CROPS

- Citrus fruits
- Olives
- Tobacco
- Cotton
- Market gardening
- Sugar beets
- Deciduous fruits
8. LIVESTOCK AND FISHING

Some indication of the eating habits of the Community can be seen by the distribution of livestock. The map employs proportional circles; each shows millions of head of livestock for a specific region and is divided to indicate the proportion of cattle, pigs, and sheep.

Meat and dairy products are much more important along the Atlantic Coast and in the foothills of the Alps than along the Mediterranean Coast where the number of cattle is relatively low. The northwestern part of France is an especially important cattle raising area. In 1961, West Germany led the Community in number of cattle with 19,501,000 head. France followed with 12,867,000; Italy was third with 9,827,000.

West Germany led in the raising of pigs in 1961 with 15,776,000; France was in second place with 8,603,000. Sheep are especially important in southern Italy but in terms of total numbers, France had 9,063,000 in 1961 while Italy had 8,231,000.

Fish catches in 1961, which included crustaceans and mollusks, are shown by proportional blocks representing thousands of tons for each major fishing country. West Germany and France were the two main producers. Belgium was not shown because of an exceedingly small fish catch.
LIVESTOCK AND FISHING

Fish Catches 1961

1959
Sheep Cattle Pigs

10 5 3
millions of head
9. COAL AND LIGNITE

The major coal fields of the Community are in northern West Germany, Belgium, and northern France and are located mainly along the zone of contact between the central hills and the coastal plain bordering the North Sea. Numerous but much less significant coal and lignite fields are scattered throughout central and southern France; a few are found also in Italy and southern Germany. The map locates the major coal and lignite fields; a bar graph indicates the production of coal and lignite in 1961 and shows that West Germany mined more than all the other Community countries combined. It should be noted, however, that West Germany's production included approximately 100 million tons of lignite. In hard coal production alone, the Community's 1961 production was 230 million tons, an annual output which remained about the same during 1962 and 1963.

One major significance of coal concerns European industry. Heavy industry has long been attracted by coal supplies and a comparison of this map with the one on the Steel industry (map 14) will suggest this. The entire industrial complex as shown by the map on Industrial Areas (map 13) also indicates this orientation towards coal supplies.

In coal deficient areas, coal is often brought great distances, and even in areas of plentiful supply, coking coal often must be imported for industrial use. Thus, in 1963, the Community's imports of coal, especially from the United Kingdom and the United States, totaled 33 million tons. Substitutes for coal in the form of petroleum, natural gas, and hydroelectric power are becoming increasingly important; Petroleum and Natural Gas are shown by map 10 and Electricity by map 11.

The reliance on coal as a source of energy is shown by the series of circle graphs. Here, the total energy consumed in 1961 by Community countries in millions of tons of coal equivalent is indicated. The shading of each circle represents the coal and lignite consumed as a per cent of the total energy consumed. West Germany was easily the major energy consumer. Note the heavy dependence of West Germany and Belgium-Luxembourg on coal for energy as compared to the light dependence of Italy on coal.
COAL AND LIGNITE

Production 1961

- West Germany
- France
- Belgium
- Netherlands
- Italy

Energy Consumed, 1961

- Millions of tons of coal equivalent
- Shading represents percent of coal and lignite consumed

Legend:

- Coal
- Lignite

Map showing coal and lignite production and energy consumed in 1961.
10. NATURAL GAS AND PETROLEUM

The European Community has little in the way of natural gas and petroleum reserves. What natural gas that is known is confined to small fields in southern West Germany, Netherlands, southwestern France, and Italy. The petroleum is found in small fields in northern West Germany, Netherlands, south France, and Sicily. These fields are marked on the map. Totally, the Community (excluding associated overseas areas) produces from local supplies about 2 per cent of the world’s natural gas and 1 per cent of its petroleum as compared to the United States which produces about 70 per cent and 30 per cent respectively.

The two main areas of gas deposits are in southwestern France and Italy’s Po Valley. A network of natural gas pipelines leads from both of these deposit areas. Gas from the French fields, developed largely since the end of World War II, is sent by pipeline north to Bordeaux, northwest to Paris, and west to the Rhone Valley. Pipelines from the Italian fields serve most of the major north Italian cities, including Venice, Ravenna, Milan, and Genoa. In 1962, natural gas production in the Community (excluding the Sahara) was 13.3 billion cubic meters. The graph in the lower left of the map shows this production by countries.

Local petroleum met only 7½ per cent of the Community’s demands in 1962 (see table below). It is processed in nearby refineries such as those shown next to the deposits at Misburg, Lingen, and other locations in northern West Germany. In some cases, pipelines carry the local petroleum to more distant refineries, such as the pipeline running to Bordeaux, France. In 1962, crude petroleum production in the Community (excluding the Sahara) was 97.5 million barrels. The graph in the lower left of the map shows this production by countries.

Most of the Community’s needs in petroleum must be imported (92½ per cent in 1962) and increasingly large quantities are being brought from the Algerian Sahara and the Middle East. (Technically, the Algerian Sahara could be considered within the Community area.) The table below shows these exports for 1962 and 1963. Shipped in tankers to port cities such as Genoa, Marseilles, La Havre, and Rotterdam, the crude oil is refined and sent to major inland cities by pipelines, or sent directly from the ports to inland refineries for processing. (The table below shows total refinery capacity and output.) A great number of other refineries which process imported crude can be seen on the map scattered along the sea coasts of all the countries. Most of the latter are relatively small and, without pipeline facilities, process mainly for local needs. (The map shows “refinery location” without reference to refinery size or the number of individual refineries at any one location.)

Major petroleum pipelines handle imported oil, and in recent years a number of such new lines have been built, are under construction, or are proposed. One current project is a pipeline from Marseilles to Rotterdam which, when completed, will link Netherlands, Belgium, Luxembourg, and West Germany to the Mediterranean. As the map indicates, the line is completed between Rotterdam and Cologne and between Karlsruhe and Marseilles: the Cologne-Karlsruhe section needs yet to be constructed. Another new line will run from Genoa to Ingolstadt in southern West Germany. As the map shows, part of this is completed, part under construction, and part still apparently on the drawing board. Note also the proposed new line from Venice northward into West Germany.

**Petroleum Supplies and Refineries**

<table>
<thead>
<tr>
<th>(in millions of barrels)</th>
<th>1962</th>
<th>1963</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crude Petroleum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Supplies</td>
<td>97.5</td>
<td>97.5</td>
</tr>
<tr>
<td>Imports from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algerian Sahara</td>
<td>141.0</td>
<td>180.8</td>
</tr>
<tr>
<td>Middle East</td>
<td>695.3</td>
<td>816.8</td>
</tr>
<tr>
<td>Other Areas</td>
<td>227.3</td>
<td>222.0</td>
</tr>
<tr>
<td>Refined Imported Petroleum</td>
<td>162.0</td>
<td>not available</td>
</tr>
<tr>
<td>Refineries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capacity</td>
<td>1120.5</td>
<td>1236.0</td>
</tr>
<tr>
<td>Output</td>
<td>951.0</td>
<td>1077.0</td>
</tr>
</tbody>
</table>

*Local supplies, imports, and refinery output can not be easily compared largely because of conversion difficulties of metric tons (system used in the Community) to barrels (system used in the United States). Conversion rates differ depending upon specific gravities of various crude oils.*
11. ELECTRICITY

The European Economic Community contains a vast number of electric power generating plants and an intricate network of transmission lines. Power plants are most often of a size designed to serve a local area and long distance transmission of electric power, although used, is not as common as in some other areas of the world. Power plant concentration is closely related to industrial areas (see map 13), to coal deposits (see map 9), and to areas of high hydroelectric potential (current map).

The map indicates the 1961 production of electricity on a national basis by a series of graduated circles representing millions of kilowatt hours. West Germany clearly led in total output and was followed by France and Italy.

Both thermoelectric and hydroelectric generating facilities are found. Areas of major hydroelectric production as well as high potential are limited to mountain and hill lands, notably in the Alps and the Pyrenees and, to a lesser extent, in the Apeninnes, Central Massif, and the hills of central and southern West Germany. Elsewhere, thermoelectric stations predominate. Coal is the chief thermo-power source although petroleum is used where coal is scarce or expensive.

All the electricity generated in the Netherlands, 99 per cent of it generated in Belgium-Luxembourg, and well over three-fourths of it generated in West Germany came from thermo-power stations. Just the opposite is the case in Italy where over two-thirds of the electricity came from hydro-power plants. France was placed in between these two extremes with almost the same amount of power generated by hydroelectric plants and thermoelectric plants. Shading of the proportional circles on the map indicates the type of generation.

On an all Community basis, hydro-electricity generation has been increasing considerably in recent years. It was estimated that in 1955 about one-quarter of the total hydroelectric potential had been harnessed. Forecasts indicate that by 1975 close to two-thirds will be harnessed.
France

ELECTRICITY

Area of high hydroelectric production or potential
12. MINERAL DEPOSITS

A wide variety of useful industrial minerals is found in the European Economic Community. The location of major deposits of a dozen of the more important are shown on the map and there are, in addition, sizeable reserves of coal and lignite (see map 9) and limited but important supplies of natural gas and petroleum (see map 10). No attempt is made by this map to locate all the known deposits of the twelve minerals shown. Only the largest and highest quality reserves or those deposits under actual exploitation are specifically marked.

Among the minerals mapped, the Community in 1962 furnished 10 per cent or more of the world's supply of bauxite (for aluminum), iron ore, mercury, potash, and pyrites (see graph below). Bauxite came mainly from southern France; iron ore (largely low grade) from Lorraine (France), Luxembourg, and West Germany; mercury from Italy; potash from West Germany and France; pyrites from Italy and France.

Even with this wide variety of useful mineral deposits, the Community does not begin to be self-sufficient and its manufacturing industry must rely very heavily upon imported ores and other mineral raw materials. Thus, copper, lead, zinc, manganese, iron, tin, phosphate, sulphur, tungsten, vanadium, chromite, nickel, and petroleum all must be imported in ore or other crude form.

![Mineral Production, 1962](image)
MINERAL DEPOSITS

Iron ore
Bauxite
Lead
Magnesite
Manganese
Mercury
Potassium
Pyrites
Sulphur
Tungsten
Uranium
Zinc
PERCENTAGE OF WORKERS IN INDUSTRY, 1961

INDUSTRIAL AREAS

PRIMARY  SECONDARY

ITALY
BELGIUM-LUXEMBOURG
NETHERLANDS
FRANCE

West Germany

0 50 100 200 300
Miles
The iron and steel industry is concentrated in northern West Germany, northeastern France, Belgium, and Luxembourg; northern Italy holds a second area of concentration. Proportional circles on the map show the 1961 production of finished steel in millions of tons on the basis of main producing areas within the several countries. The main producing areas are roughly shown by a shading pattern. The Ruhr Valley of northwestern West Germany was easily the outstanding region and in 1961 it alone accounted for about one-third of the steel production in the E.E.C.

The iron and steel industry is strongly raw material oriented and much of the present industry in the E.E.C. reflects the ready availability of coal, iron ore, and water supplies. Coal especially has been a major attraction in locating iron and steel plants as can well be seen by comparing this map with the one on Coal and Lignite (see map 9). Thus, the coalfields of the Ruhr, the largest and most productive in the Community, have become the sites of the most important iron and steel plants.

Production of finished steel in 1961 on a country basis is shown by the bar graph. West Germany led with almost one-half of the Community's total output. In 1961, as shown by the graph, the Community's production was approaching 75 million tons (actually, 73,244,000 tons) which put it slightly ahead of the U.S.S.R. but somewhat behind the United States.
STEEL

Main producing areas

PRODUCTION, 1961

- Italy
- Benelux
- France
- West Germany
- E.E.C.
- U.S.S.R.
- U.S.A.

Production 1961

Millions of Tons

0 50 100 200
Miles

North France
Belgium
Lorraine
RUHR
Saar
Netherlands

Other France
Other Germany
Other Italy
The textile industry, including the spinning of yarn and thread, the looming of cloth, and the manufacture of ready-to-wear garments and other products, is spread throughout the Community. The map indicates the main producing areas by a line pattern. A measure of the significance of the industry is shown by graduated circles: these indicate the number of employees in the industry on a regional basis. (Regions with fewer than 5,000 textile workers have been omitted.)

Major textile regions coincide approximately with the main industrial areas (see map 13). Thus, the Po Valley of Italy, the Ruhr of Germany, northeastern France, western Belgium, eastern Netherlands, and the Rhone Valley of France are all important producers. Major textile mill towns include Lille, Paris, Stuttgart, Lyon, Turin, Milan, and others.

A good indication of the relative significance of the textile industry among the various E.E.C. countries is shown by the graph of yarn production in 1962. Three columns, one each for cotton, synthetics (rayon, nylon, and others), and wool are shown in thousands of tons.
16. PORTS AND WATERWAYS

The major ports of the Community are found in the north following the pattern of industry (see map 13) and population density (see map 3). The map indicates all ports handling cargo in excess of one million tons annually. A half dozen exceptionally large ports (each handling more than 25 million tons annually) are in the north—Le Havre in France, Antwerp in Belgium, Rotterdam in Netherlands, and Duisburg (at the junction of the Rhine and Ruhr), Bremer, and Hamburg in West Germany. Only Marseilles and Genoa in the south are in this large port classification.

Centuries before the construction of railroads and modern highways, the rivers and canals of Europe were the main means of transport. They continue today as important movers of every manner of goods, but most especially of bulky, heavy, commodities such as coal, iron ore, lumber, steel, petroleum, and grain.

Inland waterways include rivers, canals, canalized rivers, and a few lakes. These are grouped together on the map and shown in terms of the approximate maximum tonnage of cargo per craft that can use them. The main rivers and some of the main canals are labeled on the map. Details of the waterways of the Low Countries and of northern Italy are shown by inset maps. In the lowest category (less than 400 tons), only those waterways most often used are marked; no attempt has been made to include every single usable waterway on the map. The total mileage of inland waterways and the total vessels in use in 1960:

<table>
<thead>
<tr>
<th>Inland Waterways In Use (in miles)</th>
<th>Vessels In Use Number</th>
<th>Capacity (in tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>1,005</td>
<td>6,561</td>
</tr>
<tr>
<td>France</td>
<td>4,860</td>
<td>10,133</td>
</tr>
<tr>
<td>Italy</td>
<td>1,546</td>
<td>2,180</td>
</tr>
<tr>
<td>Netherlands</td>
<td>4,203</td>
<td>18,660</td>
</tr>
<tr>
<td>West Germany</td>
<td>2,717</td>
<td>8,720</td>
</tr>
</tbody>
</table>

The most important waterways are in the northern section of the Community, most especially in West Germany and the Netherlands. The Rhine and its tributaries are by far the most heavily used. In West Germany, canals connect the Rhine with the Weser and the Elbe and a newly constructed canal connects it via the Main with the Danube. Other canals lead westward and connect the Rhine with the Marne, Seine, and Rhone in France. The West German waterways lead in cargo movement and each year they carry twice the ton-milage of those in the Netherlands, four times those in France, and eight times those in Belgium.
PORTS AND WATERWAYS

Navigable by Craft With A Maximum Cargo of:

- > 1500 Tons
- 1000-1500 Tons
- 600-1000 Tons
- 400-600 Tons
- < 400 Tons

Handling Tonnage in Excess of:

- 25 Million Tons
- 5 Million Tons
- 1 Million Tons
The rail network in the European Community is one of the most dense in the world. The areal density shows a close correlation to the topography of the area. In southern France and much of northern and peninsular Italy, standard gauge track is either limited or non-existent because of the mountain massifs. Elsewhere, the rail network is more dense, especially in northeastern France, Belgium and much of West Germany.

Since World War II, the railroads of the European Community have been undergoing two major changes. In each of the countries, steam is being replaced by diesel and electrically operated locomotives. Although only the Netherlands has completed the change, it is estimated that within fifteen years steam locomotives will be eliminated in every member country. A second change involves the conversion and concentration of existing track. Everywhere, narrow gauge (not shown on the map) is disappearing, except in the mountainous areas, in favor of standard gauge track (4 feet 8 1/2 inches). Few new lines are being constructed. However, the amount of standard gauge track is increasing due to the conversion of the narrow gauge and the multiple tracking of previously existing single track lines.

The graphs below depict the movement of goods and the length of routes operated in the member countries in 1962. Note the percentage of routes which are electrified and multiple tracked and the amount of goods carried as compared to the total routes operated.
18. HIGHWAYS

Highways in the European Community are becoming more dense as vehicular traffic becomes increasingly important as a means of transportation and communication. The map depicts the areal density of two types of highways. The main through highways are found in each of the member countries, though they are the most dense in France and Italy. The express highways, found in every member country except Luxembourg, have a noticeable variation in their areal density. The Netherlands, northern Italy and West Germany have notable networks of express highways. Indeed, West Germany not only has the largest network in the European Economic Community but the largest in Europe as well. France, which has the largest number of motor vehicles and the most dense overall highway network in the European Community, has only a small proportion of the total express highway mileage. However, France, like the other member countries, is undertaking numerous programs to update its highway system.

The graph shows the number of persons per vehicle of all kinds and per private car in the European Economic Community. The United Kingdom and United States were included for comparative purposes.
HIGHWAYS

Express Highways
(3 or more lanes)

Main Through Highways
(2 lanes)
19. TARIFF WALLS

Under the Treaty of Rome, signed in 1957, the six member states agreed that steps should be taken to eliminate completely all internal barriers to trade. The timetable below shows by what amount and when these tariff changes were to be adopted. By December 31, 1965, it is planned that the total internal tariff cuts will amount to an average of 80 per cent. (A minimum of 65 per cent is expected on each product involved.) December 31, 1969, is the target date for the complete disappearance of all internal tariffs as well as the end of all restrictions on the free movement of peoples, services, and capital.

The Treaty of Rome provided also for a common customs barrier between the six member countries and the rest of the world and in 1961 the initial step to bring into line tariff rates on imported products was taken. It is expected that by 1969 the E.E.C. will have fully established a common barrier in the form of a common external tariff.

As agricultural products are highly protected in each country, the Community felt that special efforts should be extended to equalize prices. Therefore, a special program of variable levies was adopted. The levies, subject to daily change, are collected at the borders in an attempt to equalize the prices of the importing and the exporting countries. Hopefully, the differences now existing will be abolished by 1969.

The accompanying map illustrates the lowering of internal tariff barriers, while the barrier of the common external tariff remains. The walls are not intended to show quantitatively, except in terms of total change, tariff differences between particular countries. The Benelux Economic Union (Belgium, the Netherlands, and Luxembourg), for example, had already established a common external tariff and had abolished most of the restrictions on internal trade. (However, the problem of agricultural products, mentioned above, was very much in evidence between the Benelux countries.) The map is intended to give an overall impression of the countries involved in the Community working toward a common goal and eventually functioning as a single unit in world markets.

![TARIFF TIMETABLE](image)

<table>
<thead>
<tr>
<th>Date</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>by 10%</td>
<td>by 10%</td>
<td>Acting on the commissions proposal, the Council fixes the rate of remaining internal tariff cuts during Stage 3.</td>
</tr>
<tr>
<td>1959 Jan. 1</td>
<td>By 10%</td>
<td>By 10%</td>
<td>to zero</td>
</tr>
<tr>
<td>1960 July 1</td>
<td>By 10%</td>
<td>By 10%</td>
<td>to zero</td>
</tr>
<tr>
<td>1961 Dec. 31</td>
<td>By 10%</td>
<td>By 10%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>By 10%*</td>
<td>By 10%*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>by 5%</td>
<td>by 5%</td>
<td></td>
</tr>
</tbody>
</table>

*By 5% only for agricultural products.

Alignment of National Tariffs on Common External Tariff
Reduction of difference (up or down)

By 30% (common tariff fully applied where difference 15% or less)

---

---

---

---
20. INTERNAL TRADE

The map portrays the total trade, converted to United States dollars, between member countries of the European Economic Community in 1962. The arrows designate the direction of trade while the width of the bars or flow lines denote the amount of trade involved. The scale at the lower right indicates the value shown by the width of each flow line. The data for Belgium and Luxembourg are shown as a single unit on both the map and the graphs.

The five graphs to the left of the map indicate the export trade of individual countries by major commodities and the percentage each commodity represents of the total trade in United States dollars. The exporting country is centered within each graph while the importing country is designated by an abbreviation to the left of each bar. All commodities which represent less than four per cent of the total trade between any two countries are shown in the "Other" category. The categories are based on the Standard International Trade Classification.
INTERNAL TRADE

Export of Major Commodities
By Country and Percentage

- Machinery Including Electrical
- Iron and Steel
- Chemicals
- Textiles and Clothing
- Motor Vehicles
- Food, Drink and Tobacco
- Mineral Fuels and Related Products
- Fibers
- Other
21. EXTERNAL TRADE

The map depicts the external trade of the Community with major areas of the world in 1962. Arrows denote the direction of trade (imports and exports) and the width of each rectangle indicates the amount in billions of United States dollars.

In Africa, the Community's trade is divided between the Associated Overseas Countries (shown by an asterisk) and those countries which are outside of the Community (shown by a cross). (Other associated countries such as French Guiana and Surinam in Latin America are not separated from their respective areas because their total trade is too small to be graphed.) Eastern Europe includes all those countries which lie west of the Community and east of the U.S.S.R. Therefore, Switzerland and Austria are included within this division. It is significant to note that the latter two countries represent 71 per cent of the exports and 58 per cent of the imports of Eastern Europe's designated trade. The category of Asia and the Pacific includes Australia and New Zealand in addition to the many island of the Pacific Ocean and the specified parts of Asia.

The graph below denotes the external trade of the Community by eight major categories. This classification is based upon a modification of the major trade categories of the Standard International Trade Classification. The final category, noted as unclassified, includes all those commodities and transactions which have not been reported according to kind.
MAJOR SOURCES


*Army Map Service*.  Maps of Europe, various series and scales.

Belgium.  *Annuaire Statistique de la Belgique*, Brussels, annual.


*Charbon et autres sources d'énergie*, Brussels, fortnightly.


*Siderurgie*, Brussels, quarterly.

*Statistiques agricoles*, Brussels, quarterly.

*Statistiques industrielles*, Brussels, bimonthly.

*Statistiques sociales*, Brussels, irregular.


Netherlands. Statistical Yearbook of the Netherlands, Amsterdam, annually.


Pounds, N. J. G. and Parker, W. N. Coal and Steel in Western Europe, Bloomington, Indiana, 1957.

Shell Oil Company. touring maps of Europe, various scales, 1963.


United States, Department of Agriculture. Foreign Agriculture, Washington, weekly.