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RUMANIAN ELECTRIFICATION PLAN TO PROMOTE INDUSTRY AND AGRICULTURE

Constantin Scarlat

During a period of 70 years in Rumania, the capitalists erected power installations producing only 740,000 kilowatts. Today, only about 600,000 kilowatts produced in 603 power stations are usable. Of these installations, 541 consume high-quality fuel. The stations are scattered throughout the country in an unsystematic manner, and the power available per square kilometer in some regions of the country is extremely low. In the regions of Oltenia, Dobruja, and Moldavia, where the exploitation of the soil and subsoil presents much greater difficulties than in other regions of the country, the available power per square mile varies between 0.47 and 1.40 kilowatts. The great majority of the rural population has been totally deprived of the benefits of electricity. Out of the total of 13,000 villages, only a very small number, about 450, had been electrified.

The principal objectives of the Rumanian Electrification Plan for the first 10-year period are: to supply existing industries, as well as those to be built under the Five-Year Plans, with electric power derived from the utilization of water and low-grade fuel; to institute water control in dry areas and areas subject to flood; to supply electric power for railroads and rural areas; and to utilize electricity to raise the material and cultural standards of the

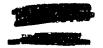
The Electrification Plan will put into operation 13 thermal electric power plants with a total production capacity of 1,039,000 kilowatts and 24 hydroelectric power stations with a total production capacity of 764,000 kilowatts In addition, large thermal electric plants with a production capacity of 98,000 kilowatts will be built, as well as smaller ones with a total capacity of 40,000 kilowatts. The power output of the present plants is to be raised 59,000 kilowatts. The total production capacity expected from the Electrification Plan is 2 million kilowatts. A capacity of 1,060,000 kilowatts will be achieved during the First Five-Year Plan, and 940,000 kilowatts during the Second Five-Year Plan. This amount of electrical energy will help industry and agriculture out of their present slump.

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For the first time, electricity will be uniformly distributed throughout the entire country. This will be achieved by the construction of a series of thermal electric plants with a capacity of approximately 100,000 kilowatts each. The Petrosani and Filipesti de Padure plants, with a capacity of 150,000 kilowatts each, will be the largest. The V. I. Lenin Hydroelectric Power Station on the Bistrita River will have a capacity of 210,000 kilowatts.

The doubling and tripling in the production of electric power will result in a corresponding increase in industrial output, and will facilitate the building of new metallurgical and chemical centers. Petroleum extraction and the mining of coal will increase considerably in volume and new factories will be built to manufacture the goods in greatest demand.

Electrification opens great prospects for mechanizing coal mining and rendering mining more attractive. By 1955, the quantity of electrically run apparatus in the ferrous and nonferrous metal mining installations will increase 65 percent. The use of electrical equipment in the sinking of shafts will increase 300 percent during the Five-Year Plan. The electrification of drilling and boring installations will augment the extraction of petroleum and make possible the erection of new refineries and the enlarging of the old ones. In ferrous metallurgy, electrification will considerably increase production and reduce the cost of cast iron and steel.

High-frequency furnaces and refining processes will greatly improve the quality of refined metals. It will be possible to produce the tool steel necessary for the rapid cutting of metals. By means of electric furnaces it will be possible to produce special types of steel for ball bearings, to manufacture measuring apparatus, artificial magnets, etc.

Production capacity and quality will increase considerably as a result of the mechanization of the foundries and of the internal means of transportation, as well as the standardization of machine tools and the adoption of new manu-

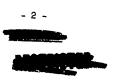
The chemical industry will also make great strides forward, for it will then be able to make full use of electrochemical processes. Thus, large-scale production of caustic soda and other products of the chlorine-sodium industry such as ammonium salts, nitrogenous products, and fertilizers will be possible. Pharmaceutical factories will be buil+ to produce the medicines needed for the health of the nation. Also, nonferrous metals will be available, in an almost pure state, to satisfy the needs of the electrotechnical industry. Bauxite reserves, for the production of aluminum, will become plentiful.

The introduction of electricity in construction work will make possible large-scale mechanization of heavy tasks.

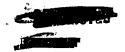
As a result of the mechanization of work and the standardization of machinery, the textile and leather industries will also be able to advance and reduce the cost of production.

The improvement of backward regions is related to the problem of the utilization of water. This problem plays an important part in the economic and social life of Rumania. Thus, a series of problems, such as safeguarding agricultural production against drought, flood prevention, and the reclamation of flooded areas, supplying towns and industrial centers with water, navigation, fishing, and reforestation, are all related to the utilization of water.

In the past, the population in the vast regions of Moldavia, Dobruja, and Oltenia, found mainly in rural areas, lived under unusually difficult conditions in that they were at the mercy of the forces of nature. Semidry regions,



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such as northeastern and southern Moldavia and Dobruja, occupy 34 percent of the country and approximately 51 percent of all arable land. In dry years, the wheat yield per bectare is one fifth that of normal years; the corn yield is one seventh the normal amount. During the 1946 drought, when the total agricultural production of Rumania was hardly 40 percent of normal, a large part of the domestic animals, especially in Moldavia and Baragan, were lost, and the population was stricken by hunger and alsease.

Because of deforestation, it was no longer possible to contain the water during rainy seasons, and the torrents eroded more than 800,000 hectares, creating ravines and barren hills, and covering large areas of arable land with alluvia. The lack of vegetation, in turn, has affected the climate, reducing the rainfall in semiarid regions to 375-630 millimeters, as compared to 465-1,000 millimeters in forest regions

A great shortcoming in our country is the irregularity of the natural water supply. The streams of Muntenia and Moldavia, in particular, flood areas of up to 890,000 hectares at certain times of the year, whereas at other times they dry up almost entirely. Together with the approximately one million hectares of land subject to flooding by the Danube River, the total area subject to inundation is about 1,900,000 hectares -- nearly 20 percent of the arable land in Rumania. For these reasons, the problem of utilization of rivers and streams, which is an integral part of the electrification plan, is of marked importance to the economic and social improvement of the backward regions.

Gheorghe Gheorghin-Dej stressed this point in his report at the plenary session of the Central Committee of the Rumania Workers Party. He said, "Due to the important role of water in agriculture, in the determination of the climate, and in the production of power necessary for electrification, the control and utilization of our waters constitutes one of the basic problems in the building of socialism."

Through the erection of dams and the creation of artificial lakes, the rivers and streams which originate in the mountains and flow down sloped terrains towards level land will be subject to man's control. Such lakes include the one at Izvorul Muntelui on the Bistrita, with a capacity of 1.2 billion cubic meters, the one at Tunelul on the Arges, with a capacity of 75 million cubic meters; and the one at Vidra on the Letru, with a capacity of 100 million cubic meters.

The dams which are to be erected on the rivers will permit the retention of approximately 4.2 billion cubic meters of water.

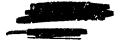
On the plains, lakes especially designated for irrigation will total about 450 million cubic meters in Muntenia and 210 million cubic meters in Moldavia. The water from these great lakes will operate a series of hydroelectric stations which will furnish 764,000 kilowatts of electricity.

The damming of streams which, if uncontrolled, would cause destructive floods during the rainy seasons will provide the huge water reserves necessary for the irrigation of dry areas, for the organization of water transport, and for the improvement of areas now subject to flood. The irrigation of up to 500,000 hectares of land will thus be ensured. By making use of the rivers that flow across arid regions, an additional 200,000 hectares can be irrigated.

The ample supply of electric power which will be available at the end of the Five-Year Plan will make possible the irrigation of another 400,000-500,000 hectares of land adjacent to the Danube by pumping water from the river. Thus, planned utilization of the lake reservoirs and of electricity will insure the irrigation of 1,200,000 hectares (45 percent of the total area suffering from intermittent dry spells).



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By water conservation, irrigation, and the use of chemical fertilizer, the Soviet Union showed an increase of approximately 200 percent in wheat, 110 percert in sugar beets, 400 percent in corn, 50 percent in potatoes, and up to 900 percent in alfalfa and hay. In 1950, a good beginning was made in Rumania in the irrigated cotton regions, where an increase of 250 percent was obtained. The supplementary agricultural production expected from the irrigation of the 1,200,000 hectares will amount to approximately 240,000 freight cars of grains annually.

Measures will be taken in Rumania to create wooded areas along the principal rivers and to plant forest shelter belts as protection against drought and erosion. To that end, the Five-Year Plan provides for the afforestation of about 400,000 hectares, the reclamation of more than 40,000 hectares of eroded land, and, at the same time, the completion of other projects designed to check flood devastation in an area of 7,000 hectares.

The fulfillment of the Electrification Plan and the plan for the utilization of rivers and streams will lead to improved conditions in the backward regions. In Moldavia, one of the least advanced regions in the country, new powerhouses will be built, having an installed capacity of 317,000 kilowatts as compared to the 47,000 kilowatts at present. The construction of the grent Izvorul Muntelui Dam and of the V. I. Lenin Hydroelectric Power Station, with a capacity of 210,000 kilowatts, will represent the equivalent of almost one third of the power available in the country today. This huge hydroelectric plant will furnish power for the large industrial enterprises to be built during the Five-Year Plan, that is, for the ironworking, metallurgical, electrochemical, petroleum, textile, and forestry enterprises.

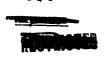
At the same time, the reserve of 1.2 billion cubic meters of water in artificial lakes will be used to increase the productivity of 300,000 hectares of land. Transportation will be greatly improved; the smaller cargo ships from the Black Sea will be able to penetrate far into Moldavia on the Siretul which will become navigable.

Furthermore, more than 30,000 hectares of the Moldavia River Valley, furnished with power by the Prisaca-Dorna Hydroelectric Power Station which will have a 90-million-cubic-meter reservoir, will be irrigated, while another 16,000 hectares, today largely flooded, will become arable. The 20,000-kilowatt power generated by the Prisaca-Dorna Hydroelectric Power Station, aside from furnishing the Vatra-Dorna Forestry Combine with electricity, will make possible the introduction of electricity in the rural areas of the Moldavia River Valley.

During the First Five-Year Plan, electric power will be introduced into 2,000 villages and, most important of all, provided for the MTS, the state farms, and the collective farms. Although the number of MTS will increase several hundred percent during the Five-Year Plan, their complete electrification will be assured. Electrification will speed the mechanization of labor in agriculture.

In addition to the cultivation of grain, the state and collective agricultural farms will be able to develop fully the raising of cattle and poultry, and to expand the honey industry and fishing. Moreover, through the processing of milk, fish, fruit, vegetables, reed grass, straw, etc., by electrical machinery, local income from these products will be increased.

Electric lights will permit more books to be read and studied in the schools (to which 2,000 new classes will be added), in the cultural centers, in the collective farm buildings, and in the working peasants' homes. Radios will increase in the villages, and cinematography will be able to be expanded in the rural areas.



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Electricity will also facilitate disease prevention and treatment by permitting modern methods to be introduced in the existing hospitals and dispensaties, and in those to be built during the Five-Year Plan. The network of mobile units will be increased by 200 rural dispensaries, by 2,000 village dispensaties, and 50 county dispensaries.

Thus, the renetration of electricity into the rural areas, the gradual mechanization of agricultural industry, the introduction of new techniques based on the latest scientific advances in all fields of endeavor, and the illumination of roads, villages, homes, schools, and cultural buildings will make work easier and more pleasant.

At the Regional Electrical Enterprise in Bucharest, which comprises the Grozavest and Filaret plants, the Obor Electrical Station, the First of May power stations (Filantropia and Vasile Lascar), the laborers, engineers, technicians, and office workers undertook to improve and complete the existing installations. This was done to increase the production capacity, to improve the methods of transmitting and distributing the electric power generated in the plants, and to make maximum use of the internal reserves.

The Academy of the Rumanian People's Republic, the institutes of higher learning, and the scientific and cultural associations have organized extensive discussions with respect to the duties created and the possibilities opened by the Electrification Plan.

The schedule of the Academy of the Rumanian People's Republic for this year contains provisions for duties in connection with the Electrification Plan for the country.

At the Petrosani Coal Institute, debates on problems related to electrification were organized by professors, students, and the institute council.

The workers engaged in electrification construction jobs have already had marked success. Reads have been built along the Bicaz River, giving access to the construction work at the V. I. Lenin Hydroelectric Power Station. Transportation was organized and warehouses and barracks for the workers and office employees were prepared. A new bridge was built across the Bistrita so that work on the power station could proceed concurrently with that of other projects. Moreover, work was begun on the 5-kilometer-long tunnel which will pierce the mountains from the reservoirs to the power station.

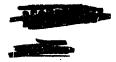
On 1 March, 9 days ahead of schedule, the concrete caisson at position 34 was poured; the concrete workers are still on the job. The iron of the cofferdam was in place 7 days ahead of schedule. Thus, the building of the Valiug Dam and Hydroelectric Power Station is almost finished. The main building of the power station has been erected and most of the other structures now have taken definite shape. The waters of the Berzava, conducted through three tubes, are furnishing the Sovrommetal Works at Resita and vicinity with tens of thousands of volts of electricity.

The workers and technicians at the Sovromchim-Ucea-Fagaras Plant have completed the installation of a pressure tank needed by the thermal electric plant which they are building. A new power station with a 100-kilowatt generator is in operation in the village of Iacobeni, in Vatra-Dorna Rayon, thereby creating greater opportunities for the community, as well as the mine.

These are only a few of the achievements to date. Numerous others can be given. For example, considerable progress has also been made at the Ovidiu Thermal Electric Plant, operating since 1950, and at the construction works at Moroeni, Ovidiu II, Vadul Crisului, and elsewhere.

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Considerable success also has been achieved in factories which utilize electrical energy in operating their equipment. A series of products not yet manufactured in the country, such as household and safety devices, are being manufactured at the Electromagnetias Enterprise in Bucharest. Also, for the first time in this country, the Electromagnetica Enterprise has begun the production of electric meters which have passed all tests. Over 20 types of conductors and cables, wire, flexible Kopex tubes, etc., were developed at the Electro-Cablu Enterprise. The Electroputere Factory was built at Craiova for the production of motors and electrical machinery. High-pressure tanks for the thermal electric plants are being built at the Vulcan Enterprise. Also, 480-kilowatt motors, 5,000-kilowatt-ampere transformers, trolley-bus motors, new types of generators, etc., are in production at the Dinamo Plant. High-tension insulators are being produced for the first time at the Electromecanica Enterprise in Turda.

Many villages, MTS, state farms, and collective farms have already been equipped with electricity. Thus, the great Electrification Plan is fast becoming a reality in Rumania.

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