

'Industrial atomic reactors', from La Libre Belgique (9 March 1956)

Caption: On 9 March 1956, the Belgian daily newspaper La Libre Belgique outlines the mobilisation of Belgian private industry for the construction of nuclear power stations and calls on the country to play a leading role in current research.

Source: La Libre Belgique. 09.03.1956, n° 69; 73e année. Bruxelles: Société d'Édition des Journaux du Patriote. "Les réacteurs atomiques industriels", auteur:R., C. , p. 1; 5.

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Last updated: 06/07/2016

Industrial atomic reactors

How private industry is preparing to construct large power plants in Belgium

It is a truism that the world is constantly consuming more and more energy. Thus, while between 1900 and 1930, consumption increased regularly by 2.5 % each year, growth increased to an average of 3 % between 1930 and 1950, and it is estimated that 4 % growth will be reached a few years from now. This means that, at the current rate, world energy consumption will have tripled by 1975 and it will have multiplied by a factor of 8 in the year 2000.

All the experts are in agreement that the conventional sources – coal, oil, hydraulic energy – will not be able to maintain that rate, either because of the progressive exhaustion of resources – notably oil deposits – or because the exploitation of certain sources would result in excessive equipment costs, as will be the case of hydraulic energy when it has to be harnessed in remote regions.

Mankind's future would therefore have appeared to be doomed if, at the very moment when the most serious concerns began to be felt, the release of intra-atomic energy had not suddenly provided industry with a source of energy that is practically inexhaustible.

For, contrary to what was believed just a decade ago, there is an abundance of uranium in the world. In fact, the top layers of the Earth's crust possibly contain some thousand billion tonnes of it, and there are also other elements that are likely to provide a good nuclear 'fuel', notably thorium.

As has already been pointed out, it is quite a long while since we thought that the Belgian Congo would enjoy some sort of monopoly on the production of uranium ore for many long years. Actually, the Congo has gone from being the world's top producer to being the fifth largest today. Canada has now taken top spot, while extraction is rapidly progressing in the USSR and in Czechoslovakia.

Therefore, starting now, every country concerned for its economic future must prepare itself for the major industrial revolution of the next half-century. That applies particularly to Belgium, which had no oil or hydraulic energy and whose coal deposits are becoming difficult to mine or are producing very little.

Private industry gets ready to cope with its new tasks

In our article dated 8 March, we listed the official institutions created in Belgium to promote and develop nuclear research and to train workers who are up to date in the latest techniques. For its part, private industry has constituted two organisations, during the second half of 1954, whose goal is to hasten the transition from research to practical applications.

The first organisation is the *Syndicat d'Étude de l'Énergie Nucléaire* (SEEN), which includes most of the major companies likely to be interested in nuclear technology, that is to say, about 20 companies or so, ranging from those which extract uranium ore in the Congo to those which are considering participating in the construction of future atomic power stations or using the by-products of the fission process.

The second organisation, known as the *Syndicat d'Étude des Centrales Atomiques* (SECA), consists of the major electricity-generating companies, and its primary objective is to operate power plants.

It was those two organisations that decided to build the first 11 500 kW 'pilot plant' that will supply the electricity for the 1958 World Exhibition. The nuclear reactor and most of the technical equipment will be supplied by the American company that built the reactor in the 'NAUTILUS' submarine and that is currently building a 60 000 kW industrial power plant in Shippensburg, near Pittsburgh. However, construction of the buildings will be entrusted to Belgian contractors, and Belgian companies will also supply the equipment that is not directly linked to the operation of the reactor.

Belgian engineers will also be going to the United States to learn how to operate this particular reactor.

Once this first part of their programme has been completed, the two organisations will move on to the building of a large nuclear power plant with a 100 000 to 150 000 kW capacity. That might begin in 1960 or thereabouts, and it is then that the large industrial projects phase will have begun.

It should also be pointed out that, in 1955, following the example set by private industry, the state-owned companies and intermunicipal electric companies formed an Association of Public Undertakings for the construction of nuclear power plants which will study the possibilities of the public sector constructing atomic power plants.

The Belgian Association for the Peaceful Development of Atomic Energy

However, although all the economists today are convinced of the essential role that atomic energy will play in industry over the next few years, and although the public authorities seem committed to make a serious effort to assist private companies in becoming involved in the process of practical applications, it will be possible to make progress with the requisite speed only if it is understood and backed by the general public and if enough specialist personnel are recruited.

Therefore, the creation appeared to be indispensable of an organisation responsible for informing the public by simplifying concepts that are often very confusing in the public's mind and also for drawing young students' attention to the vast new field opening up for them and to the interesting careers in prospect.

Such will be the mission of the Belgian Association for the Peaceful Development of Atomic Energy, which is chaired by Baron Kronacker and which acts as an umbrella organisation for representatives of the major national scientific, industrial, economic and political sectors.

It is, therefore, a matter of both prompting interest in the general public and creating 'nuclear vocations'. Many large countries like the United States and Great Britain are actually already encountering some difficulty in recruiting the elite personnel required for implementing their programmes, and according to several of our university professors, we may also encounter those difficulties in Belgium very soon if measures are not taken forthwith to train the middle managers who will be needed in a few years.

For the areas where nuclear energy can be used are extremely varied. Although the generation of electricity in large power plants is particularly spectacular, we should also underline the large number of services which radioactive isotopes are called upon to provide: in medicine, as therapeutic agents and for simplifying certain diagnostic tests; in agriculture, to determine the most favourable time and places for chemical fertilisers and for selecting the varieties of plants likely to give the highest yield; in industry, to regulate the movement of liquids and gas as well as for detecting impurities, leaks etc.; and, finally, in laboratories carrying out biological, physical and chemical research.

Belgium succeeded in playing a key role in the industrial era which began around the middle of the 19th century; Belgium cannot let itself be left floundering by its competitors at a time when a revolution, whose repercussions will affect nearly every sector of human activity, is just beginning.