

Solar energy for sports installations

CONI at the forefront of progress

Mankind has hitherto drawn on energy resources without taking steps for their efficient utilisation. as a precaution for their depletion. Interesting research work is, however, being carried out in the field of building design with regard to the use of alternative energy sources, especially solar energy, and naturally these involve new constructional models.

For this reason in order to encourage and intensify such research in every sector, the Italian National Olympic Committee has, via the Istituto per il Credito Sportivo, advertised a competition inviting ideas for the design of sports installations. This competition may produce significant suggestions for overcom-

ing problems relating to energy, operation, architectural design and adaptation in the environment. (Applications were to be forwarded before 31st October 1982 and projects will be accepted until 28th February 1983.

The application of solar technology for sports buildings is felt to be favoured by the marked compatibility between the typical heating requirements of the facilities and the availability of solar energy. In fact, the demand for washing water can be fully met by a plant which can heat the water by means of heat-collecting surfaces, and, in addition, the availability of open areas around the sports buildings provides the possibility of ensuring





optimum orientation. Above all, one should not overlook the numerous ecological advantages offered by this method, compared with that of traditional energy sources.

In line with the project of the CONI, a sports complex of this type - the first in Europe, with the exception of Italy - is now in an advanced stage of construction in the Commune of Ronciglione, some sixty kilometres from Rome (the USA is in fact doing work in this connection but without recycling the water). The project was the winner of the competition for solar swimming pools organised by the European Economic Community 31/1/1980, which contributed a sum of 110 million lire (the installation cost 1,200 million lire). The Community will closely follow the developments of the project, which will remain under its direct control, for a period of two years.

The principles on which the design is based are those of producing heat and energy from renewable and non-polluting energy sources, and of reducing to a minimum the losses due to air and water exchange. The project is based on a very compact installation which avoids losses ; it faces due south and the roof is designed to contain the maximum amount of ambient air which has to be heated, and is pitched at an angle of 45° in the final section to carry the solar panels, (a surface area of 300 m²). Inside, there are two swimming pools

measuring 25 x 12.50 m and 12.50 x 5 m, with stands for the public, a gymnasium, changing rooms and services. The central technical plant is located underground and consists of two heat pumps, each 100,000 Kcal and two small conventional boilers. The circuit is also equipped with units to recover the heat which would otherwise be lost (the "used" water and air serve to pre-heat the input water and air, which are then heated in turn by solar energy).

The plant will enable an annual saving of 70 % of the running costs, and the cost will be depreciated over seven years. It will also operate without sunshine because the solar indication is still present even in cloudy weather.

It is clear that this project covers not only the use of solar energy but also the distribution of sports facilities in the various parts of the country.

With the result of the competition "the sun and sports installations" the CONI will in fact not only have the possibility of making prototypes using the winning projects, but will be able to promote the use of types of sports installations which allow the rapid and complete design of installations with the aid of the Istituto per il Credito Sportivo.

