Vietnamese GDP is estimated about 143.1 billions USD in 1999. From this total, 33% come from industry sector, 26% came from agriculture sector and 41% from service sector. Over 67% labor force are working in the agricultural sector and 26% of GDP is coming from this sector, but it only occupied 3% of total electrical energy demand (Fig.2). This shows that the agricultural sector still has a slow level of development compared with the other economic sectors. Increasing the electrical consumption for this sector will be great motivating factor for economic and social development of Vietnam.

In conclusion, with the renovation strategy ("doimoi" in Vietnamese), Vietnamese economy has been enjoying high growth rate recently. To meet this growth rate, electric power supply should increase more rapidly. According to the EVN, in period 2001-2005, every year, the general output capacity should be increased about 600-700MW.

Source: Ministry of Industry Electricity of Vietnam 18 Tran Nguyen Han St. Hanoi, Vietnam

MISCELLANEOUS

Photos of Front and Rear Covers

Front cover:

A demonstration plant of seawater pumped-storage power plant started to operate in March 1999. This is the world's first high head type pumped - storage power plant using seawater. This plant is located in Okinawa island which is in the south of Japan, and is constructed to conserve the land and sea, and the animals and coral occupying those areas. The plant has maximum output of 30MW and a variable speed pumped-storage power generation system, based on gate turn off thyristor converter-inverter ac excitation system. A cross-sectional outline is as a diagram below. The project was implemented by the Electric Power Development Co., Ltd. as entrusted by the Ministry of international Trade and industry of Japan

(The photo is offered by the Electric Power Development Co., Ltd.)

A cross-sectional outline of seawater pumped-storage power plant in Okinawa

Rear cover:

Organic electoluminescent display is expected as a flat panel display in the

next generation. Principle of the organic electroluminescence was published in 1960's.

A recent type of display using organic electroluminescence was invented by Tang and others, Kodak, USA in 1987, which was based on the organic electroluminescent device consists of very thin layered insulator films.

Conparing to LCD which is most widely applied today as a flat panel display, organic electroluminescent display has excellent merits such as a thin and light device, high brightness, self luminescence, low power consumption, wide view angle and high speed response.

The displays shown on the photo are full color active organic electroluminescent displays developed by technology combination of organic electroluminescent device and low temperature p-Si TFT technology. Two size types are shown on the photo. One is a type 2.4(852 x 222 dots) and another is a type 5.5(QVGA).

> (by Hisakazu Takahashi, SANYO Electric Co., Ltd.)

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