

Energy Insider by Leonardo Servadio

What is the cost of non-nuclear?

Italy, the only Western country to have abandoned nuclear power, is in an unprecedented bind as a result.

According to projections by Unione Petrolifera, Italy's oil producers association, consumption of petroleum and its derivatives in Italy will grow in the coming years from about 94.2 million tons, the estimated consumption in 1989, to 97.2 million tons by 1995. The expected rise in the oil price, which may be as much as 16%, make Italy's energy deficit worse than ever. If the relative weight of petroleum in the total energy production trends downward (it should go from almost 60% now to 55% in the mid-1990s), it will be replaced by sources such as coal and natural gas—also imported—or from the direct acquisition of electrical energy produced abroad.

The 1990 energy deficit, the biggest factor in the foreign debt, will exceed 20 trillion liras. This means that if nuclear energy were used in significant proportions, Italy's foreign accounts could be on a par, because besides reducing energy imports from abroad, energy supply would increase and costs would go down, and the entire national productive apparatus would be more efficient and competitive.

Instead, since Italy has opted to abandon the nuclear perspective, it has opted to increase the national economy's dependency on foreign energy supplies. With the growth in energy demand, as a result of the need to increase industrial production and improve living standards, the already enormous energy deficit is growing. Italy today imports more than 80% of its energy needs. In 1988, energy demand grew 5.2% over the previous year, and it is foreseen that consumption will continue to go up at this rate

for the coming years. If the nuclear plants of Trino and Caorso had continued to operate, and if the ones under construction had been brought on line, they could have absorbed much of the energy requirement.

With that possibility gone, in 1988 ENEL had to import 35% more electricity. In 1989, 27% of electrical power consumed in Italy was imported. But now, we have reached saturation of the high tension lines which transmit the imported energy.

In 1988 Italy imported a net total of 31.3 billion kilowatt-hours, divided as follows: 13.2 billion kWh from France, 14.6 from Switzerland, 1.6 from Austria, and 2 from Yugoslavia. In that same year France got 69.9% of its total electrical power production from nuclear plants, Switzerland 37.4%, Yugoslavia 5.2%.

Before the anti-nuclear referendum promoted by the Italian Communist and Socialist parties and the Greens, nuclear energy covered only 4.6% of Italy's energy needs. The average price of a kWh from 1986 to 1988 was going down. In real terms, it went down by 28.5%, and from 1981, it had fallen more than 40%. But this was due to the drop in the oil price in that period, and more recently to the relative increase in use of coal and gas for energy production, besides lower operating and capital costs at ENEL, the national electricity company.

Meanwhile, however, investments in new plants have also dropped, from 6.7 trillion liras in 1987 to 6.2 trillion liras in 1988—minus 7.9%.

Various projects have been

launched to diversify energy production, but they are either too costly for their rate of energy yield, or too polluting, or in any case more expensive than nuclear.

Take the wind energy projects. The National Energy Plan foresees that, for the year 2000, a billion kWh could be produced with windmill technology. To reach this target, you would have to install more than 2 million generators. These are pylons at least 30 meters high with an enormous helix mounted on the top, which would be scattered by the hundreds or even thousands over many square kilometers of land that is particularly exposed to wind, cluttering up the landscape with a "visual pollution" unprecedented in human history. All this, just to produce an almost imperceptible percentage in the national energy needs. By destroying vast tracts of the landscape, especially in Sardinia, Sicily, and Molise, the hope is to obtain 1 billion kWh by the year 2000; but at the end of 1986, with only two nuclear plants operating, 4.4 billion kWh of energy were produced!

Italian Industry Minister Adolfo Battaglia proposes to buy more energy from private industries, which build their own generators and have a surplus of energy. Battaglia raises the possibility of contracting out to private firms a certain part of energy production, while ENEL would still control distribution. But this is not really a solution.

To calculate the real cost of Italy's renunciation of nuclear energy, we have to add up how much more we spend to import oil, coal, gas, or electrical power, and how much more pollution we have, as Italy's electrical energy consumption went from 135 billion kWh in 1986 to 157 billion kWh in 1988. Not only must this suicidal folly be reversed in Italy, it should stand as a grim lesson to other nations.