All of this increase of energy capacity over the next two decades must be completed before commercial fusion reactors come significantly into the picture.

Taking into account world needs, the total required increase in energy capacity over the coming two decades, if we are to reverse trends toward genocidal famine and epidemic, must be between 5,000 and 7,000 gigawatts.

In rough terms, this means the need to regularly reprocess a charge of approximately one ton of nuclear fuel assemblies for each gigawatt. This means that up to 7,000 tons of fissionable fuel-charges must be maintained with aid of reprocessing by the end of this present century. Perhaps only 5,000 tons, assuming other-than-nuclear technologies take up part of the requirement.

If we compare the fuel requirements of such programs with the reproduction rates available in existing breeder-reactor designs, or in the second generation of fast breeders typified by France's Super Phenix or ongoing Soviet designs, breeder reactors are part of the spectrum of the fuel-supply problem, but are too slow in performance to begin to match overall requirements.

Dr. Edward Teller has proposed to construct a fission-fusion hybrid around the core of the "potato-reactor" design of High Temperature Gas-Cooled Reactor perfected by the Julich research laboratories in the Federal Republic of (West) Germany. He projects a ten-year start-up time for bringing such a developing fission-fusion hybrid on line. Consultation with other leading experts in the matter assures me that Dr. Teller's proposal is eminently supportable, and represents a significant improvement in efforts to solve the problem.

It is still grossly insufficient.

This leaves us with two problems not solved by breeder-reactor programs alone. First, there is the matter of the quantity of fuel required in the pipeline. Second, there is the not-so-insignificant matter of reprocessing thousands of tons of spent fuel charges annually.

Both problems require a shift of the total effort into dimensions outside both the breeder and fission-fusion hybrid. We must develop rapidly beam-accelerator technologies, already in development, which will accelerate qualitatively the process of developing appropriate fissionable fuel, and which will also provide us the "soft neutron" sources needed to destroy non-recyclable portions of the reprocessed nuclear wastes.

In any competent definition of categories of research and development, particle beam and fusion technologies are an indivisible unity of scientific specialization.

Any assumption that a practical trade-off exists between fission-breeder and fusion research programs is absurd. Just as fission energy development is needed to bring the economy over the hump into the period fusion technologies are commercially available, without immediate acceleration of progress in fusion research, it is virtually impossible to deal with crucial requirements of the fission development program.

Congressman demands control over Volcker

Declaring that "the high-interest policies over which the current Federal Reserve chairman, Mr. Paul Volcker, has presided have been a disaster for the American people," Rep. Byron Dorgan, a North Dakota Democrat, introduced legislation Feb. 4 that would for the first time ever, give Congress the power to remove a Fed chairman. Dubbed by Dorgan "the Paul Volcker Retirement Act of 1981," the bill, H.R. 1640, would require a three-fifths vote of each House to remove a Fed chairman.

"The policies of the Fed are counterproductive; they increase inflation, not decrease inflation," the freshman congressman declared in an interview with *Executive Intelligence Review*. "The Fed is creating havoc with small business and family farms which I represent. My feeling is that we need to shape the debate on interest rates and obtain accountability of the Federal Reserve and its chairman."

"High interest rates are breaking the back of the domestic auto industry, forcing over 1,600 auto dealers to close, and putting hundreds of thousands of auto-related workers out of work. Thirty percent of the home-builders in the country went out of business in the last two years, which resulted in another 757,000 building-trades workers being tossed out on the street. Family farmers are paying 45 percent more in interest charges this year than last year and they cannot afford it."

"If policies of the Federal Reserve System were truly 'wringing inflation out of the economy,' to cite the bankers' favorite metaphor, that would be one thing. But in practice, the Volcker Fed high-interest rates have done just the opposite. They have helped wrap inflation into the economy. . . . Worse, high interest rates mean the Treasury has to shell out more to finance deficits. These deficits, at the same time, grow larger, because when Volcker and company throw their wet blanket on the U.S. economy, tax receipts go slack. Then Treasury borrows more at the higher interest rates to plug the gap, and the downward spiral of self-defeating economic policy spins out."

Dorgan is seeking cosponsorship for his bill, now referred to the House Banking Committee. He anticipates support from Republicans since, he told *EIR*, "high interest rates are the antithesis of supply-side economics," and low interest rates will increase investment for new plant and equipment, the goal of supply-siders. Dorgan will urge President Reagan's support.