Washington seen

from Colin Norman

A SET of figures, published last week by the Department of the Interior, casts further doubts on the ability of the United States to shake off its dependence on imported oil. The department has drastically reduced its estimate of the amount of recoverable oil and gas that remains to be discovered in the United States and the new figures suggest that domestic resources could be severely depleted within about 30 years.

The new estimates are close to those published earlier this year by a committee of the National Academy of Sciences, on the basis of which the committee concluded that "US independence from external sources [of oil and gas] is essentially impossible on the basis of increased production of petroleum during the next decade".

The Department of the Interior now estimates that there are between 50×10^9 and 127×10^9 barrels of oil and between 320×10^{12} and 655×10^{12} cubic feet of natural gas yet to be discovered within the United States and, in deposits offshore. In addition, it reckons that about 30×10^9 barrels are recoverable from unexplored parts of existing fields.

Those figures stand in sharp contrast to estimates published a year ago which suggested that undiscovered oil reserves amount to between 200×10^9 and 400×10^9 barels; gas reserves were put at between 990×10^{12} and $2{,}000\times10^{12}$ cubic feet. Moreover, in 1972, the Department of the Interior was predicting that undiscovered recoverable oil reserves amounted to 458×10^9 barrels. Those earlier estimates have, however, come under sharp attack from the oil industry because they were based on allegedly unrealistic estimating techniques, and the new estimates are derived by a method which the oil companies—and the committee of the National Academy of Sciences—believe is more accurate.

If the new estimates turn out to be correct, they hold a number of very important implications for energy policy in the United States. First, they dramatically underline the need for increased conservation of oil and gas. And, second, they make more urgent the need to develop replacements for natural gas and petroleum, such as synthetic fuels produced from coal. As Dr Vincent E. McKelvey, Director of the US Geological Survey, which developed the estimates for the Department of the Interior, put it last week: "[they] show that it is necessary soon to develop other sources of energy as the mainstay of our future energy supply".

● In a move hailed as a major victory by environmentalist organisations and as a major tragedy by nuclear power industry, the Nuclear Regulatory Commission (NRC)—which recently assumed the regulatory functions of the defunct Atomic Energy Commission—has announced that it will postpone, for up to three years, a final decision on whether plutonium will be allowed as a fuel for nuclear power plants in the United States.

Plutonium, which is a by-product of the fission reaction in nuclear power plants, could be recycled as a nuclear fuel to help eke out domestic supplies of uranium in the United States. The former Atomic Energy Commission had hoped to make a final ruling this year

on whether or not plutonium recycling should be allowed, but the NRC has now decided that the whole matter should be the subject of public hearings.

According to critics and supporters of nuclear power alike, the NRC's final decision on plutonium recycling will be crucial to the development of the nuclear power programme. For one thing, plutonium recycling would more than double the amount of energy which could be extracted from a given amount of uranium and it would therefore help hold down the costs of electricity production. And, for another, part of the justification for the breeder reactor rests on the fact that he plutonium produced in breeders would be used to fuel light water reactors. As Thomas Cochran, who works for the Natural Resources Defense Council, pointed out last week, "the breeder programme would look a bit silly if plutonium were banned as a fuel in light water reactors".

The chief objections to plutonium recycling are that it would involve transporting large amounts of plutonium around the United States. Since plutonium is highly toxic, and since it could be used as the core of a nuclear explosive, opponents have argued that plutonium recycling would increase health hazards and greatly elevate the risks that a terrorist group could make off with a few critical masses of potential bomb material.

Environmentalists are pleased with the NRC's decision to hold public hearings before making a final ruling, because they are convinced that the delay will allow opposition to increase. The nuclear power industry, on the other hand, is less enthusiastic. Mr Carl Walske, President of the Atomic Industrial Forum, last week called the decision "ironic and deplorable", particularly in view of the Interior Department's recent drastic reduction in its estimates of oil and gas reserves in the United States.

The decision to postpone a final ruling on plutonium recycling may, however, turn out to be a shrewd political move on the NRC's part. It was the first major decision taken by the commission, and by opening up the issue to further public debate the NRC has served notice that it is prepared to take a tough stand in spite of vocal opposition from the nuclear industry. Its predecessor, the Atomic Energy Commission, was constantly accused of promoting the nuclear industry instead of regulating it.

● The National Aeronautics and Space Administration is moving into the final stages of planning a space mission to Uranus in the 1980s. Last week, NASA invited scientists to propose experiments for the mission, which would probably be launched in 1979, swing past Jupiter in 1981 and reach Uranus in 1985.

As now planned, the mission would use a Mariner-type spacecraft, which would pass Jupiter at a distance of about 392,000 kilometres and come as close as 24,000 km to Uranus.

Because Uranus has many interesting and enigmatic features—such as the fact that it spins on its side and its atmosphere seems to contain large amounts of methane—the mission has strong support among space scientists. But, earlier this year, the National Academy of Sciences suggested that NASA should reconsider the mission's priority in light of the fact that the space science budget is unlikely to grow much, if at all, in the coming year. Officials of NASA believe, however, that the mission could be fitted into the budget for two reasons. First, it will rely partly on existing hardware, which will keep the costs down and, second, the major expenses will be incurred before the most expensive development phase of other space missions such as the Large Space Telescope and a possible Jupiter orbiter mission.