

sands of tons of plutonium (each reactor produces about 500 pounds of plutonium per year), posing untenable nuclear proliferation threats.

### **NUKES EMIT CARBON TOO!**

While atomic reactors themselves are not major emitters of greenhouse gases, the nuclear fuel chain produces significant greenhouse emissions. Besides reactor operation, the chain includes uranium mining, milling, processing, enrichment, fuel fabrication, and long-term radioactive waste storage, all of which are essential components of nuclear power. At each of these steps, construction and operation of nuclear facilities results in greenhouse gas emissions. The uranium enrichment plant at Paducah, Kentucky, for example, is the largest U.S. emitter of ozone-destroying ChloroFluoroCarbons (CFCs)—banned by the Montreal Protocol (the Paducah plant was grandfathered by this treaty).

Taken together, the fuel chain greenhouse emissions approach those of natural gas—and are far higher than emissions from renewable energy sources, not to mention emissions-free energy efficiency technologies.

### **NOT SUITED FOR WARMING CLIMATES**

Unlike solar power, nuclear power does not work well in warming climates. The summer of 2004's heat wave across Europe not only killed thousands of people, but because of dwindling river levels caused many reactors to reduce power levels and even shut down entirely. Reactors require vast quantities of water to keep the core cool; changes in water levels, and even water temperatures, can greatly affect reactor operations. Reactors in the U.S. have similarly been forced to close during heat waves.

### **CAN'T TAKE US TO THE MALL**

Nuclear power, which can only produce electricity, does not address emissions from automobiles and other components of the transportation sector—one of the largest source of carbon emissions.

### **WHAT WE CAN DO:**

#### **A CARBON-FREE, NUCLEAR-FREE FUTURE**

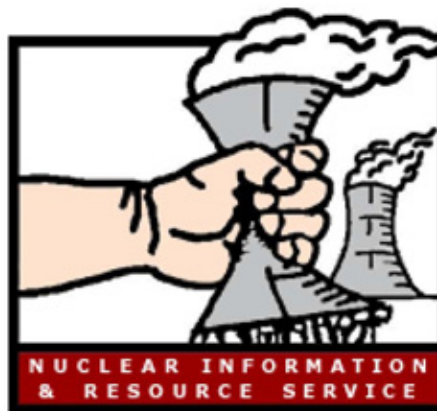
Major investment in energy supply will be needed to meet growing energy demand and address the climate crisis at the same time—perhaps even as much as building 1,500 new reactors would cost.

But investing the money differently gives us much more bang for the buck: instead of a 20% reduction in carbon emissions, we can get a 100% reduction—and that's a goal worth working for.

By 2050, the world will need about 25-30 Terawatts of energy, or the equivalent of 25-30,000 nuclear reactors. Clearly it is not possible or affordable to build that many reactors. But it *is* possible to build that much capacity through energy efficiency improvements, and sustainable energy sources including wind, biomass, geothermal, and especially solar power—if we start making the necessary investments now.

It won't be cheap or easy, but the payoff is huge: safe, clean energy that helps alleviate rather than contribute to the climate crisis.

Our choice is stark: we can choose nuclear power, or we can address global warming. We can't do both. Fortunately, the choice is an easy one.



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