

Abstract for an Invited Paper  
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**Alternate Energy for National Security.**

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Recent price fluctuations at the gas pump have brought our attention to the phenomenal increase of global energy consumption in recent years. It is now evident that we have almost reached a peak in global oil production. Several projections indicate that total world consumption of oil will rise by nearly 60 per cent between 1999 and 2020. In 1999 consumption was equivalent to 86 million barrels of oil per day, which has reached a peak of production extracted from most known oil reserves. These projections, if accurate, will present an unprecedented crisis to the global economy and industry. As an example, in the US, nearly 40 per cent of energy usage is provided by petroleum, of which nearly a third is used in transportation. The US Department of Defense (DOD) is the single largest buyer of fuel, amounting to, on the average, 13 million gallons per day. Additionally, these fuels have to meet different requirements that prevent use of ethanol additives and biodiesel. An aggressive search for alternate energy sources, both renewable and nonrenewable, is vital. The presentation will review national and DOD perspectives on the exploration of alternate energy with a focus on energy derivable from the ocean.