

US National Academies panel recommends expanding alternative nuclear fusion experiments

March 8 2012, by Bob Yirka

(PhysOrg.com) -- The National Academies in the United States, made up of the four organizations: the National Academies of Science and Engineering, the Institute of Medicine and the National Research Council, has [issued an interim report](#) in the *National Academies Press*, advocating that additional research be put into studying alternative technologies for imploding fuel used in fusion reactions.

Currently, the bulk of [federal spending](#) on fusion research goes towards finding out how it can be used in [military applications](#). To that end, the government has invested billions of dollars in the [National Ignition Facility](#) (NIF) at Lawrence Livermore National Laboratory in California. There researchers say they are on the brink of achieving “ignition” the point at which they get as much power out of the system as they put in. The NIF achieves fusion by imploding hydrogen isotope pellets by shooting them with the world’s largest laser. The problem the Academies says, is that no one knows for sure if it will work and if it does, how well. Also, no one really knows if there might be a better way to go about imploding fuel for use in such reactions. Thus, it makes little sense to pursue just one way to get the job done. Standing in the way of research into other ways to implode the fuel necessary for a fusion reaction is the huge amount of money such research takes. Making matters worse is next year’s US federal budget calling for less spending overall into such research.

Others, such as Geoff Olynky, agree. He argues in a [gust column](#) on MIT's *The Tech* that the United States can't afford to not invest in [alternative technologies](#) because other countries are already hard at work doing so. He points out that China has made fusion research a national priority and that the European Union is spending billions to do so as well. Not doing the research required to build a true fusion program in this country, he maintains, will lead to the United States falling behind in a technology that could prove to be one of the most vital in the near future as energy demands worldwide continue to increase.

Thus, at this juncture, the real issue is whether the [United States](#) will continue to see nuclear [fusion](#) as a means for creating weapons of unparalleled destruction, or as a means for solving the looming energy crises stemming from both high demand for oil and the cost to the environment of the continued use of coal and other highly polluting nonrenewable resources.

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