

Government Must Encourage New Energy Innovation

Martin I. Hoffert, along with ten other experts, wrote a paper in *Nature* in the year 1998 (*Nature*, 395, 881-884; 1998) which dealt with the necessity of immediately launching a massive effort in developing innovative processes for production of clean energy in the light of the United Nations Framework Convention on Climate Change. They had also made an estimate of cost for carrying out such a programme, wherein they had shown that a project “on the scale of the Apollo moon shots might be needed to transform the world's energy system”. In a recent article published in *Nature*, Marty Hoffert has asked the USA Government to make this investment without any hesitation (*Nature*, 472, 137, 2011). In his opinion “we should now be debating not whether but how to do this”.

Being inspired by the President Barrack Obama's call to put a million electric cars by 2015 and to generate 80% of electricity from carbon-neutral sources by 2035, Marty Hoffert reminds the Government that never in the history, the innovations in science in a large scale could happen without direct help and subsidy from the Government. If such innovations are left to the market force, it would never materialise. Markets will take it up only when the process becomes profitable. He opined that “the private-sector-alone approach is a prescription for disaster, and displays abysmal ignorance of how the United States ended up with its current energy system”.

He is not ready to buy the argument that USA does not have enough money as the country is seriously plunged in debt. In his opinion USA was in a much worse situation (considering debt to GDP ratio) before the Second World War during the time of Great Depression. During that period President Roosevelt borrowed money from people to fund the great projects on technological development of war machines. This culminated in producing the jets and the nuclear power. By the end of the Second World War, debt-to-GDP ratio increased by more than 100%. However, ultimately “the United States emerged as the strongest economy on the planet”.

Industry leaders and academic researchers have recommended that in order to “fund research, development and demonstration in sustainable energy” in USA, initially it would need merely 15 billion dollars per year, which is just one-tenth of 1% of the GDP. One should remember that China is already planning to invest 75 billion US dollars per year for this purpose. Marty Hoffert gave a clarion call “Mr President and Congress: open your minds to a civilization powered by wind turbines in harmony with our landscape and continental shelves; solar electricity from deserts and Earth orbit powering our cities; safe, proliferation-resistant nuclear reactors; coal gasifiers driving efficient electric power plants with CO₂ stored underground; along with energy-efficient homes and public buildings, smart power grids, high-speed rail, electric and bio fuelled cars, even carbon-neutral fuels made from sunlight, water and CO₂ in the atmosphere more efficiently than nature does by photosynthesis. These are no longer impossible dreams, but realities of new US industries revitalized by American entrepreneurs and a high-tech workforce, much like the one Roosevelt created to fight the Second World War”. Finally he called “This is a dream worth rededicating the American experiment to: visionary, and yet science-based, that goal will lift the spirit of our children and grandchildren with passion and the tenacity to make it so. Say it, Barack, shout it from the rooftops, dedicate your presidency to it, and you will stand immortal in the pantheon of American leaders who changed everything”.

This article should be an eye opener for the Government of India, which is moving heedlessly towards proliferation of the fission technology, that too by utilising the obsolete technologies of the west. Even after the recent disaster in Japan, it seems that the Indian Government is not ready to

learn any lesson. We appeal to our Government to allocate at least a small fraction of our GDP for the development of clean energy in our country in order to get a permanent riddance from fossil and nuclear fuels.