Indian Doctors for Peace and Development – Interactive session on Nuclear Energy on Oct 20, 2011 at India International Centre, New Delhi.

An interactive session was held on 20th October 2011 at India International Center, New Delhi on the question of nuclear energy. Prof. Andreas Nidecker – President IPPNW Switzerland and Gen. Vinod Saighal were the key speakers. The session was moderated by Dr. L.S. Chawla, President IDPD.

After the Fukushima Nuclear reactor crisis, both chambers of the Swiss government, the people representatives and the executive branch have decided to phase out nuclear energy. Prof. Andreas Nidecker made a presentation on **Doctors Arguments against the Civil Use of Nuclear power**. He explained in great detail the reasons for the non viability of nuclear energy as a source of meeting the world energy crisis. He enlightened the audience about the harmful effects of radiation in the Nuclear Chain - right from Uranium Mining to Nuclear Waste Disposal. Refering to the Fukushima Nuclear disaster he cautioned that all claims of use of high technology and advacned disaster management have been belied. The exact effects of this incidents will be known in due course of time. We very vivdly remembered the fallout of the Chernobyle Nuclear Accident. Much was done to hide the facts but now the things are getting more clear. Fukushima infact has put a fullstop on all the tall claims about the safety of the nucelar energy.

He highlighted 7 important drawbacks of Nuclear Energy:

1. **Cost :** very high and steadily rising for investment, maintenance, insurance premium, increasing security requirements in and around Nuclear Power Plants (NPP) and waste management. Uranium cost and high costs of decommisioning a nuclear reactor.
2. **Security :** There is a danger of terrorist threat. Not only direct hits of the reactor core, but also sabotage of the cooling systems are terrorist risk nowadays and You need not to have a bomb destroying the core.
3. **Waste :** No single nuclear waste repository exists today. High level waste as Pu is a problem. The Plutonium is extremly toxic and it is difficult to manage as it may explode.
4. **Water:** Three areas of concern: a) water for uranium mining b) for cooling of reactors c) danger of water contamination. Huge amounts of water is necessary for preparing yellow cake i.e. in the mining process. The hot water from the plant which is thrown into the rivers heats up of the river waters with its implications for biodiversity and there is constant

risk of water contamination.

5. **Radiation :** Re ingested/ inhaled particles as Sr and Pu. Radiation cannot be tasted or smelled and its toxic effects is not felt by patients and difficult to prove by doctors. Further, Radiation induced cancers occur yrs past exposure
6. **Resources :** Today 3% of the worldwide energy demand are met by Nuclear Energy. Uranium used yearly by the 440 NPPs will last for another 80 years. High demand of urnaium explains steady rise of its price in world market. Uranium mining = extremely dirty business and consumes a lot of water. Leaves mining areas destroyed after exploration.
7. **Proliferation :** Pu239 is one of the deadliest substances known with half life 24000 years. A few microgramms can cause cancers. Plutonium serves to generate energy or manufacture nuclear weapons. High grade (highly enriched, pure) Pu can sustain fission reaction and is used to ignite Nuclear bombs. Many countries possess large quantities of military grade Pu, there are major reasons for worry about so called „Pu-link": increasing risk for nuclear proliferation

He further drew attention to the Non-Nuclear risks of nuclear energy

a. **"Cementing" electricity production** : Nuclear Power plants are extremely „static" and new NPP for economical reasons are planned for a lifetime of at least 60 years. Terminating the construction of NPPs around the 2030s - 40s would „cement" i.e. retain the future power production with NPPs until 2100, a time horizon beyond all currently known „energy scenarios"
b. **Wrong power mix**: NPPs are not a supplement, but a direct Competitor to windparks and Photo Voltaic plants !
c. **Investment Dilemma** : Investments in new NPPs additionally not possible, i.e. would hinder or even make necessary conversion process impossible
d. **Resource** : Presently Nuclear energy has a portion of 3% of the global power production, with a tenency to drop. Inspite of this, worldwide ressources of U suffice for 70 - 80 years only. With increasing civil use of Nuclear power, Uranium ressouces would be depleted much earlier, long before the amortisation time of new generation NPPs. Breeding reactors by force would be the likeliest consequence . U based light water reactors of the 1st, 2nd and even 3rd generations will be - old hat !

He further suggested Alternatives? Conservation (Negawatts!), Renewables, Green Tech ...Cleantech (CT).

CT: any product, service, process or operational method that is better for environment than the prevailing procedures or products.

In recent years, climate change and resulting need to replace fossil fuels have created vast markets for alternative technologies. These projects qualify: harvesting solar power for heat and electricity (PV), wind and wave energies, geothermal and biomass projects (these globally very important in agriculturally dom. countries !).

But also optimal energy conservation (insulation of houses) and resource management (waste products contain a lot of energy, which may be harvested). But also more traditional technologies as co-generation (creating heat and electricity at same time!).

Growth of CT 10% annually, with wind and solar even up to 30%!! May be biggest single industrial sector over next decades, which will produce millions of jobs.

He concluded with the following observations.

Nuclear risks while small are inacceptable ...

Non-Nuclear risks (investments etc.) are big but unnecessary and may hinder conversion to alternatives existing today

The future is CT i.e. Clean tech!

The session was honoured by the presence of His Excellency, Ambassador of Switzerland Mr. Philippe Welti who informed that his country has overwhelmingly decided to phase out nuclear energy and replace with it renewable resources. But its take time to do all this.

Mr. Raimund Magis - Deputy Chief of Mission, Austrian Embassy suggested that there is need for environmental accounting around the world.

Mr. Pablo Mendez de Vigo - Counselor, Embassy of Spain said that Spain is using reneable resources in large number for a long time.

General Vinod Saighal warned that the time is too short for us to act. We must plan our strategy to build a strong anti nuclear movement. He also suggested to file a public interest litigation on this issue.

Dr L S Chawla pointed out that nuclear energy is fraught with dangers to health of the people particularly those living around the nuclear facilities. This has been amply confirmed by the study conducted by our organisation on the health effects of people living around Jadugoda Uranium Mines.

Dr Arun Mitra said that we have to build a strong public opinion against all odds posed by the government and the pro nuclear lobby in our country. We have to build a liaison with the other anti nuclear groups and build

resistance against the nuclear policy of the government.
Ms Amarjeet Kaur suggested that it is important that the press and media are made aware of the truth about nuclear energy, so that the right message can be spread fast, far and wide. She also suggested that medical students and doctors should reach out to the students and faculty in the non medical fields.
Valuable suggestions were made from various distinguished guests attending the meeting. Dr.Narender Jain, a leading agricultural scientist compared the case to tobacco industry. How the ill effects of Tobacco are well known. But in economic interests of a small group, the tobacco industry is allowed to prosper with the health of people at stake. Dr V M Kohli and Dr Anjli Mehta and Dr Nilima Pathak also participated in the discussion.
Medical Students who attended the session, Dr Ankita Choudhary, Dr. Tarninderjit Singh, Dr. Arashdeep Singh, Dr. Apramjyot Kaur were enlightened by the facts and pledged to carry the message forward to the younger generation.