The Global Transition to Sustainable Energy for Energy Security and Safety

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Abstract

Developed nations as well as countries in transition need effective sustainable energy policies to **secure long-term energy supplies** and to cope with the problems of global warming, biosphere degradation, spiraling health cost and the national balance of payments.

Greenhouse gases must be curbed much faster and beyond the 2012 Kyoto protocol goal to reduce **global warming**, causing rising sea levels, flooded coastal areas and ocean islands, lost mangroves and wetland biotopes, melting glaciers and the ice poles, ruined ski resorts and riverside inundations, mountain erosions and land slides.

Sustainable energies will help to avoid health problems from pollution, radiation and noise, protect the biospheres and aqua-spheres, avoids acid rains and safeguard agriculture, fisheries, forestry, food and animal feed security, water quality and prevent further desertification, migrations and trade imbalances.

Finite mineral energy resources must be stretched for future generations and replaced by renewable sources for the transition to renewable energy to be accomplished in the 21st century with the most economic, ecological renewable energy mix. **The wealth from fossil fuel revenues must be wisely used for this transition to the clean, sustainable energy age !**

Risks of disasters, wars, terror, contamination, exposures of power plants to sabotage, tornados, earth quakes or meteorites causing radioactive catastrophes, epidemic diseases, explosions, leaks, spills can and must be prevented.

The common goal is to introduce better national policies and legislation for sustainable energy by enforcing full the energy accounting principle based on the polluters-pay concept, facilitated by the international standard ISO 13602-1 Technical energy systems – methods for analysis.

ISEO gives action-oriented guidance and **ISO/IEC** provide the necessary standards as practical tools for the eradication of environmental and health problems by **clean energy systems**. In order to fulfill this historic task efficiently and speedily, following subjects must be dealt with:

Enforcement of the energy analysis, statistics and forecasting standards of ISO and intensified world-wide action in following areas: Hydropower (small, medium, large and pumping); wind power and pumping; biomass (solid, liquid, gaseous, energy from waste); geothermal; solar (PV, heat, drying, solar architecture, solar air conditioning and pumping, sterling engines); ocean energy; clean fuel and electricity production & storage; heat pumps and co-generation; low energy architecture; sustainable transport; muscle energy; energy efficiency (insulation, lighting, leaner vehicles, car pooling etc.); education, responsible human behavior; more and easier project financing; intensified sustainable energy R&D; better environment and clean energy laws; global sustainable energy policies.

If future generations want to have a chance of a prosperous survival on Earth, the actual energy dilemma must be resolved **fast and effectively**.

Conclusions:
- The polluters pay principle is a *MUST*
- Abundant Renewable Energies are *available*
- All Finite Mineral concepts can be *abandoned*
- Evolution of Quality of Life becomes *possible*

The website www.uniseo.org is a platform and link to networks of global communication and dissemination of sustainable energy information.