ISEO-Newsletter
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Energy Consumption Growth versus Terminal Resource Depletion

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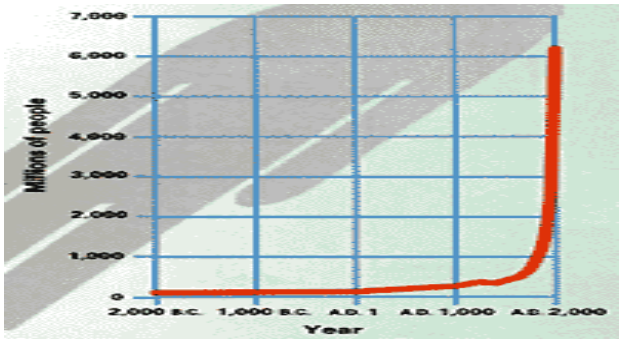
Limits to Growth > Earth Carrying Capacity

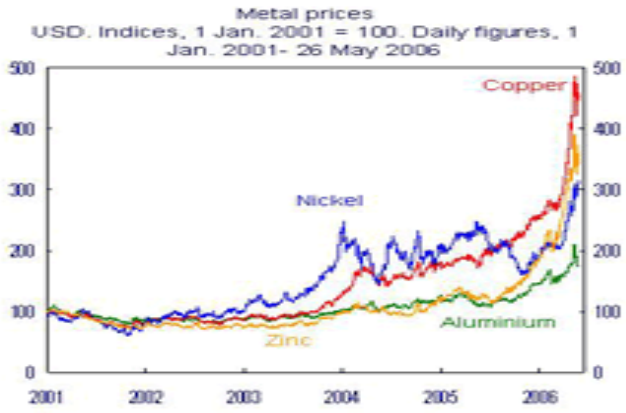
The warnings by Meadows and the Club of Rome in the early Seventies were not taken very seriously by politicians, decision makers and automotive design engineers, that mineral resources on our planet are finite and might ***limit the population growth*** with the spreading affluence of modern civilization.



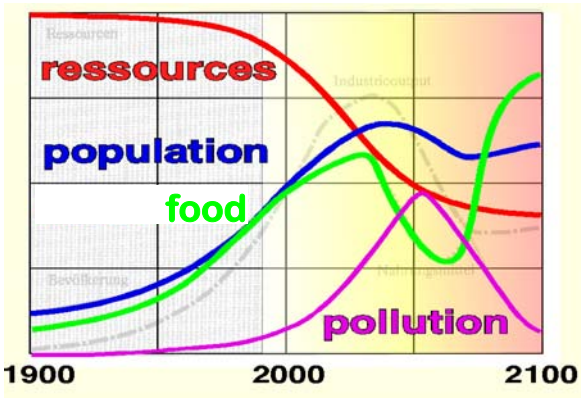
Human population growth has exploded since the mid-1900's

The depletion and ever-rising fossil fuel cost make the inefficient combustion engines, gas and steam turbines and the too heavy cars obsolete, but also indispensable metals like iron, aluminium, chrome, zinc, nickel and copper jeopardize the development of alternative solutions. The booming photovoltaics industry is hampered by the shortage of pure silicon and the future of nuclear power is jeopardized by the sky-rocketing Uranium cost, due to limited supply. Advanced battery technology might soon suffer from Lithium and Cadmium shortages; car exhaust pipe catalizers and hydrogen electrolyzers will see Platinum shortages with steep price escalations.

Metal cost doubled, trebled or even quadrupled and quintupled in recent years, hampering development and becoming unaffordable for poorer nations.



Fossil fuels are combusted thoughtlessly with an incessantly rising consumption, ignoring that the chemical and metallurgical industries are running out of their indispensable hydrocarbon feed stocks.



How to stop this resource squandering ?

Future generations can survive only by the urgent establishment of a globally concerted birth control and natural resource conservation and recycling policy at the UN level – see www.uniseo.org

Over half of the world's oil and gas production is still squandered in transportation – more than 1/3 of the total world energy consumption. The remainder is burnt up in inefficient power plants and for heating – often for overheating of badly isolated buildings - all with catastrophic effects on the climate, health and biosphere, costing billions of disaster damages and avoidable health cost.

With electric vehicles the enormous amount of finite energy resources used for transportation can be effectively reduced to a small fraction of today's consumption, because energy efficiencies will increase from some 25 % to over 90 % and the wasteful, polluting idling of engines in traffic jams and the downhill energy losses will disappear.

Recycling and re-use will become imperatives

However these sustainable energy systems are only really sustainable, if the finite materials they use are re-cycled or re-used at the end of their life.

All metals must be recycled after their industrial usage, to assure the future production of wind and hydro turbines, generators, motors, heat pumps, power transmission lines, switches, transformers, appliances, clean electric railways and vehicles.

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This global materials supply and re-use policy will make the ISEO prediction come true, that with only about 2 % world-wide energy consumption growth, economies and living standards can grow even in frantically developing nations like China and India with their two-digit GNP growth rates, despite the disappearance of the fossil fuels and massive use of copper, steel and other essential materials.

Hence all transportation can be done with a much smaller portion of the energy produced in a clean, sustainable way from wind, water, geo, bio resources and from the oceans – not to mention novel resource-efficient energy systems producing virtually unlimited clean electricity - but all needing finite materials - mostly metals.

With a wiser use and recycling of natural resources combined with birth control, the ***carrying capacity of our planet*** might still suffice for many generations to come and the sarcastic saying that we need several planets to satisfy our affluence, may then belong to the past !

Appeal to the White House and all Nations

With the "Father of Modern Physical Chemistry", Professor John O'M Bockris, co-founder of the International Society of Electrochemistry ISE, IAHE-WHEC, ICEC and ISEO, following appeal to the US government and all decision makers is released:

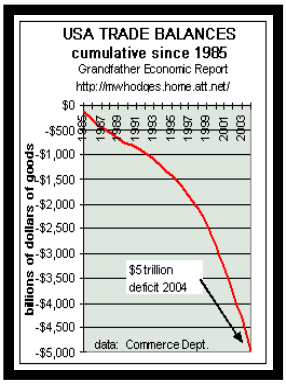
Madam, Sir,

The tipping point of the delivery of petroleum to the United States is now to occur in less than ten years after the US production mid-point has been passed over two decades ago. To build sufficient generation capacity and new fuel systems for the millions of vehicles in the few years seems almost impossible. We need decades to build new clean power plants and to replace obsolete ones for new energy sources like solar, hydro, wind, geothermal and ocean energy. Not only oil but all the mineral sources gas, coal and Uranium are rapidly depleting world-wide.

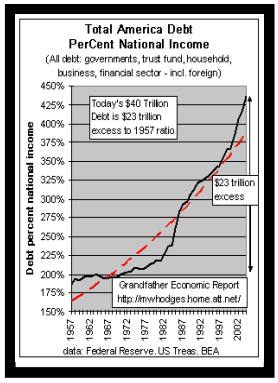
What are we going to do ?

If we had enough time we would build wind-to-electricity parks all over the place, more hydroelectric stations along rivers, harvest geothermal energy wherever possible, equip all suitable roofs with solar systems and build solar farms in the deserts of the South.

But unless all manufacturing capacities, capital markets and government funds are mobilized to build renewable energy facilities, the rising oil and gas prices and imports would throttle the US economy and devaluate the US Dollar further beyond repair.



US Trade Balance



Rising National Debt

To bring our badly endangered economy into balance and save the Dollar value it may be necessary for us to change some of our laws according to the Global Energy Charter for Sustainable Development of ISEO – see www.uniseo.org. Our President must be able work with committees of experts and come to fast military style decisions to substitute the dwindling mineral energy resources by benign, renewable systems.

It will be necessary to ration scarce resources by limited gallons per household per week, reduce pleasure travel and prohibit sports using fossil fuels, enforce higher tax penalties on fossil fuel heating systems and too heavy cars, which will result in a more efficient and wiser use of fossil fuel combustion engines, air conditioning systems and appliances.

The armed forces with their huge budget must be dedicated to clean infrastructure projects, rather than to risky martial missions wasting even more fossil fuels and lives abroad.

Sincerely

John O'M Bockris, Professor em. University of Pennsylvania & Texas A&M University

More Energy Events around the World

On the ISEO web portal www.uinseo.org > News & Events, there is an updated list of hundreds of conferences all over the world, dealing with all aspects of environment protection, climate change, renewable energy and energy efficiency.

Dialogues with ISEO

If you want to report about initiatives, conferences and progress on sustainable energy or if you are interested in an ISEO membership please contact the Central Secretariat of ISEO info@uniseo.org.

You may send us your questions, suggestions, updates and missing links for inclusion in ISEO's international network website **www.uniseo.org.**

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