

Will this work?

Is it realistic?

Thoughts and Acts of a Political Practitioner with a Solar Vision

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My way of solar thinking

In 1971 I had just gotten my high-school diploma. Shortly after we had the first oil-price crisis and the Club of Rome published the Limits to Growth. As a young student I felt closely linked to the rebellious, relieving, and questioning ideas of the German student revolt of 1968 and I wondered how the problems of tighter resources and destruction of nature could be overcome. I realised quickly that one of the main dangers to our world was the use of the fossil and atomic resources. Suppression, exploitation, spoiling the natural environment, and conflicts about oil were already on the agenda in those days. I realised more and more during my studies of physics the problems associated with the use of the atomic energy; I could not simply believe in the many 'atomic' claims expressed by my professors and put them into doubt. This was complemented in the early 80s by the awareness of the drama of global change.

In my first years as a student of physics I also learnt quickly that the sun irradiates 10 000 times the energy on Earth that mankind needs and uses. Hence, I saw solar energy right from the early 1970s onwards, as an overarching comprehensive solution.

My purpose was always to work out over-all solutions and not only partial ones. Not only to introduce cars with catalytic emission control, but to stop CO₂ emission, too. The success of the catalytic emission control of the cars since the early 80s and the sulphur gas cleaning of coal power plants has slowed down the dying of forests, but at the same time it could only make worse the climate change problem. Had we given preference to electric cars driven by green power and to wind- and solar power plants early on, we would not even need catalysers and sulphur cleaning and we maybe had not to deal with a dramatic global climate change as well as classical pollutants.

At that time I did not understand why one keeps betting on the destructive fossil and atomic energies despite the availability of that abundant and unlimited energy from the sun that does not destroy nature.

I followed with much hope the first industrial revolution on the Renewable Energies in the United States that was promoted by President Carter. When President Reagan later stopped brutally all support for Renewable Energy research and market promotion, I started to realise that the driving force behind the fossil and atomic energy system is made up by the economic interests of the energy monopolies that are sponsored by a complacent political patronage.

All this kept worsening until today. Governments of all nations are seeking despairingly a way out of the looming climate catastrophe since the Global Summit of Rio in 1992. Nevertheless the global temperature increase kept accelerating. No solutions are found while the economic interests of the energy monopolies carry on regardless. For the world leaders, energy security is impossible without oil, natural gas, and uranium. Despite the fact that these resources stand for 80% of global Green House Gas emissions. The ongoing dependence on fossil and nuclear energy makes an effective climate protection impossible to realise. Moreover, leaving behind the 'peak oil', neither today's energy supply nor that of the future can be fully secured with the conventional energies.

The current financial crisis was inter alia stimulated by an oil price of 150 \$ /bbl in July 2008; it actually gives already a taste of what kind of problems to expect for the global economy and our all well being as a result not only of global climate change but also of the limitation of conventional resources.

But instead of heading now resolutely at a 100% Renewable Energy supply, most of the world's leaders keep supporting the conventional energy monopolies. The market dominance of those has developed into the largest business worldwide. 9 of the 16 largest concerns on Earth are oil companies. 6 other technology companies, mostly those of the automobile industry, place on conventional energies.

And the profits of the oil companies are growing along with the oil price. For instance Exxon, the world's biggest concern, had in 2002 a profit of 12 Billion \$ while the oil price stood at 22 \$; in 2008 it went up to 42 Billion \$ for an average oil price of 100 \$ that year. The oil price developed in the meantime into an important instrument for steering money from the poor to the rich – but despite of this (maybe because of this) we still do not have a fully consistent policy for a rapid switch towards Renewable Energies.

This is the more surprising as it has now become visible for everybody how fast an industrial development of the Renewable Energies can be realised. Germany's 'Feed-in' law EEG giving priority to Renewable Energy in the Power sector has stimulated growth rates that had still in the year 2000 been shrugged off as completely unrealistic and naïve. It did start an industrial revolution that can best be seen from the new jobs that were newly created. The 30.000 jobs we had in 1998 in Germany's Renewable Energy sector have become 300 000. These are 10 times as many as in 2009.

Being called a solar do-gooder and unrealistic politician

But those who call for the decisive solutions, that is the 100% switch towards the Renewable Energies, are slandered and insulted as unrealistic, crackpots, or out of touch – no matter if in the past it were the solar pessimists who got it all wrong. Unanimously they had declared the great successes of the Renewable Energies we have recently experienced as impossible. But to be called 'unrealistic' is actually hiding a methodology of prohibiting the fast growth of the Renewable Energies. From the supposedly slow growth only for the Renewables they derive the authority for the ongoing investment into fossil and atomic energies. Deliberately they spread the fear that otherwise the lights may go out.

Many solar pioneers had the same or similar experiences like me. I myself was my whole life smiled at or even insulted as a stubborn do-gooder and dreamer. My analyses were rejected most of the time as incorrect without discussing them with me in detail. My only possibility then was to confront myself with my own thoughts and to discuss with people who shared my ideas. That is how I was able to progressively sharpen my vision and strategy.

The developments of the last few years concerning the shortage of resources, global change, and the steep growth curves of the Renewable Energies did confirm my earlier analyses and even exceeded my expectations to some extent. This is the reason why I could always stick to the fundamentals of my ideas of the 70s; I remained firm in following and implementing them into my private life and into politics. This persistence and the experiences gained were the reason for my successful political actions in favour of the Renewable Energies. In every phase of my activity I accepted critics on my ideas and analysed it thoroughly. Most of the time the critique was unjustified, but sometimes it improved important details of my world of ideas.

I remember many situations in my life where I was warned not to implement my ideas, where I was accused of a lack of realism and of crazy ideas and that it was to be expected that my plans were impossible to realise.

Nonetheless could the triumphant advance of the Renewable Energies eventually be founded by striving vigorously with many companions of the Solar Revolution.

Some important steps of my life should illustrate the persistence of my solar way:

I was told:

A home exclusively supplied with Renewable Energies were impossible –

My house that was built in accordance with solar criteria in 1985 is exclusively supplied with Renewable Energies since 1995. A PV generator of 1991 and a cogeneration plant fed with vegetable oils allow me to produce more electricity than I need. My heat requirements are met by a green house and solar heat collectors together with a wood furnace and the heat coming from the cogeneration plant. My two cars are solar powered since 1996 with my own electricity or respectively with vegetable oil.

I was told by the professionals of my community:

Solar Heating of the public swimming pool is uneconomic and technically impossible to realise –

As a city councillor I was able to arrange a solar pool heating as early as 1992; it saves till today masses of heating oil economically.

Colleagues of the city council and lawyers told me:

A city regulation for 'cost covering' tariffs for solar electricity is legally impossible –

The first decision on city level worldwide on the cost covering tariffs of solar electricity was arranged by me as a city councillor in Hammelburg, a small town in Bavaria. It also worked as a model for other communes such as Bonn, Munich, Nuremberg, and Darmstadt; eventually, thanks to the great success it had locally, it became the basis for a federal law in Germany, the EEG feed-in tariff law mentioned here above.

I was told by financing experts:

A cost-effective operating community for solar electricity is economically impossible; no financial support will be available –

I have created worldwide the first community of operators for solar electricity, the Hammelburg society for solar electricity. In only two years time we were able to collect the needed capital of 200.000 DM. It is profitable until today. Collecting that capital was easy despite the announcement that the investment was not secured as long as Bavaria had not yet approved the 'cost-covering' tariff system. After tough negotiations with the Bavarian authorities we succeeded in 1996 to get the approval that many had thought impossible to reach.

Leading economists had told me:

A yearly installation of 80 MW of PV power that I had projected in 1995 by extrapolating our Hammelburg experience is unrealistic and wishful thinking; a solar industry of this size is outside any realistic financial scope –

In 2008 Germany installed 1500 MW new ones.

I was told by most of the federal and state politicians:

My demand for a German federal law of 'cost-covering' tariffs for all types of electricity generation from Renewable Energies is nonsense. Still in 1998 it was rejected with a shrug by most politicians as unrealistic. This is the reason why it did not become part of the new Government programme that same year -

In the year 2000 the red/green majority of the Bundestag has decided the EEG.

Even in 1999 I was told by some politicians defending the solar energy case:

My proposal for .99 DM per kWh of solar electricity in the EEG was reasonable but unfortunately impossible to get through –

In 2000 the German Parliament adopted exactly this tariff in the EEG. Together with the '100.000 – roof' programme it became the breakthrough for the market introduction of PV in Germany; in accordance with the experience gained for the cost-covering tariffs in towns and cities, the principle of profitable PV tariffs became binding law in Germany.

Utility experts told me:

The goal of the EEG of the year 2000 to double the share of the Renewable Energies by 2010 to 12.5% is totally unrealistic –

At the end of 2008 the share of electricity from Renewable Energies in Germany stood at 15.1%.

I was told by the experts in the Research Departments of the German Government in 1999:

It is not worthwhile to invest further budgets into solar thermal power, into geothermal energy, other Renewable Energies, and electric cars. It would make more sense to devote this money to nuclear fusion –

Thereupon I threatened to vote against the whole federal budget in the Parliament as I thought that exactly these additional funds for Renewable Energy research were necessary. By this brute force I succeeded in increasing instead of reducing the research funds for the Renewable Energies. This was the basis for geothermal power plants and a revival of solar thermal power.

I was told in the year 2000:

It is not worthwhile to promote the EEG also in other countries; it could at best be realised in Germany as other countries give anyway preference to atomic power and coal –

I did travel to many countries and reported on the great successes of the Renewable Energies in Germany and the legislation that made it happen. Today some 50 countries worldwide have adopted with various consistencies similar legislation following the model of the EEG. In many countries I was and still am consulted by

Governments and Parliaments, by Universities and companies concerning the legislation issues; lately even by the US Congress.

And how is it today?

Today one encounters incredibility again with the claim that by 2030 the world could switch to the Renewable Energies provided the world leaders agreed. It is opposed the same way as the demand to clean the atmosphere from much of the man-made CO₂, towards 350 ppm or so.

One could well think of industrial processes allowing for a 100% supply of the planet with Renewable Energies; also the CO₂ reduction of the atmosphere is possible, for instance via vegetation that absorbs the CO₂ and keeps it safely in the ground.

As usual there are the sceptics, the doubtful, and in particular the protectors of the interests in the fossil resources and the interests in conventional agriculture. They all prohibit such an effective and rapid climate protection.

But the positive force of the Renewable Energies will impose itself faster than the leaders of the fossil and atomic energy system anticipate. More and more people, companies, and political leaders realise the impasse of the conventional energies. They want to get rid of the dependency of the big energy monopolies that give us a hard time with ever increasing energy prices. They want to liberate themselves from the need for wars about limited resources and fear increasing atomic dangers. And they want an effective climate protection.

I will never stop stressing the chances of the Renewable Energies' rapid growth while denouncing the deplorable state of the conventional energy supply and agriculture. I am going to promote the goal of 350 ppm of CO₂ – even though I will hear again that this is unrealistic and a crazy idea of an incorrigible visionary.

I learnt in my life that a lot more is possible than what most people believe in. That provides me and others with the strength to follow those goals.

The world has anyway no better chances.