

**Al-Mamlakah al - “Arabiyah as - Sandiyah”**

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Hydrogen - the “New Oil”

Or:

Solar Power leads to Hydrogen

**Dear Ambassador,**

Millions of people throughout the world are working on the following assumption: that hydrogen is the “oil” of the future.

In the next few years it is quite feasible that we will see an international solar power or hydrogen energy industry.

As a secondary energy carrier, hydrogen is seen as a key element in a re-generative world energy supply.

When using hydrogen (in liquid or gaseous form, depending on the required density of the energy), the moment when the level of self-sufficiency (i.e. continuous availability) is reached is the same as that of today’s fossil fuels.

The large-scale production of hydrogen only makes sense if we use re-generative primary energy carriers such as the sun, the wind, etc.

The idea of “producing” solar power industrially, on a large scale and over a large area, in areas near the equator, in particular in the Sahara, is at least 20 years old. Most experts have rejected this idea

and have come out in favour of “decentralised” solar power technology outside the Sahara.

**Mr. Ambassador, this cannot be in the best interests of your country.**

However, I still think the old idea is best, and I am in favour of building the first large-scale solar-thermal power plant in Saudi-Arabia, the “HAR.1”, with an output of 1,500 MW, on the coast of the Red Sea, about 500 km north of Mecca (between Duba and Yanbu’ al Bahr). The solar electricity generated there could be brought, for example, by means of high-voltage DC transmission pipelines through the Red Sea to Egypt to the Mediterranean coast (approx. 1,300 km).

Further HVDC undersea cables could then feed the solar power from Saudi-Arabia into the European grid on the Sicilian coast.

HVDC cables with a length of up to 2,000 km are state-of-the-art in South Africa and Brazil.

Night and bad weather operation (sandstorms, etc.) could be safeguarded by using hydrogen-fuelled steam generators (hydrogen boilers). The hydrogen could be produced electrolytically as solar hydrogen on the HAR.1 site during the day and stored in gas tanks under high pressure for use at night or in bad weather. In this way one could guarantee an almost constant output.

HAR.1 could then supply electricity around the clock. It would operate in a fully self-sufficient way.

With this letter I would like to make the Arab states more aware of the potential of the areas near the equator in realising the unsuspected possibilities of future solar power technology.

The sunny areas of the earth enable us to use the incoming solar energy to its maximum with the help of solar power plants.

### **Oil reserves are not endless.**

That means that the country which earns money now with oil can earn money tomorrow with oil and solar power and the day after tomorrow with solar power alone - because the oil reserves will all be used up.

An oil-producing country such as Norway will have exploited its oil reserves at the latest in fifty years. The oil-producing countries near the equator, such as your country, Mr. Alhathal, have considerable advantages in this respect.

In the next decades your country could continue to exploit oil and also invest in solar power, and then Saudi-Arabia would no longer be dependant on oil reserves which would inevitably run out.

Each "petrodollar" invested in solar power technology is an investment for the future. With every petrodollar for solar power technology the countries near the equator can secure a future for themselves, their children and for the generations to come.

They would create for themselves and their heirs green, fertile deserts with "people-friendly" industrial areas. With this type of planning, the desert areas within the new solar power plants could be used for golf courses, tennis courts, or made into parks, or used for camel racing and breeding. HAR.1 would cover a total area of approx. 100 km<sup>2</sup>. The huge "energy park" could be laid out like the black and white squares of a chessboard. The white squares would house the industrial plant and the black squares would be reserved for the facilities listed above. If you wish, after consultation with yourself, Mr. Alhathal, I can make a model of this, on a scale of 1:1000, for example.

The above-named industrial buildings would have to be set out in such a way so that the people living in the “catchment area” would have enough space to express themselves, both culturally and from a religious point of view.

By entering into the era of solar power, the Arab states would be showing their commitment to helping the environment (i.e. the global climate) as described by the 900 scientists (climate researchers) in the UNO report of February 2001.

Now that the scientists are discussing new developments in energy policy, it is an opportunity to present to the Arabian people the undreamed of possibilities afforded by a future, environmentally-friendly (and therefore people-friendly) energy supply.

Building HAR.1, the largest solar power plant in the world, would fulfil all the above requirements to the full.

In order to emphasise the importance of this decision, it would be possible to build a solar mosque, planned and realised by the whole Arabian people at a specially-selected location in Saudi-Arabia.

This so-called solar mosque could be built in the centre of HAR.1, for example.

Solar power technology offers Saudi-Arabia, which still has oil reserves and suitable climatic conditions, the unique opportunity to enter the solar power/hydrogen power era.

Specialist German companies are able to design, build, and commission the first solar power plant, HAR.1, on Saudi-Arabian soil, including the link to the European mainland via the HVDC lines, within 6 years!

The engineering is in place. Now it is up to the politicians!

The estimated starting capital for the solar power technology in Saudi-Arabia would be about 100 billion dollars.

With HAR.1, Saudi-Arabia would send out a clear signal to the Arabian world and would secure for itself a position of leadership in the area of “solar power technology”.

As far as anyone can judge, the useful life of solar power technology is unlimited.

The pay-back time begins as soon as HAR.1 (the biggest solar power plant in the world) comes on to the European grid. Saudi-Arabian solar electricity will take European hydrogen production to a new level.

The large areas of desert in the South Sahara afford unsuspected possibilities for expansion in the shape of Har.2 - HAR. ?

There are no more technical problems in the world any more, only problems between people.

It is on this basis that I would ask you, Mr. Alhathal, to reflect on my proposals for the future energy industry in your country and to pass them on, if appropriate, to your King.

I would be very pleased to receive feedback from yourself about the suggestions I have made.

I have drawn up and sent you these documents with no expectation of any fee.

For me it is very important to have them copied, distributed and published.

I already have had translations done into Arabic and this is very welcome.

At the moment I would not particularly welcome any translations into English.

Thank you very much for your kind attention to my letter.

I would welcome the opportunity to come and see you in Berlin.

With this in mind, and with a wish for a continuation of Arab-German friendship,

I remain,

Yours respectfully,

Theo Pötter

Theo Pötter: There is a photo of me on my homepage (<http://www.solarer-wasserstoff.de>)

I am 46 and married with 2 children. I did a degree at Bochum University of Applied Sciences in Supply Engineering, including Energy Technology. I have been working now for Caritas in Recklinghausen for 16 years as a technical adviser. I am a practising and devout Christian (I am not a supporter of US foreign policy) and I am looking for a contact person in the area of the Energy Policy of the Future near the Earth's Equator (in particular solar thermal energy conversion). I still believe in the "good" in life, even today.