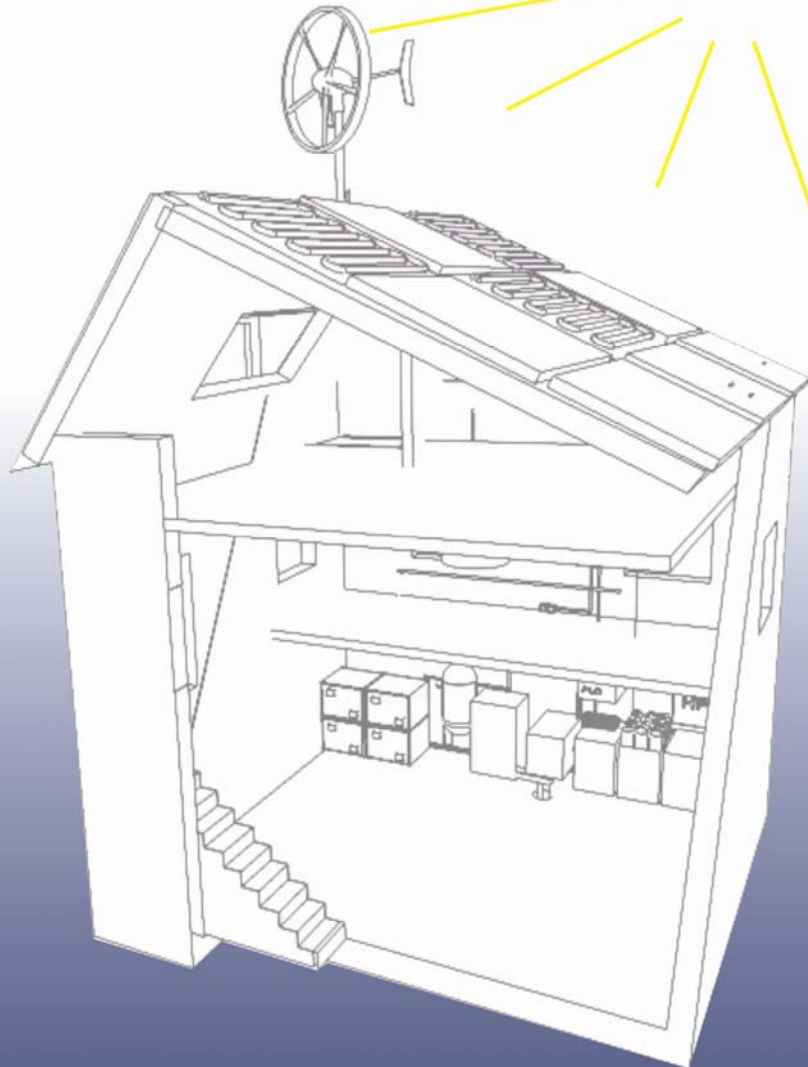


POWER

to the people



Ron Kok, President OTB Group

A story on a Carbonless and Climate neutral society

To whom it may concern

I felt I had to write down my opinion on both 'the inconvenient truth' as well as on 'the great global warming swindle'.

Let us begin at the beginning and make up our minds on 'true or not true' at the end of this story.

Here's what I, as a neutral observer, could find on the internet, what I picked up during several discussions worldwide and what I read in several publications and newspapers:

The Sun is the only reason for our existence on this beautiful planet!!!

Furthermore, we have the core of this planet being very hot and containing a lot of unused energy.

The outer layer of the earth is only 50 – 100 Km thick.

On most places we have lots of groundwater at acceptable depth and in useful temperatures.

Both the Sun as well as the entire universe exist for 85% of Hydrogen!

All related energy, fossil or not, is a direct or indirect result of this energy source.

Although it is the major energy source for all of us and although it created what our lives exist of today, we use less than 1% of it for our direct energy consumption!

Instead, we consume the entire amount of carbon based energy, very carefully built up in the past 500 million years, in about 200 years time!

And what we are going to do afterwards, nobody knows yet!!

What is also known is that we had warmer and colder times on this planet, higher and lower seawater levels as well as higher and lower carbon dioxide concentrations during the million years that our planet exists in its current form.

What exactly caused these various levels and concentrations is not very sure and, in my opinion, not solidly proven either.

But this looks like the real facts !

That our planet is warming up is also a fact. This causes unrest, guilt feelings and change in social behavior and lifestyles.

Can we do something about this?

Can we line up all reasons?

I do not know. But let's go on with some more facts (supposed to be true):

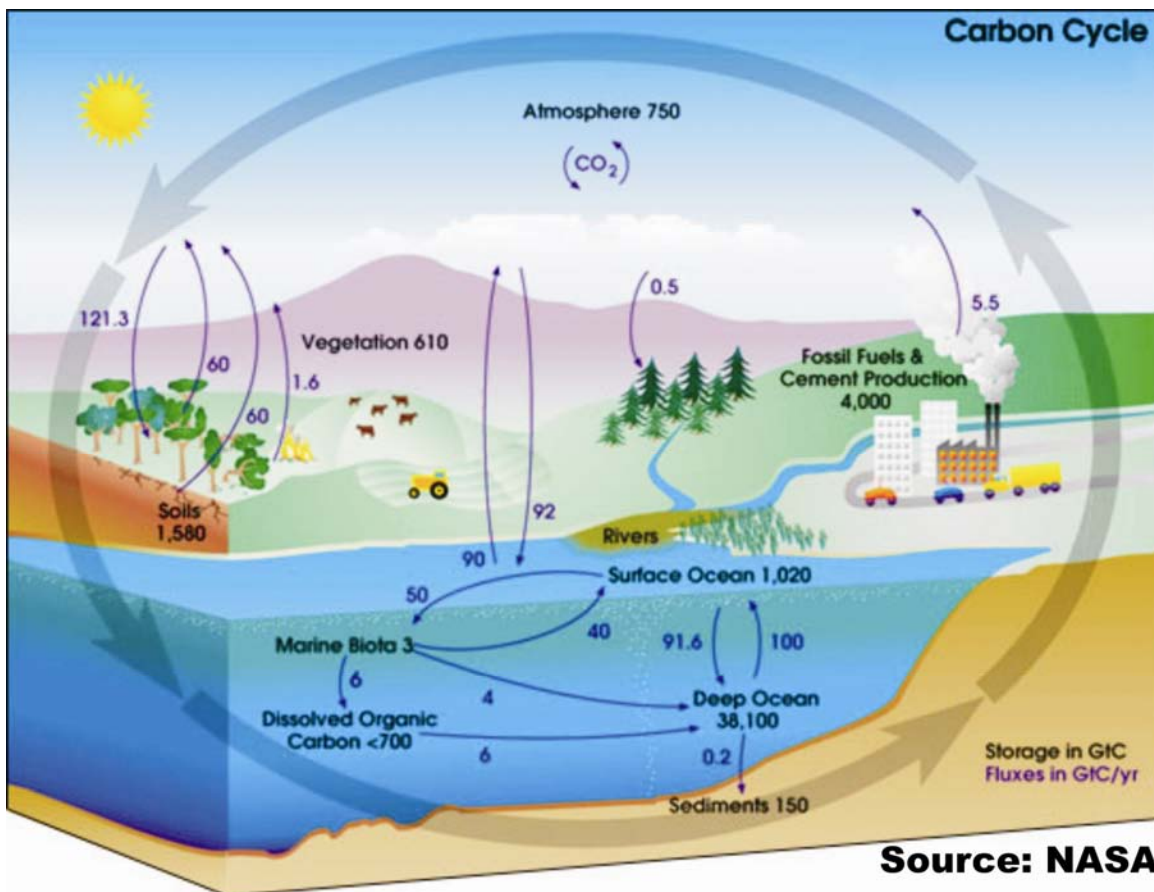
- **The Ocean is the biggest reservoir of Carbon dioxide;**
- **There are 6,0 billion people on this planet, who create carbon dioxide only by living;**
- **Sea-water vapor is the most important greenhouse gas;**
- **There are 10 times more animals and insects than living humans. They create more carbon dioxide than mankind;**
- **We need these animals and insects to recycle both our and their own waste;**
- **We use animals in the food chain, but they create enormous amounts of methane, a greenhouse gas that is 50 times more influential than carbon dioxide;**
- **They create also large amounts of ammonia, nitrogen, Nx and so on. Still, we need them and they have the same right of existence on this planet as we have.**

Most people like to do things that create greenhouse gases: driving their car, eating meat, flying, using air conditioners, even just breathing and so on!

Meat production is responsible for 24% of the creation of greenhouse gases.

If you eat vegetables you eat CO₂, if you eat chicken you create it!

Only 20% of the people living on our planet create 95% of the greenhouse gases.



So?

**What can we do about it? Are we going back to our caves?
What do we do if the northern Gulf Stream is really collapsing
and London, Rotterdam and New York harbours are frozen
for 4 months every winter?**

Is there enough energy for poor people to survive ?

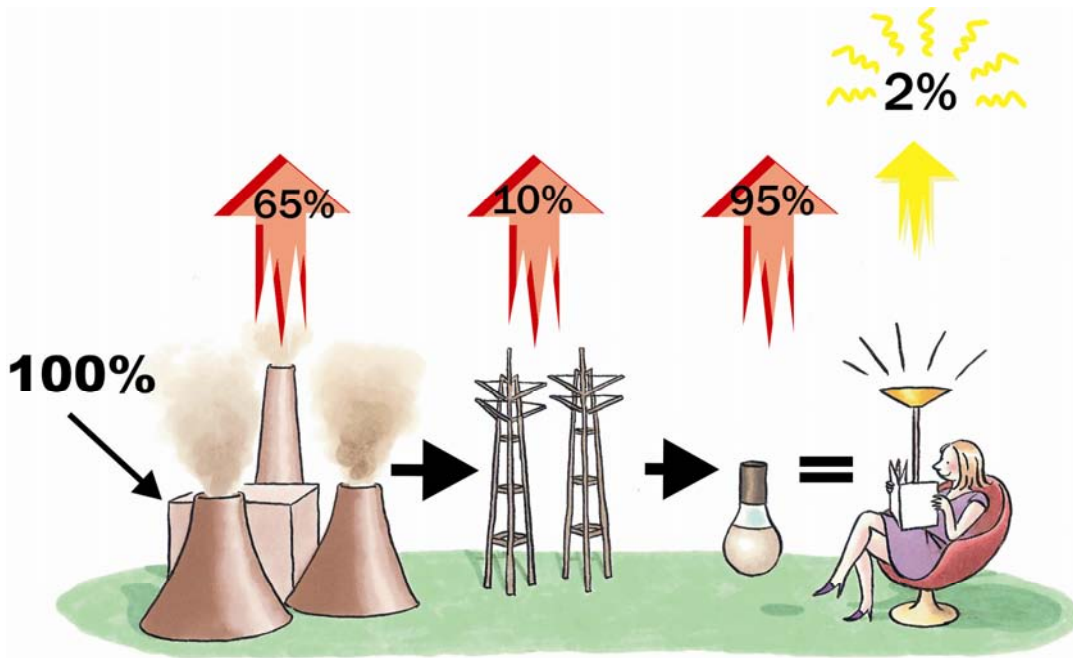
**What do we do if all the gas and the oil and coal is consumed
and we have no more carbon hydroxides to make all those
beautiful products we want?**

**Our governments have become addicted to get financed
through the energy chain, so they are not so flexible to change
their business model.**

**This change of business model, however, is essential to change
the way we produce our energy needs and the way we move.**

Some more facts to consider:

- **The electricity grid was built purely on demand, surely not because of efficiency!**
- **The grid has, in most places in the world, proven to be unreliable, vulnerable and very in-efficient!**



- Most of the electricity-sensitive factories have their own back-up powerhouse;
- The grid is built for peak performance..., for only a limited number of times per year..., so there's a huge overcapacity only for those limited moments that we all switch on something at the very same time;
- The sun gives us about 850 watt peak per square meter;
- A normal 'one-family-household' in a properly insulated house can do with 3000 kWh e per year and with 1500 kWh th;
- Sun-energy can easily be caught on the roof when the sun is shining, but difficult at night when you need it most...;
- Wind is blowing also at night, if it blows...

So?

- **Our whole infrastructure is not fit for a Greenhouse gas-free society;**
- **Our financial systems aren't either, nor are our taxation systems;**
- **The main players in the energy field -I mean the oil companies, the energy companies and the governments- play the role of "changing powers" however, only as long as they are in control...;**
- **Our freedom is measured for a great deal by the freedom of movement: to use your own car when it fits you best;**
- **Mankind wants to be part of the world by using the internet and by looking TV and by all kinds of other forms of energy consumption that bring advantages to our current way of life.**

Do we have to give in on this? Or can we have an even better way of life for every one, by changing the way we create this?

What are the options?

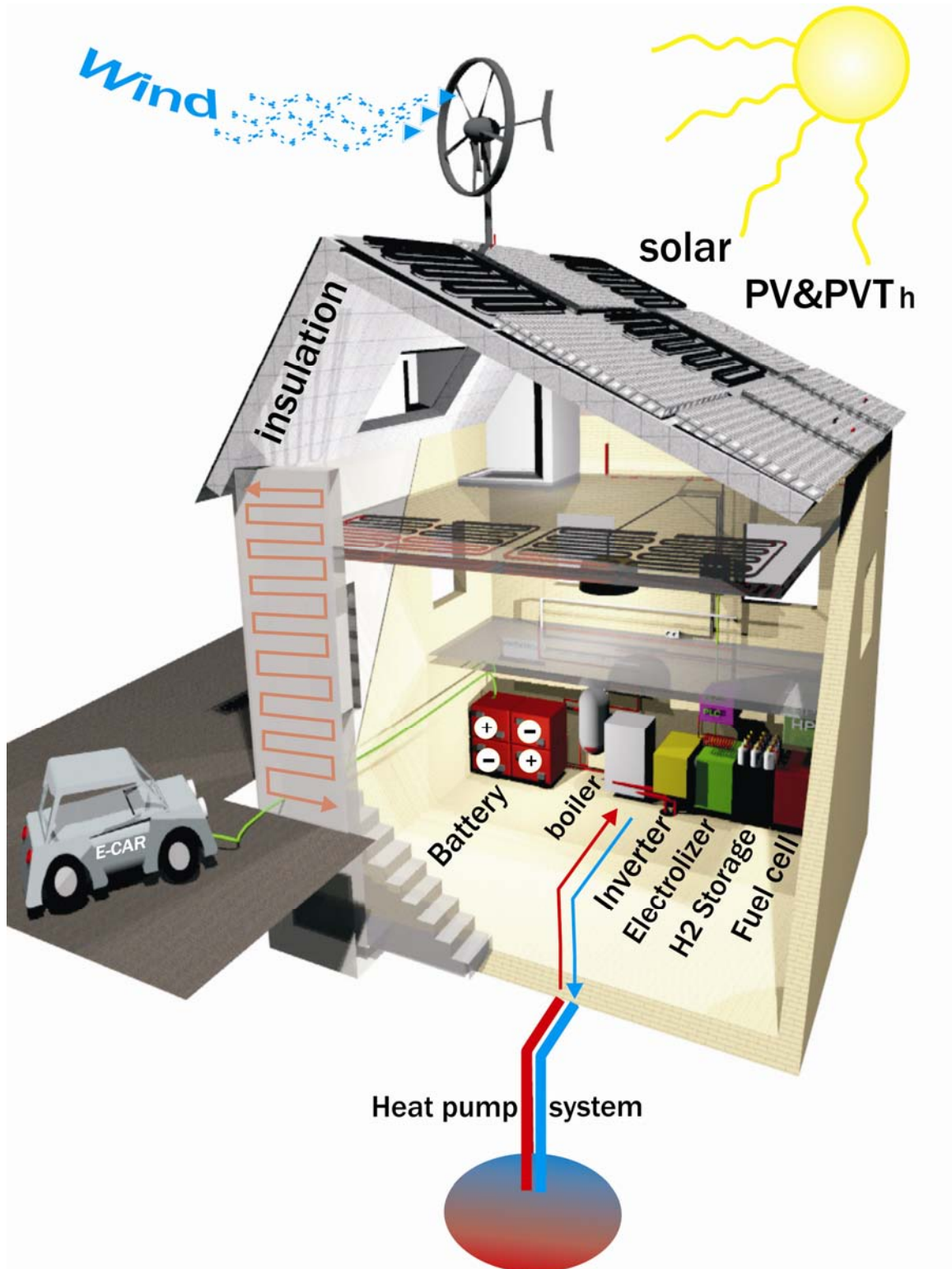
To be frank, it is not a "one off-"solution but more a remarkable list of combinations of solutions, depending on its end use: residential, transport, heat, electricity etc.

Mostly it is a combination of several systems, fed by renewable energy and making you independent of everything and every one.

We will give you a list of several options for different situations. However, I do not have a solution for air travel, except for the one Richard Branson is suggesting: artificial biofuels which are fully compensated by the way they are created.

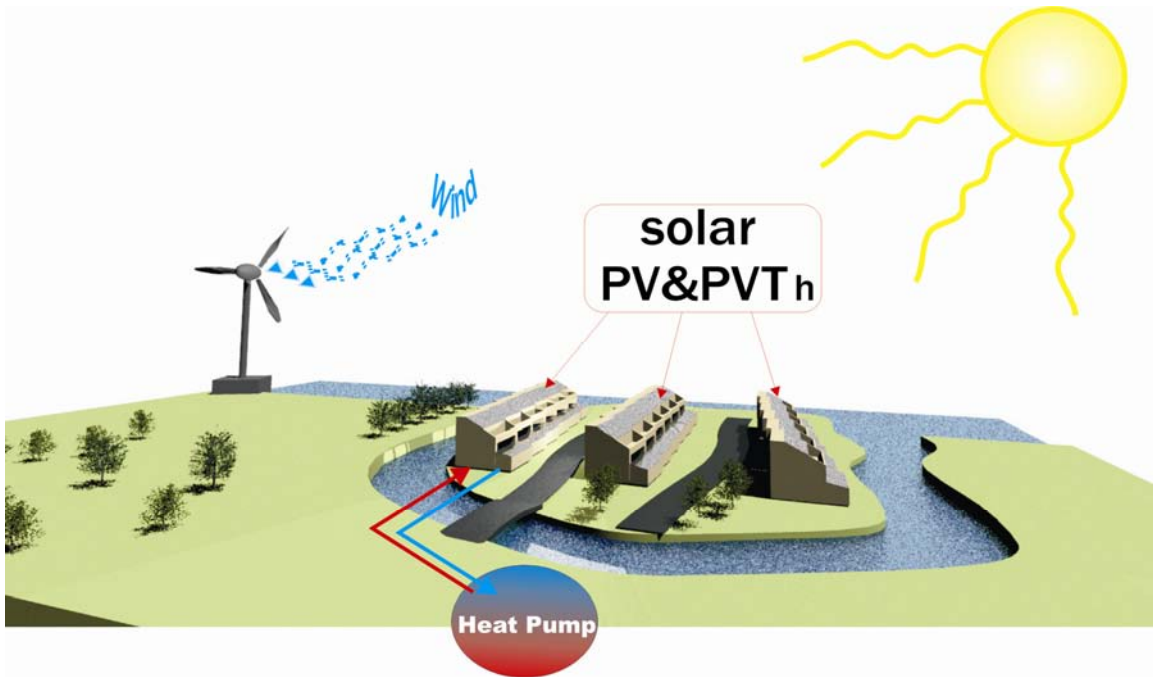
The most simple option*

- One family residential housing, using solar PV, wind, solar heating, heat pumps and groundwater cooling;



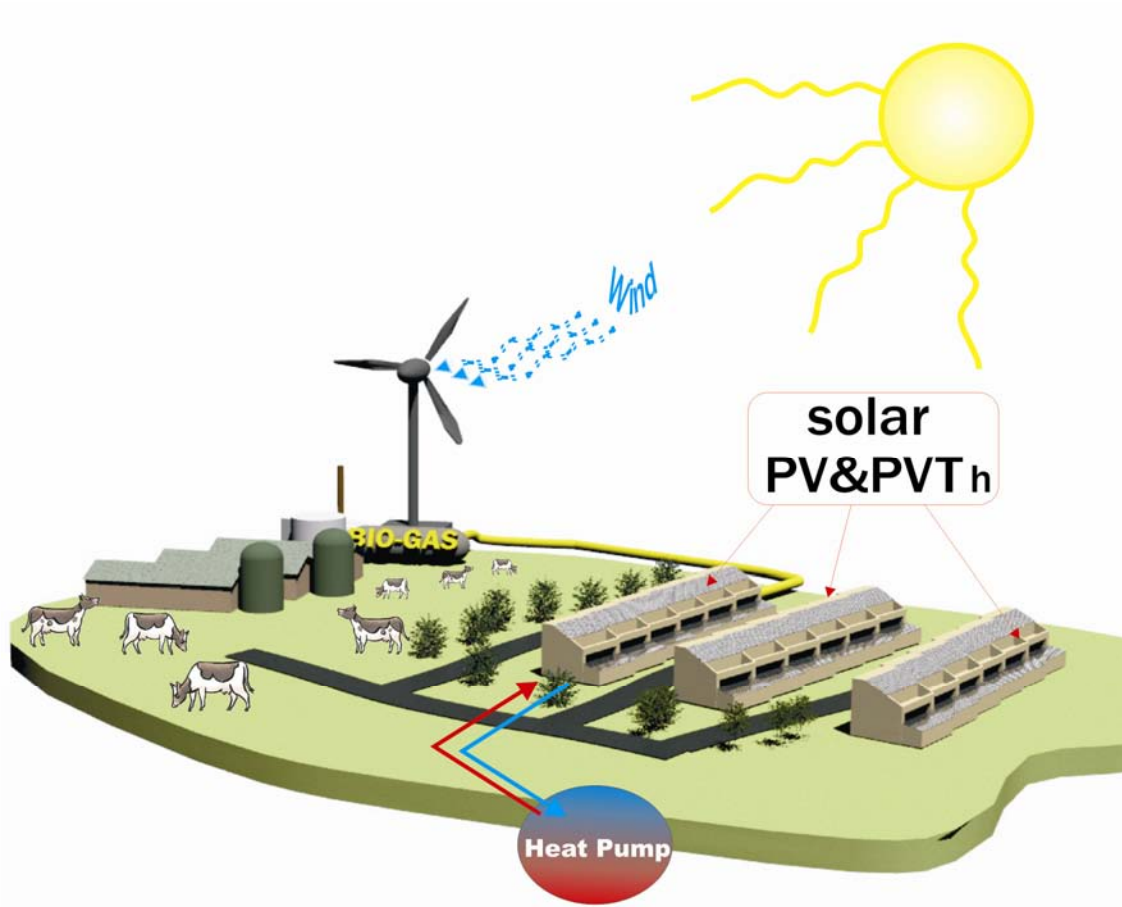
The second best option*

- Residential community housing, using the abovementioned components, however in shared ownership;



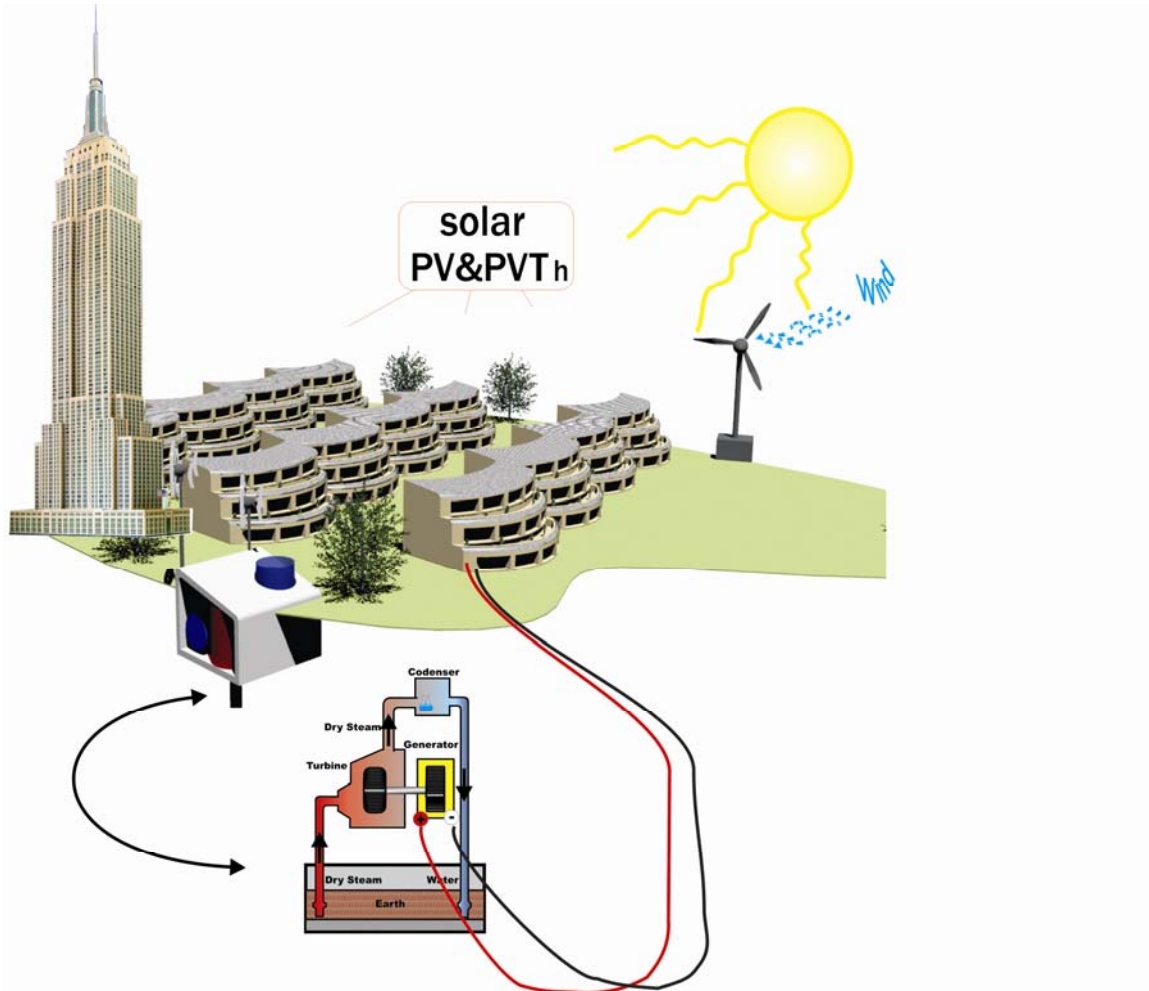
Farmland/rural option*

- Using all of the abovementioned options plus the methane-gases created by farm disposables like chicken- and cow fertilizer.



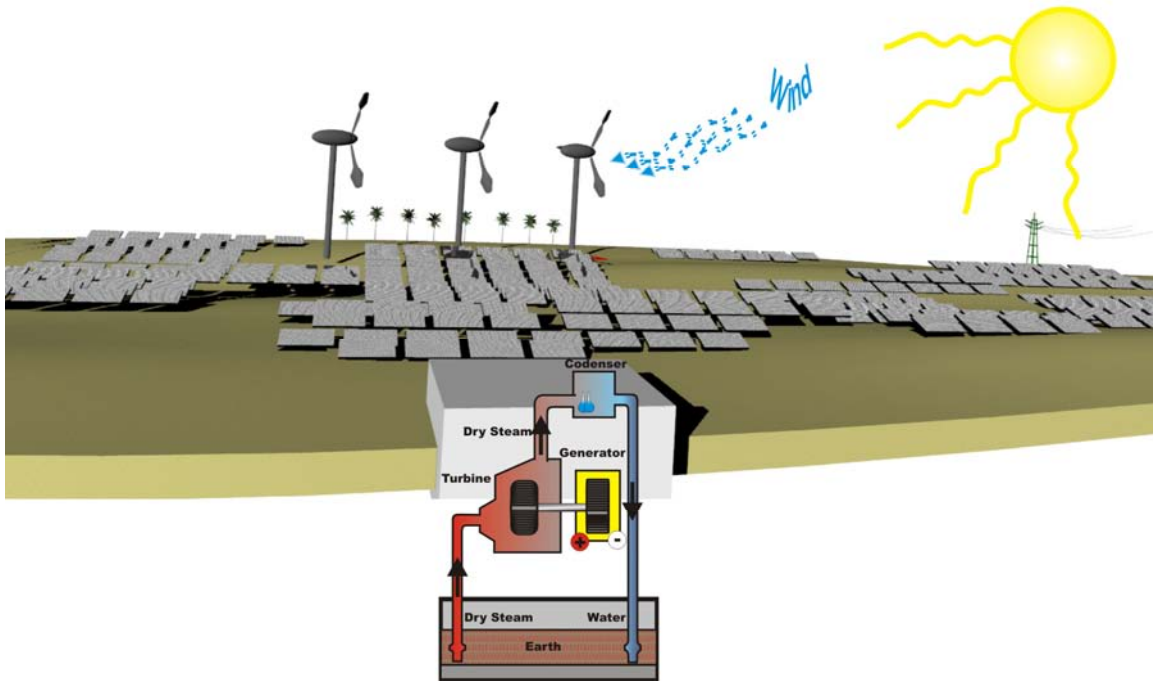
Apartment buildings and condo's option

- like abovementioned, but using geothermal heat with an additional local generator on site.



Industrial high energy concentration option

- A combination of geothermal, wind and solar.



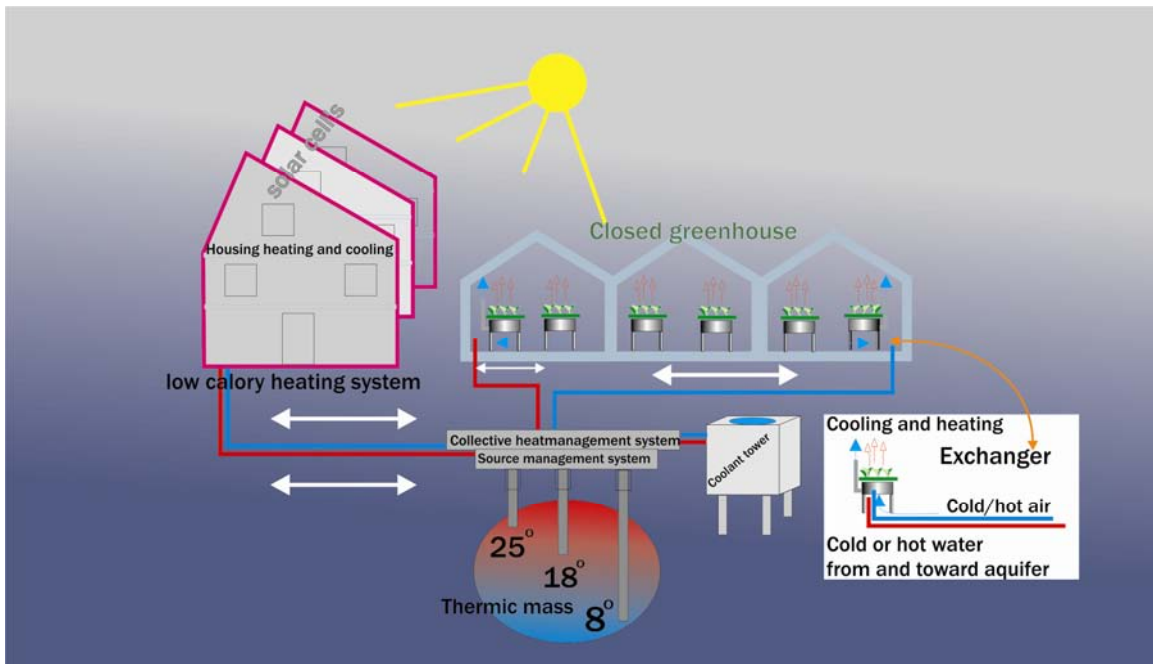
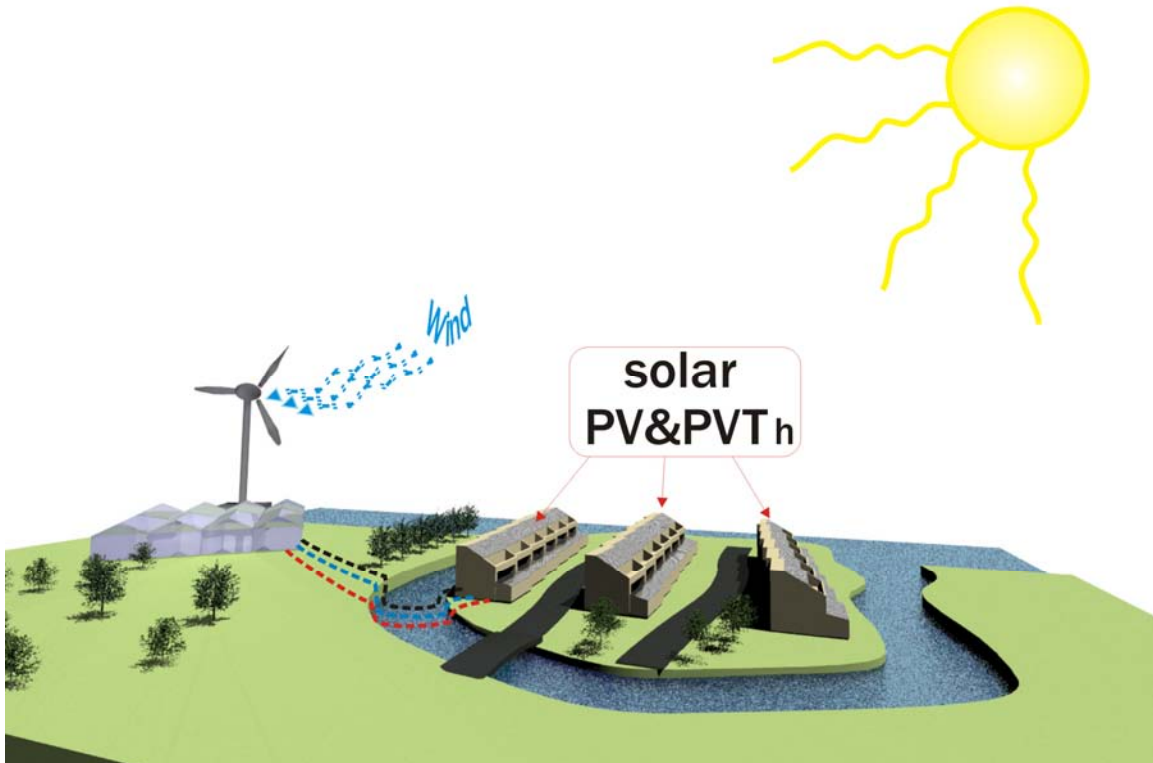
Transport option

- electric vehicles
- hydrogen vehicles as an alternative
- hybrid electr-.hydrogen vehicles
- Supply of battery power or hydrogen by local for local production, including storage of locally produced electricity or hydrogen, to be offered to passing cars.



Greenhouses/flower and vegetables production option

- Greenhouses can store heat underground in water storage ponds or can consume CO₂ for growing food or flowers.



Emerging Market Low Cost Option



All of these technologies are practically available today: in fact, most of them are already in test or in use.

The biggest problem to start the change in generating, storing and supplying our energy is the difficulty of various local, national and international laws and rulings. Our governments have to promote these changes and encourage them. Our governments have to change their business model in such a way that they have to collect their taxes in different ways and on different subjects.

Example

You live in your own financed small “one family house” including all of the above mentioned features: this means you have access to energy for driving your own paid electric car. So you connect it to your private grid and charge your battery freely or you have produced and stored some hydrogen to fill up your hydrogen car.

Nobody ought to possibly interfere with this, because you have only used free sun (or wind-) power to generate this energy. So the government can not possibly ask you to pay for this (at least, we presume!).

So how are you going to pay for the infrastructure you need for using your car, if governments cannot tax you on the generation or use of energy?

And how is your government alternatively collecting enough money to finance the responsibilities that we want them to bear?

The answer lies in the changing of laws and rulings in an acceptable and friendly way, so people can accept this.

At this moment, a good and confronting example is that through laws, governments make you pay for your car and prevent you from using it, because you should feel guilty about polluting the environment both with gasses and noise.

Moreover, the governments make laws to prevent building roads in order to stay within local pollution rules.

What will be their story in 20 years from now, when cars do no longer pollute and don't make noise anymore either, whereas they forgot to keep up building the necessary road-infrastructure...

All solar and wind solutions however will depend on a local-for-local storage capacity in small grids.

Even geothermal will have the necessity to store energy for peak hours, in order not to make the same mistake as has been made with the current grid: the entire infrastructure laid out for those limited moments that every one turns on their air conditioning or their microwave at the very same moment! Air conditioners (air-air) should be forbidden by law.(and replaced by Wall core cooling or water to air).

Solutions of storing energy are also available in wide varieties, such as battery storage, storage in hydrogen and the pumping up of water in low energy dense moments for generation of hydropower. Solutions depend of course on the location where you are on the planet.

Lets say within all regions of the equator, storage is a lesser problem then in countries above 52nd degree latitude, where storage will be a bigger -but solvable- issue.

In the end it all boils down to giving back the “Power to the People”.

It is the difference between driving your own car when it fits you versus using public transport when it fits someone else.

It will be difficult, especially when you consider that OPEC has a big influence in the orchestration of the oil price .Too low will slow development of renewable energy down, too high will create a boost for renewable energy, including shortages in downstream feedstock, for example for solar related products.

Further financial institutions should create financing- and mortgage systems so this change in from an energy-consuming society to an energy creating society can easily be financed eand it should be subsidized by the governments.

Still, we are of the opinion that this process is irreversible, as well as that countries which have the guts to be early adapters will be the true winners in the end.

In order to achieve this, governments should not only create favorable market conditions for renewable energy, but also let the market mature in freedom towards a complete new industry and a complete new society. Only this way, using energy will be fun again and make life worthwhile on the long run...

I hope this article will add to the discussion.

Ron J.C.M. Kok