

The Challenge

is to start living in the near future with much less combustion energy



Gradually, but constantly, a growing number of people are convinced that the energy generation from renewable sources is the only way to solve our energy problems sustainably and in an eco-friendly manner. In the course of time, all of the other energy sources have proved to be unsuitable or even harmful;

The reason for that is simple: The global population is constantly growing. We need more and more energy and we are forced to exploit the resources of the earth. Thereby, among other things, we change the environmental conditions on our planet profoundly (gases and other substances). For example, let us look at the incineration sector:

The [IEA](#) (International Energy Agency) quoted a worldwide daily consumption of about 85 million barrels of oil in 2012 - with increasing tendency. In addition to that, there is the coal and gas combustion.

The resources are dwindling more and more and the **carbon dioxide (CO₂) emissions are rapidly growing**. Actually, the expelling of CO₂ is for the Earth a problem among others, **but it can be for us humans extremely dangerous**. It is highly likely that we won't have any clean air to breathe in several decades, and we will probably have **to suffer from a lack of oxygen**.

Manmade climate change is here, and the list of problems attributable to our **excessive use of combustion energy** is enormously long.

Unfortunately, the people, who are of the opinion that atomic energy would solve our problems, are in the wrong. This form of energy involves a great deal of costs and dangers that are even more serious. Moreover, uranium is a finite resource. The greatest problem, however, which hasn't been solved yet, is the disposal of the nuclear waste.

Eventually, we have to accept that only renewable energies can permanently appease our hunger for energy. The still existing problems as to these forms of energy must be solved, though. The main hindrances to establish renewable energy are the advocates of nuclear energy, oil or gas. They bring forward the argument

that wind power and solar energy are unpredictable. Unfortunately, this reproach is still justified.

In fact, the increasing generation of electricity from wind power and solar energy is subject to strong fluctuations, and it is not always available on demand. That means in practice: It frequently happens that much wind and solar energy is available, which isn't needed right now - or it is the other way round. An increasing proportion of these irregularly available energies makes it more difficult to keep the balance between electricity supply, the demand for electricity and grid stability.

In future years, this situation will deteriorate further, if no optimal solution is found. Because of all of these facts, renewable forms of energy are controversial. In addition to that, there are people - I call them "opinion formers" - who have managed to impress a negative opinion on renewable energy sources on the population within a few years. They claim to have the technical knowledge to determine that renewable energy sources are not a real alternative, but merely a supplemental option and above all, far too expensive. Furthermore, the trend towards gigantism has been promoted. The development of wind turbines show it clearly visible.

In order to work economically, the allegedly have to be gigantic, and they are put up in equally gigantic parks, which are offshore most of the times. Millions of investments are needed for the realization of such offshore wind farms. The realization of these wind farms, however, doesn't solve the problems; the immense quantity of electricity must be distributed. For this purpose, we need a new power supply system. The financial problems, the enormous efforts and probably the great reluctance of the local inhabitants are not encouraging either.

Various national institutions and programs that attempt to solve the problems; but mostly achieve the opposite. In our opinion, it won't take a long time, until the public sentiment will switch completely; many consumers will change sides and oppose green electricity.

None of that happens without reason. The advocates of fossil energy pursue two main targets: First, the energy monopoly must remain preserved at all events. That means, only a few large enterprises are permitted to control the energy market, and not many small power producers. Second, nuclear, coal and gas power plants must remain preserved and constantly being improved. The gas power plants will even

experience a renaissance. From a financial point of view, certain methods, for example the fracking technology, make gas power plans attractive again. It seems that the so-called turnaround in energy policy has lost some of its momentum, and that we are about to revert to old behavior patterns. We shouldn't let it happen

All of these problems could be avoided by storing the produced energy where it is generated, so that it wouldn't be necessary to feed it immediately into the grid. It would be even better, if it were possible for the grid operators to control all of the stored power in a coordinated manner and at a time when it is needed.

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