



Opinion: The pitfalls of time derivatives

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When you read “the distance from Berlin to Munich is about 500 km/h” and “last weekend, I went from Munich to Berlin with an average speed of 130 km (mostly German autobahn)” you may want to stop now and turn the page. Please don’t. A leading German daily journal reported in its economic section: “The Dutch nuclear power station Borssele has a power strength of 450 Megawatt (MW) per hour. In our recent article from July 8th we erroneously quoted an annual power of 450 MW (Name of the journal)”. I omit the name but maybe I should have stopped paying my subscription. Another leading German daily with somewhat political orientation wrote recently on the development of renewable energies in Germany: “It is estimated that last year plants have been built which can produce electricity between 7000 and 8000 Megawatts. This corresponds to the capacity of 10 large power stations”. This statement also confuses power and energy, or hides the difference between peak power of intermittently operating energy sources and continuous power of steady-state operating plants. A member of one of the political parties represented in the German Parliament wrote: “With cheap electricity from Norwegian hydro power stations Germany could completely do without coal- and atomic energy”. Strangely, Norway with 5 Million inhabitants is expected to provide the infrastructure for the needs of 80 Million people. One of the leaders of the Green party in

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Germany expected that the feed-in-tariff system to support the introduction of renewable energies “will cost a typical household in Germany not more than a scoop of ice cream per month”. Last year the subsidy amounted to € 20 Billion (minus € 3 Billion, the market value of the produced electricity); the federal science and education budget, to compare with, corresponds to € 13.7 Billion a year. Men and women play a balanced role in the Green party. I do not want to violate this (good) principle and therefore, I also quote a female leader of this party. March 11th this year she facebooked: “Today, two years ago, there happened the disastrous atomic catastrophe of Fukushima... In total 16000 people were killed by this catastrophe...”. These examples characterise the scenery of one of the biggest technical and societal transformations in Europe – the “Energiewende”. Why should the lack of understanding, knowledge and truthfulness in the energy field bother the Europeans? It is in the interest of everybody to abandon fossil fuels and replace them by new sustainable energy forms. But the transition has to be done in a prudent way. Energy is a field governed by the laws of nature and those of economy. Unfortunately, this field was also discovered by parties as a topic to generate votes. Embracing politics too closely may lead energy research astray. The writing is already on the wall. The public denigration of one energy research field by the proponents of

another one is a new behavioural feature. It could easily happen that under the political and societal pressure basic research loses terrain in the thrust to arrive at enforced solutions in politically accepted technologies. At this stage it is a mistake to place all eggs into one basket and to eliminate viable options. In case of renewable energies, storage is needed most probably on a chemical basis, which is not yet available at the large scales necessary. Fusion is not ready; new fast fission reactors as well as nuclear waste processing need further development. Those really concerned with the present energy situation have the environmental threats on their minds. We may not forget that the electricity production of Norway, Sweden and France is basically CO₂-free. These European countries are already where others want to be in 2050. ■

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