

Sustainable Energy – Challenges of the upcoming Energy Transition

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The success of living organisms in an ecosystem relates to the amount of energy they can secure for their own survival and reproduction. Ultimate success of a species results in an exponential increase of its population, which directly - by its structures, consumption and emissions - influences the living conditions and chances of survival of other populations in the ecosystem. The extraordinary success of mankind is caused by the fact that it is able to source energy from various sources. The evolution of these sources allowed mankind, that is currently in the seventh stage of energy generation, to provide enough energy to enter the age of globalization.

But this success comes at a cost. The global human society directly influences the global ecosystem which already is burdened to a degree that it might change into an environment that provides far less favorable conditions for human survival. To avoid this and to protect our environment, measures will have to be taken to manage the global impact of humanity. The most important approach in this respect is the 'Energy Transition' that aims to change the environmental footprint of key industries by the promotion of sustainable energy. This ranges from energy generation and distribution via more efficient production methods to the transport sector where further ways to store energy will be introduced. This presentation will point out the problems and challenges of this transition.