Brief notes about Earth's atmosphere energy budget, entropy, climate, and CO_2 emissions

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The goal of this talk is to present some of the less commonly discussed findings and connections in the atmospheric-emissions-climate field from a non-expert perspective. First, the basic physics of the Earth's atmosphere relevant to the climate, energy balance, and Erwin Schrödinger's idea of the role of negative entropy for the existence of life in open thermodynamic systems will be briefly surveyed. Then the presentation will focus on CO_2 in the Earth's atmosphere, including e.g. Svante Arrhenius' historical idea of the greenhouse effect due to CO_2 . In particular, the development of CO_2 concentration and temperature in geological time horizons will be mentioned, as well as recent Antarctic research and their reflection in climate-environmental activism (Al Gore etc). Finally, selected facts about the modern development of anthropogenic CO_2 emissions in a socio-economic context will be presented, together how the atmospheric CO_2 concentration can be predicted in a very simplified (and approximative) way in the near future in dependence on implementation of the Paris climatic agreement.