

«Nuclear energy - opportunities and risks» by Hansruedi Völkle
A Book in German language at Springer (July 2020), ISBN 978-3-662-59301-1

For over 40 years I have been dealing with radiation protection and environmental radioactivity, in particular with the impact of nuclear weapons tests and nuclear power plants on man and environment. Much of this time I worked for the Federal Commission for Environmental Radioactivity Surveillance (KUER) and later for the Radiation Protection Department at the Federal Office of Public Health (BAG). For 10 years, as head of the bachelor's degree program in environmental sciences at the University of Fribourg, I was dealing in addition with the following topics: environment, sustainability, energy and climate change.

In recent years, the idea of a book has grown out of this activity. It will be published in German language by Springer (Heidelberg/D) in mid-July. In the book I try to present nuclear energy, its history, its advantages and disadvantages, its catastrophes, risks and challenges as factually as possible and to relate them to the risks of other methods of energy generation. I am also concerned with reassessing the role of nuclear energy today, in view of the threat posed by climate change and with the impending phase-out of fossil fuels, and hopefully I will contribute to making the debate on energy and climate more objective.

The book, in German language, has 291 pages. It contains numerous tables and graphs, supplemented by additional background information, as well as glossary and index. It has the following 9 chapters:

- 1) Playing with the *(nuclear) fire (discovery and nuclear weapons tests)*.
- 2) Consequences of nuclear activities *(accidents like Lucens, Chernobyl and Fukushima)*.
- 3) Nuclear energy as a challenge *(radiation doses for the population and employees, radioactive waste, child leukemia, nuclear terrorism, fear of radiation and risk perception)*.
- 4) How dangerous is ionizing radiation?
- 5) What risks do we live with? *(technological risks, natural hazards, epidemics, risks from climate change)*
- 6) *(nuclear) Phase-out or more security and safety?*
- 7) Emergency preparedness and accident management.
- 8) Nuclear energy in the face of climate change and energy crisis *(climate change, sustainability goal of the UN, are wind and solar energy sufficient? Energy forecast for Switzerland)*.
- 9) What next?

The graph shows the number of nuclear weapons tests carried out by the various nuclear states between 1945 and present. Experiments in the atmosphere (a) are entered in the graphic upwards (positive), the underground ones (u) downwards (negative).

Link to the announcement of the book by Springer-Verlag:
<https://www.springer.com/de/book/9783662593004>