



1 Introduction: Introduction to energy

- 1 Learning objectives of the course
- 2 Introduction to the course

2 Energy in markets and decision-making

- 1 Definition of energy
- 2 Development of the global energy market
- 3 Fossil fuels
- 4 Renewable energy resources
- 5 Outlook for energy supply
- 6 Evaluation of energy outlook statements and scenarios

3 Physical basics of energy (concepts behind performance and efficiency)

- 1 International System of Units (SI) essentials for energy and power
- 2 Conversion of energy units
- 3 Energy supply chain
- 4 Forms of energy
- 5 Energy and power
- 6 Performance indicators for energy conversion ALTES LO
- 7 Energy efficiency
- 8 Coefficient of performance
- 9 Capacity factor
- 10 Full load hours
- 11 Upper and lower heating value of fuels
- 12 Physical basics Appendix

4 Common mistakes

- 1 Mistakes in energy and power units
- 2 Detecting errors in heating values
- 3 Detecting unit prefix errors

5 Summary: Introduction to energy

- 1 Summary of the course
- 2 Further reading recommendations