

Proposal of the WFEO-brochure about

Solar Energy

Content

Foreword (by the actual WFEO-president)
WFEO Energy Standing Committee
Solar Energy Task Group

- 1. Introduction**
- 2. General Considerations**
 - 2.1 Solar Radiation
 - 2.2 Solar Irradiance on the Surface of the Earth
 - 2.3 Solar Angle of Incidence
 - 2.4 Shading Losses
 - 2.5 Potential of Solar Energy and World-Wide Availability
- 3. Solar Energy Technologies**
 - 3.1 Photovoltaic Energy
 - 3.2 Non-concentrating Solar Thermal Energy
 - 3.3 Concentrating Solar Thermal Energy
- 4. Photovoltaic Energy**
 - 4.1 Physical Basics
 - 4.2 Development of Photovoltaic Technology
 - 4.3 Production of Solar Cells and Modules
 - 4.4 The PV Energy-Market
 - 4.5 Small Scale Use
 - 4.6 Industrial Electricity Production
 - 4.7 Grid Connection
 - 4.8 Island Solutions
- 5. Non-concentrating Thermal Energy**
 - 5.1 Physical Basics
 - 5.2 Development of Non-concentrating Thermal Energy
 - 5.3 Production of Devices
 - 5.4 Market - especially of Small Scale Use
 - 5.5 Special Techniques (e.g. Solar Wind Towers)
- 6. Concentrating Thermal Energy**
 - 6.1 Physical Basics
 - 6.2 Development of Concentrating Thermal Energy
 - 6.3 Production of Devices
 - 6.4 Market - especially of Large Scale Use
 - 6.5 Special Techniques

- 7. Economics of Solar Energy**
 - 7.1 Capital Costs of Solar energy
 - 7.2 Operational and Maintenance Costs
 - 7.3 Costs and Efficiency of Energy Generation
 - 7.4 Costs of Electrical Systems Integration
- 8. Storage of Solar energy**
 - 8.1 Storage of Electricity Energy
 - 8.2 Storage of Heat energy
 - 8.3 Availability of Solar Electricity
- 9. Policy and Regulatory Framework**
- 10. Environmental Aspects including Waste Treatment**
- 11. Influence on Climate Change**
- 12. Advantages and Disadvantages of Solar Energy Use**
- 13. References (Photos, Figures, Tables and Citations)**