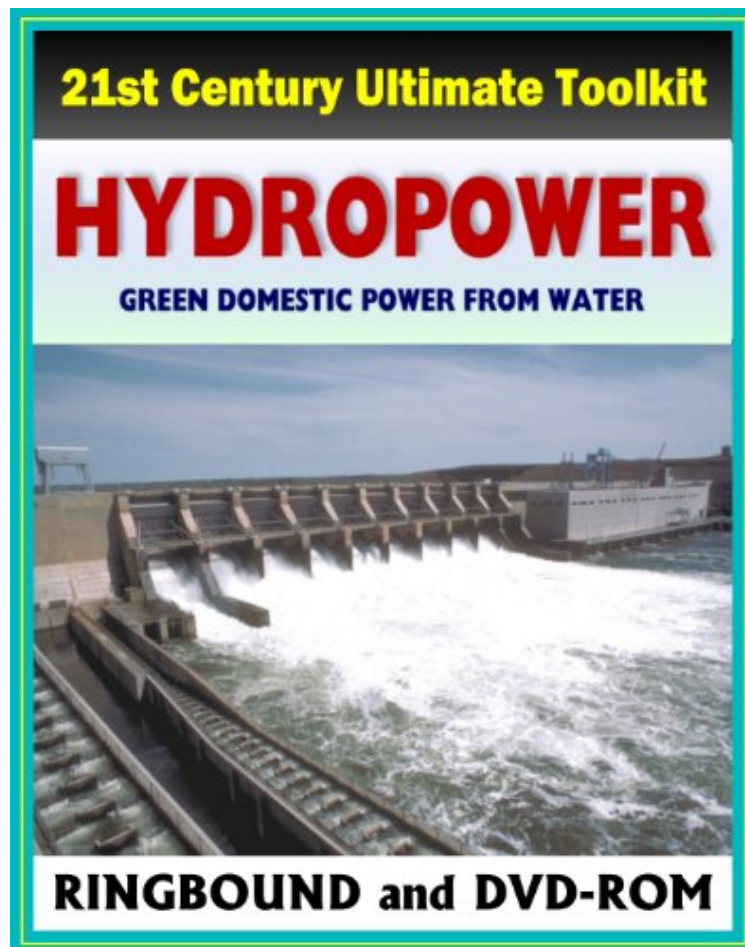


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21st Century Ultimate Hydropower Toolkit: Microhydropower, Hydroelectric Power, Dams, Turbine, Environmental Impact, Fish, Impoundment, Pumped Storage, Diversion, Run-of-River (Ringbound and DVD-ROM)

*U.S. Government, Department of Energy (DOE), National Renewable Energy Laboratory (NREL)
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U.S. Government, Department of Energy (DOE), National Renewable Energy Laboratory (NREL) : 21st Century Ultimate Hydropower Toolkit: Microhydropower, Hydroelectric Power, Dams, Turbine, Environmental Impact, Fish, Impoundment, Pumped Storage, Diversion, Run-of-River (Ringbound and DVD-ROM) before purchasing it in order to gauge whether or not it would be worth my time, and all praised 21st Century Ultimate Hydropower Toolkit: Microhydropower, Hydroelectric Power, Dams, Turbine, Environmental Impact, Fish,

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This unique book and DVD-ROM set - revised for 2011 - combines our ring-bound book with our comprehensive 25,000 page CD-ROM about hydropower, hydroelectric power, and related technologies such as dams, turbines, and microhydropower. The electronic book on DVD-ROM provides an unprecedented encyclopedic collection of authoritative official documents and technical reports about every conceivable aspect of hydropower - with over 25,000 pages of invaluable material presented in Adobe Acrobat PDF format. This incredible library has been revised and updated for this 2011 edition. Progressive Management has been a leader in renewable energy publishing for nearly a decade, and we believe that this exceptional collection provides the most comprehensive set of government hydropower documents ever offered! If you have a professional or personal interest in hydropower energy, you will find this disc to be an effective, time-saving, and practical source of ready-to-use information. The collection includes information about hydroelectric power and related technologies such as dams, turbines, and microhydropower. There is new material about current federal government funding opportunities and incentives, advanced hydropower technology research, turbine field testing, engineering and analysis, response of turbine-passed fish, biomarkers, and salmon research plans. Research and development activities of the Department of Energy are covered, with information on technology development, projects, history, safety, and environmental impact. There is also material from the Federal Energy Regulatory Commission (FERC) regarding licensing, compliance, safety and inspections of hydropower and the hydropower industry. Coverage includes water energy resources, state assessment reports, and more. The hydrologic cycle provides the basis for hydropower -water constantly moves through a vast global cycle, in which it evaporates from lakes and oceans, forms clouds, precipitates as rain or snow, then flows back to the ocean. The energy of this water cycle, which is driven by the sun, is tapped most efficiently with hydropower. Diversion projects channel a portion of the river through a canal or a penstock and may require a dam. Impoundment hydropower uses a dam to store water. Water may be released either to meet changing electricity needs or to maintain a constant reservoir level. Pumped storage pumps water from a lower reservoir to an upper reservoir at times when demand for electricity is low. During periods of high electrical demand, the water is released back to the lower reservoir to generate electricity. Run-of-river projects utilize the flow of water within the natural range of the river, requiring little or no impoundment. Run-of-river plants can be designed using large flow rates with low head or small flow rates with high head. Microhydropower projects-produce 100 kilowatts (kW) or less. Microhydro plants can utilize low heads or high heads. Current hydropower technology, while essentially emission-free, can have undesirable environmental effects, such as fish injury and mortality from passage through turbines, as well as detrimental changes in the quality (dissolved gases) of downstream water. Advanced hydropower turbine technology could minimize the adverse effects yet preserve the ability to generate electricity from an important renewable resource. The goal of the U.S. Department of Energy's (DOE's) Advanced Hydropower Turbine System Program is to develop technology that will allow the nation to maximize the use of its hydropower resources while minimizing adverse environmental effects. Conceptual designs of environmentally friendly hydropower turbines have been completed under the DOE-industry program.

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