

Part II

Hydrogen Production

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Part II of this book summarizes the main methods of hydrogen production. This starts with an explanation of the current industrial-scale steam reforming of fossil-fuel hydrocarbons, followed by a discussion on the feasibility of utilizing biogas as an alternative and more environmentally friendly fuel and hydrogen feedstock. The relative merits of the three main types of hydrogen production by water electrolysis are discussed, namely alkaline water electrolysis (AWE), polymer electrolyte membrane water electrolysis (PEMWE), and steam electrolysis. Finally, photocatalytic water splitting is discussed as a possible next-generation method of hydrogen generation.