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Sommario/riassunto	<p>Energy crises and global warming pose serious challenges to researchers in their attempt to develop a sustainable society for the future. Solar energy conversion is a remarkable, clean, and sustainable way to nullify the effects of fossil fuels. The findings of photocatalytic hydrogen production (PCHP) by Fujishima and Honda propose that "water will be the coal for the future". Hydrogen is a carbon-free clean fuel with a high specific energy of combustion. Titanium oxide (TiO<sub>2</sub>), graphitic-carbon nitride (g-C<sub>3</sub>N<sub>4</sub>) and cadmium sulfide (CdS) are three pillars of water splitting photocatalysts owing to their superior electronic and optical properties. Tremendous research efforts have been made in recent years to fabricate visible or solar-light, active photocatalysts. The significant features of various oxide, sulfide, and carbon based photocatalysts for cost-effective hydrogen production are presented in this Special Issue. The insights of sacrificial agents on the hydrogen production efficiency of catalysts are also presented in this issue.</p>