

## **CHAPTER 6**

# **RENEWABLE ENERGY<sup>1</sup>**

*...under “Sustained Growth”... [u]se of fossil fuels increases steadily over the next 30 years,*

**MOTIVATION AND CONTEXT**



















**Table 6.2: Potential Impacts of Selected**

## **RENEWABLE ENERGY TECHNOLOGIES, R&D NEEDS, AND OPPORTUNITIES**

plants with the same annual output, but the capacity value declines with system penetration to about half the initial value by the time wind accounts for 5 to 10 percent of the electric energy provided by the power system.<sup>33</sup>











sponsored by the Division of Materials Science of BES through its Center of Excellence for Synthesis and Processing of Advanced Materials. Strong NREL participation in the HEPP is expected to facilitate

## **Technology Attributes**



## Geothermal Energy



**Box 6.3: A Vision for Energy and Urban Infrastructure:**

Hydropower could play a particularly important role in a low-carbon energy future. Hydropower









## **Environmental Issues**



Biofuels









**engage the industry in demonstration projects for these technologies and work with the industry to**











non-competitive. This may already be happening for important parts of the U.S. wind industry, as discussed above.





picked a small program that it could try to keep alive through other means. Core parts of the program have





Kelly et al. 1993: H. Kelly and C. Weinberg, 1993: “Utility strategies for using renewables”, in *Renewable Energy - Sources for Fuel and Electricity*,