

PART THREE

A DESIGN FOR A GREEN TRANSFORMATION

The bad news is that if we continue with business-as-usual, we will warm up the planet, run out of oil, destroy ecosystems, and in the case of the United States, lose the middle class. The good news is that the technology and social systems exist to create a society that can avoid all or most of these problems. In fact, the solutions, like the problems, are all interconnected. Just as we can model reality as various systems to more clearly understand complexity, we can divide the solutions into four main categories: transportation, energy, cities, and government.

Chapter 9 lays out the case for a transportation system that is based on electricity. Such a system would replace much of the use of cars, trucks, and planes with electric trains of various kinds: a high-speed Interstate Rail System, regular rail from towns and suburbs to cities, and subways and light rail within cities. Some all-electric cars would be used. The use of oil could be virtually eliminated, thus avoiding the problem of the end of the era of cheap oil.

To use electricity sustainably for transportation, energy will have to be generated from free energy sources, that is, wind, solar, geothermal, and water, as Chapter 10 explains. An Interstate Wind System, with an Interstate Smart Transmission System, could provide the backbone for a renewable system. Besides transportation, buildings are the other big consumer of energy. They can become more energy self-reliant, particularly for their heating and cooling, and partly with electricity from solar photovoltaic panels. These changes will eliminate much of the sources of global warming and ecosystem destruction.

The way that buildings are placed in relation to one another, that is, the way cities, towns and suburbs are laid out, will determine if the transportation system can be electrified and if we can be efficient with energy. Chapter 11 shows how trains and all-electric cars will only be practical if there is enough density in urban areas; trains need a minimum number of people traveling on them to justify their use; and all-electric cars need to be based in homes that are close to town centers to justify *their* use.

All three chapters will show how manufacturing can be rebuilt by rebuilding various parts of the infrastructure, whether for train systems, wind networks, solar panels, or buildings. The coordination of this massive undertaking will have to be directed and financed by the government, as Chapter 12 explains, because the market is not up to such a large task. The important question then becomes, How do we make sure that government is controlled by the citizens and not by the chief executive officers of the most powerful corporations? How do we make the economy more democratic, both at the level of the individual business and for society as a whole?