



### Solar Energy

Solar radiation in the form of sunlight can be utilized for energy production in two ways. Active solar systems involve the use of mechanical devices to convert solar energy to heat or electricity. Passive solar systems utilize natural heating and cooling from the sun through building orientation and building design techniques.

#### Policies:

- OS 11.1 Enforce the state Solar Shade Control Act, which promotes all feasible means of energy conservation and all feasible uses of alternative energy supply sources. (AI 62, 65, 66, 70)
- OS 11.2 Support and encourage voluntary efforts to provide active and passive solar access opportunities in new developments. (AI 63, 64)
- OS 11.3 Permit and encourage the use of passive solar devices and other state-of-the-art energy resources. (AI 62, 63, 64)

### Geothermal Resources

Geothermal resources can be used for electricity production as geothermal steam can be used to run turbines. The exploitation of these resources, however, is frequently accompanied by detrimental impacts on the environment. Among these are the emission of toxic gases and chemical substances that result in the degradation of air quality, the threat of water pollution, damage to living organisms, and hazards to public health. Additional problems arise from the heavily industrial character of geothermal operations for electrical generation; the frequent occurrence of exceptional natural, scenic, and archaeological values in geothermal resource areas; and the adverse effects that geothermal fluid removal may have on nearby hot springs and other natural thermal features. Currently there is no active geothermal energy production in the County, though geothermal resources are known to exist in the County.

#### Policies:

- OS 12.1 Allow for the development of non-electrical, direct heat uses of geothermal heat and fluids for space, agricultural, and industrial heating in situations and localities where naturally occurring hydrothermal features will not be degraded. (AI 71)

*The following policies direct the use of present technologies and the extraction and conversion of energy from geothermal fluid and steam reservoirs:*

- OS 12.2 Base all geothermal decisions on appropriate data relating to anticipated environmental, cultural, aesthetic, archaeological and social impacts.
- OS 12.3 Weigh the benefits of geothermal as a viable energy source against the protection of hot springs, geysers, thermal pools, and other thermal features for their ecological, educational, and recreational values.



*“Geothermal resources” mean the natural heat of the earth, the energy, in whatever form, below the surface of the earth present in, resulting from, or created by, or that may be extracted from, such natural heat, and all minerals in solution or other products obtained from naturally heated fluids, brines, associated gases, and steam, in whatever form, found below the surface of the earth, but excluding oil, hydrocarbon gas or other hydrocarbon substances.*



OS 12.4 Permit geothermal heat utilization for space heating in buildings.

### **Biomass Resources**

Biomass resources refer to organic materials, either wastes, residues, or specific crops, that can be converted to an energy fuel to replace conventional sources or directly used in combustion processes. Due to agricultural production in the County, resources exist that enable this technology to be more widely employed.

#### **Policies:**

OS 13.1 Encourage economic biomass conversion under sensible environmental controls. (AI 71)

## **NON-RENEWABLE RESOURCES**



*SMARA mandates the classification of valuable lands in order to protect mineral resources within the State of California subject to urban expansion or other irreversible actions. SMARA also allows the state to designate lands containing mineral deposits of regional or statewide significance. The California Division of Mines and Geology (CDMG) has identified a number of significant aggregate resource areas throughout Riverside County.*

The non-renewable resources discussed in this element are mineral resources and energy resources. The Mineral Resources section of this element addresses those resources that are classified under the State Mining and Reclamation Act of 1975 (SMARA). The Energy Resources section addresses petroleum resources as well as energy conservation.

### **Mineral Resources**

In addition to agricultural production, mineral extraction is an important component of Riverside County's economy. The County has extensive deposits of clay, limestone, iron, sand, and aggregates. Classification of land within California takes place according to a priority list that was established by the State Mining and Geology Board (SMGB) in 1982, or when the SMGB is petitioned to classify a specific area. The SMGB has also established Mineral Resources Zones (MRZ) to designate lands that contain mineral deposits. The State of California has also designated Aggregate Mineral Resource areas within the County. These mineral resource zones are mapped in Figure OS-5.

The classifications used by the state to define MRZs are as follows:

- **MRZ-1:** Areas where the available geologic information indicates no significant mineral deposits or a minimal likelihood of significant mineral deposits.
- **MRZ-2a:** Areas where the available geologic information indicates that there are significant mineral deposits.
- **MRZ-2b:** Areas where the available geologic information indicates that there is a likelihood of significant mineral deposits.
- **MRZ-3a:** Areas where the available geologic information indicates that mineral deposits are likely to exist, however, the significance of the deposit is undetermined.
- **MRZ-4:** Areas where there is not enough information available to determine the presence or absence of mineral deposits.