**Visual Aids**

California Education and the Environment Initiative

6

Science Standard
6.6.a.

# Energy: It's Not All the Same to You!

**California Education and the Environment Initiative**

Approved by the California State Board of Education, 2010

**The Education and the Environment Initiative Curriculum is a cooperative endeavor of the following entities:**

California Environmental Protection Agency

California Natural Resources Agency

California State Board of Education

California Department of Education

Department of Resources Recycling and Recovery (CalRecycle)

**Key Partners:**

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**Office of Education and the Environment**

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None required for this lesson.

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## Lesson 5 Energy Choices—No Free Lunch

None required for this lesson.

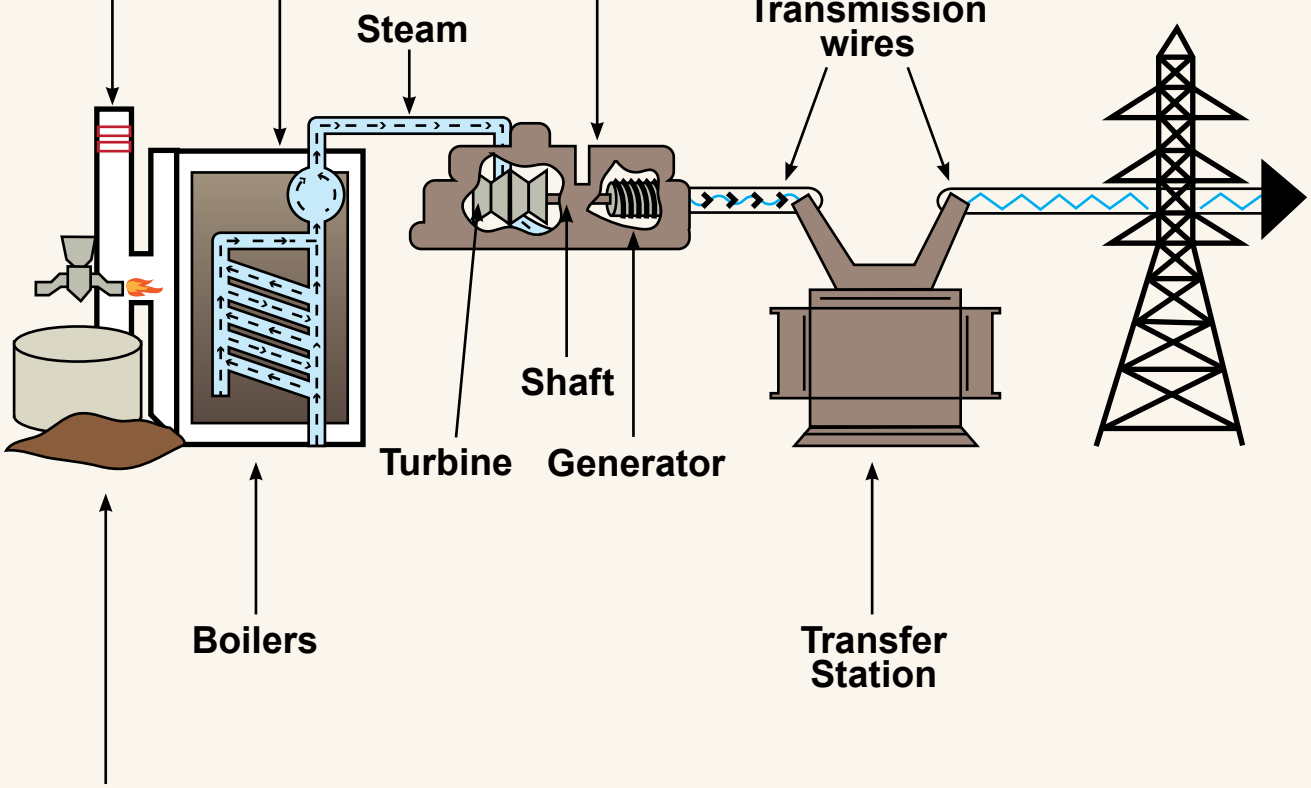
# VA #1 Inside the Power Plant

## Energy conversions

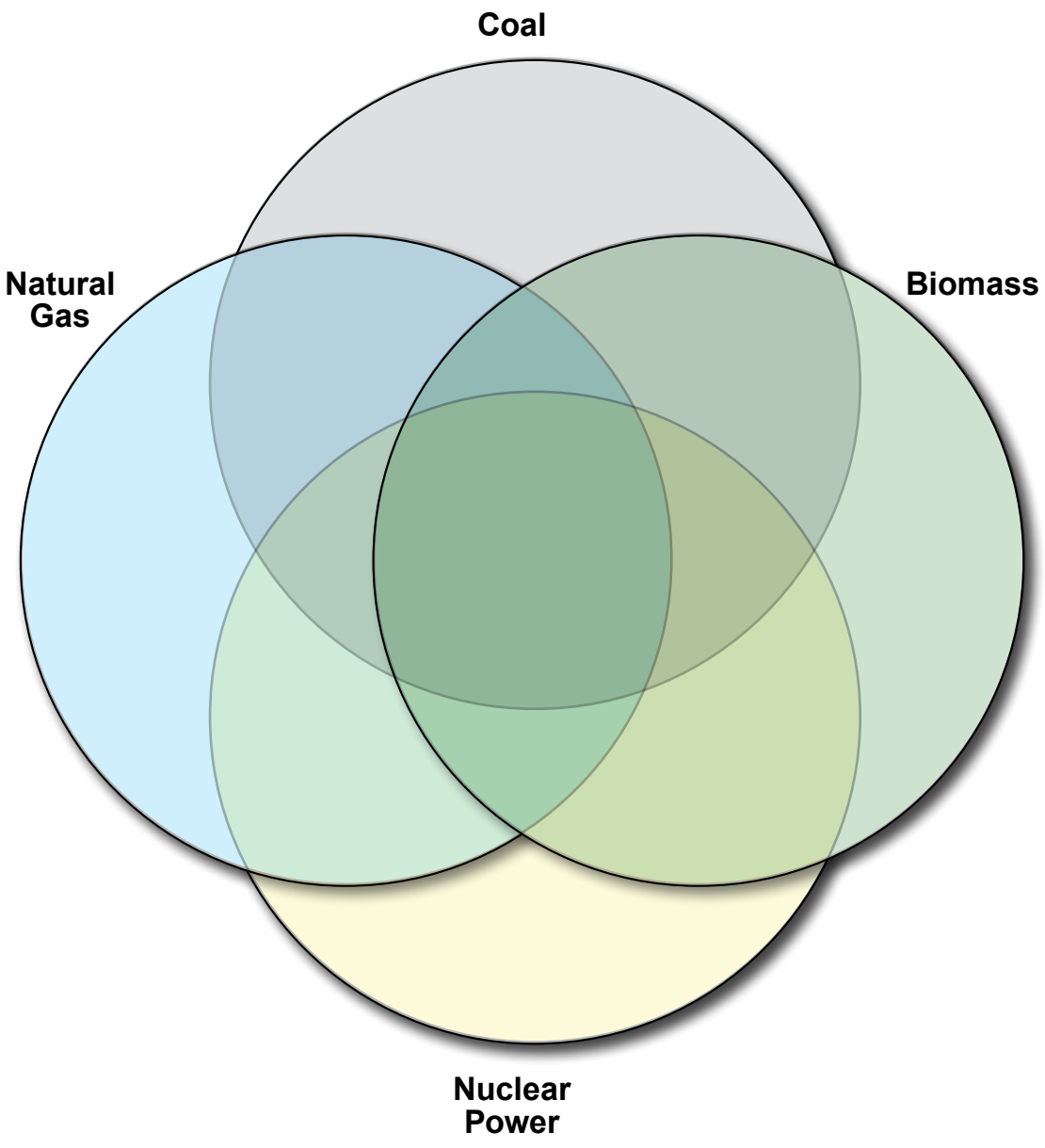
_____ to _____

_____ to _____

_____ to _____



# VA #2 Comparing Energy Sources



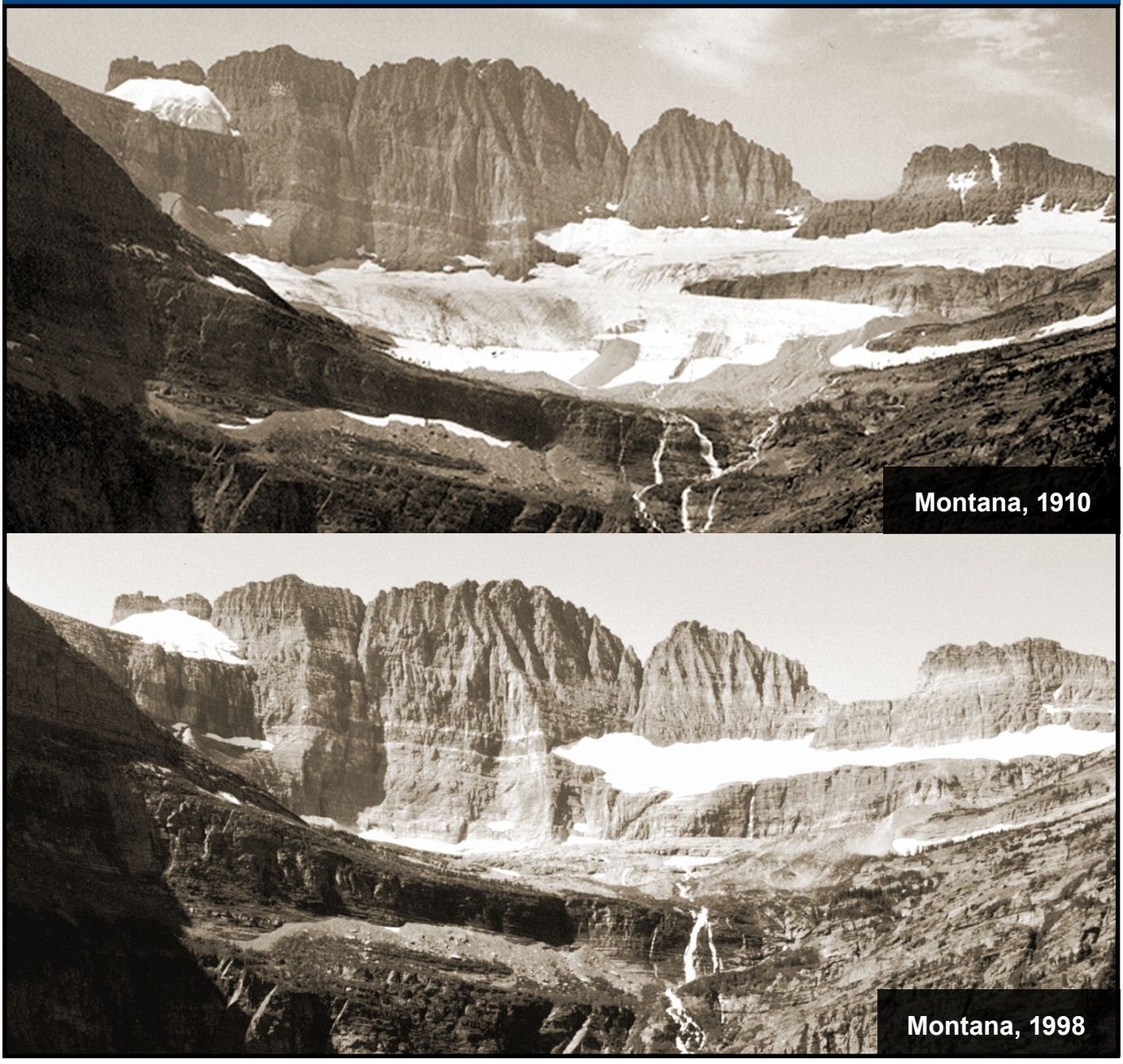
# VA #3 Cooling Towers

## VA #4 California's Power Mix

| Energy Source | Percent of Total |
|---|---|
| Natural Gas | 45.2% |
| Coal | 16.6% |
| Nuclear | 14.8% |
| Large Hydro | 11.7% |
| Renewable Sources: | |
| Geothermal | 4.5% |
| Small Hydro | 2.8% |
| Wind | 2.3% |
| Biomass | 2.1% |
| Solar | 0.2% |
| Total | 100% |

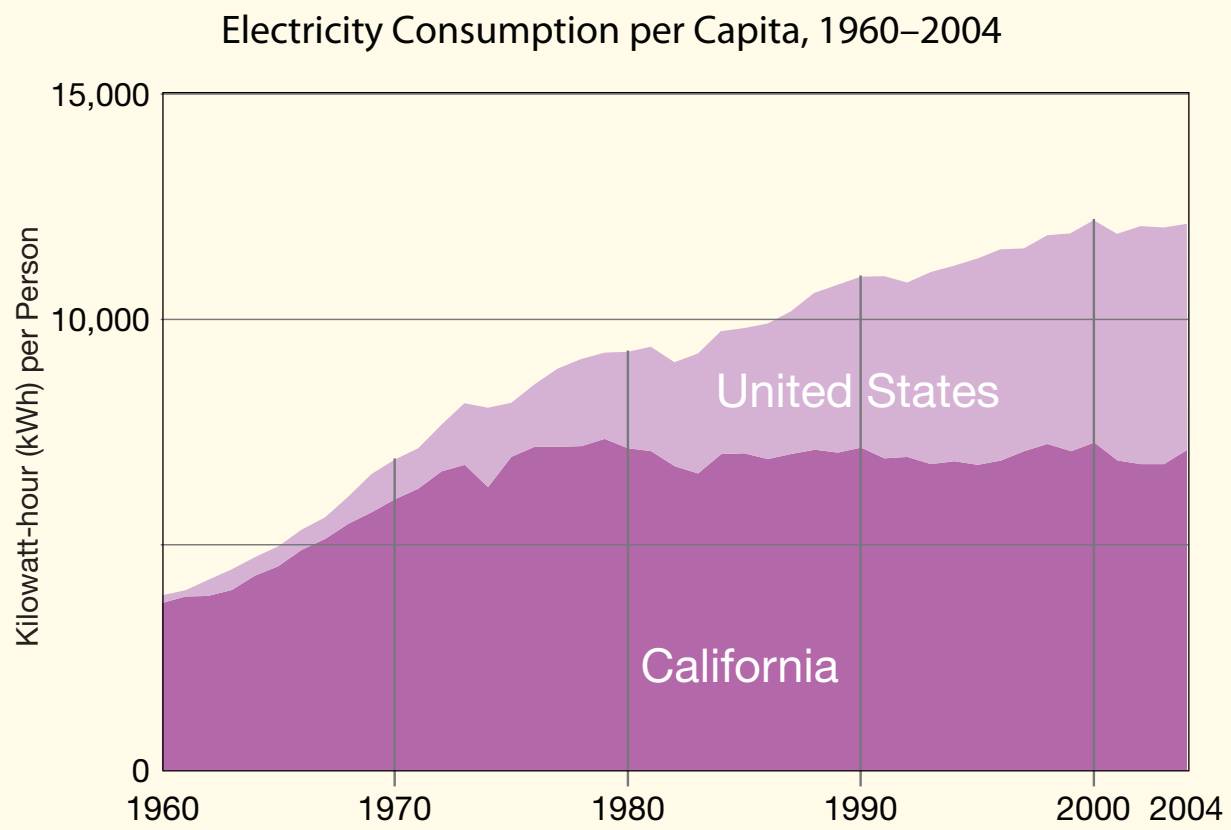
*California Energy Sources—2007*
*Source: California Energy Commission*

# VA #5 Grinnell Glacier



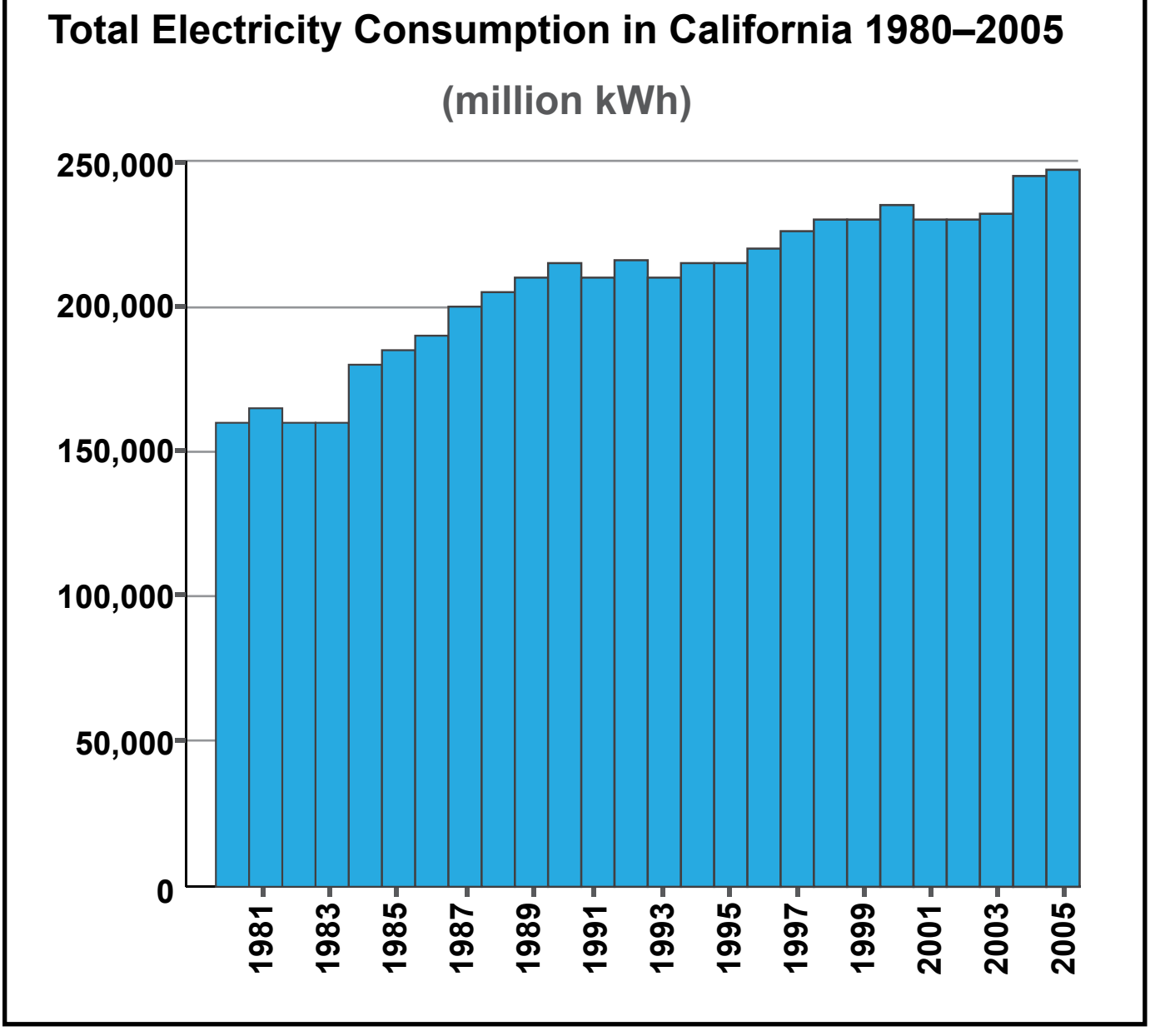
# VA #6 Nuclear Power Plant Cooling Canals

# VA #7 Electricity Consumption per Capita



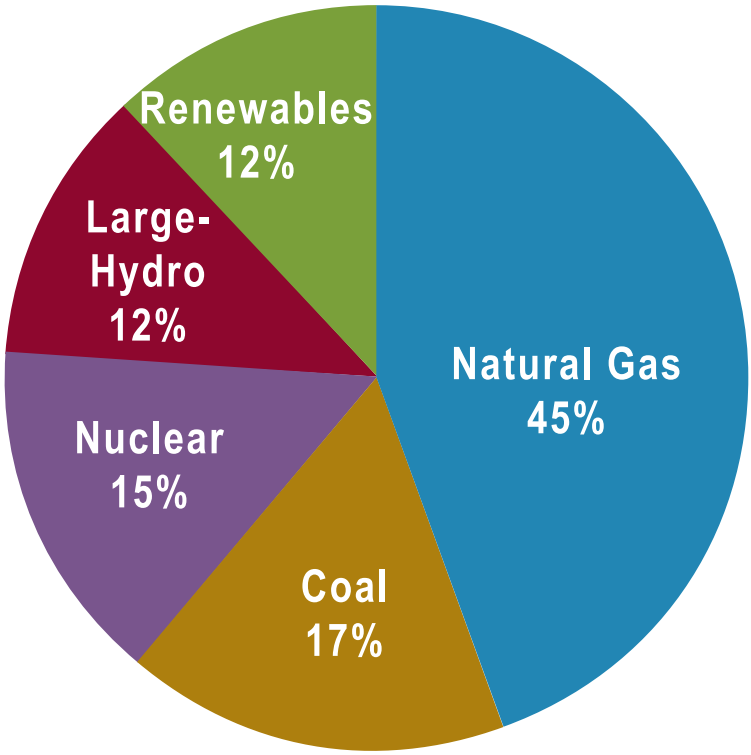

*Source: California Energy Commission*

# VA #8 Total Electricity Consumption




*Source: U.S. Department of Energy*

## SVA #1 Energy Sources Used to Produce California's Electricity




### California's Power Mix

| Energy Source | Percent of Total |
|---|---|
| Natural Gas | 45% |
| Coal | 17% |
| Nuclear | 15% |
| Large Hydro | 12% |
| Renewables | 12% |

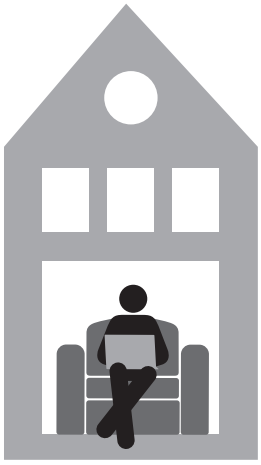
*Source: California Energy Commission, 2007*
*Note: Total Exceeds 100 percent due to rounding.*

# SVA #2 Energy End-Use Categories

## Industrial

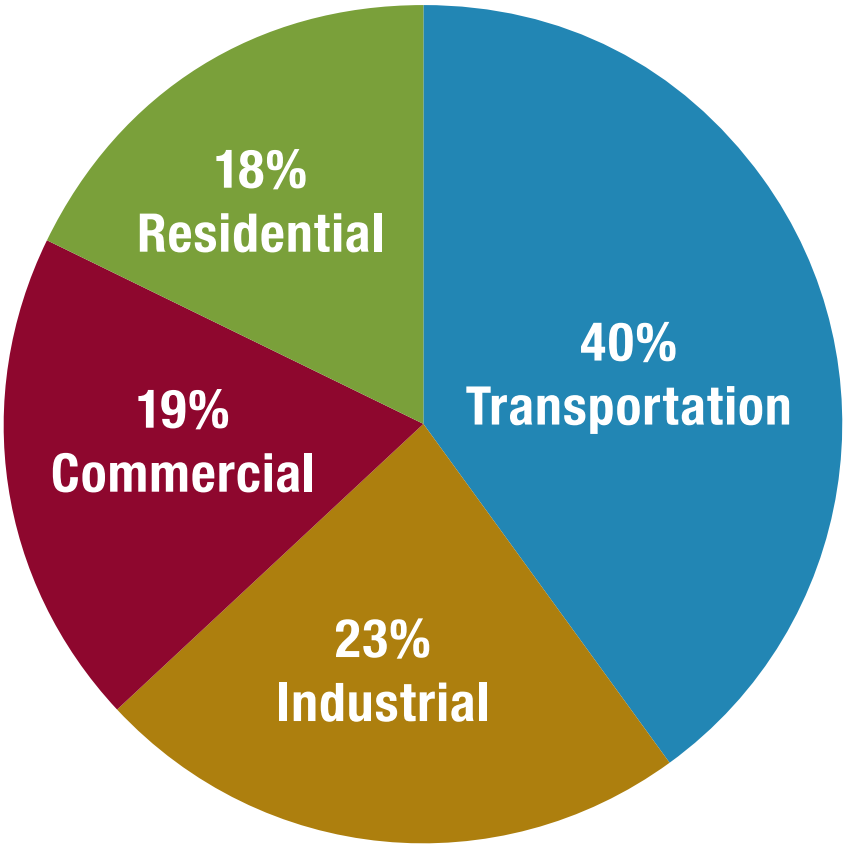
## Commercial

## Residential



## Transportation

# SVA #3 California's Energy End-Uses by Category




*Source: U.S. Department of Energy, Energy Information Administration, 2011*
*http://www.eia.gov/beta/state/seds/data.cfm?incfile=/state/seds/sep_sum/html/sum_btu_1.html&sid=US*

California STATE BOARD OF EDUCATION

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