The energy crisis in California
What caused the problems in California?
There main cause for the Californian energy crisis is a supply/demand issue:
- As a result of economic growth, demand has been growing strongly in California.
- Supply has not kept up with the increase in demand for several reasons:
  - Generators in California have no incentives to build new power plants. They were not allowed to include reserve capacity into their pricing models and in fact could make more money when supply of energy was scarce because the utilities were not allowed to close long term contracts for energy supply.
  - Environmental constraints made it difficult to build new plants and placed stringent rules on old plants.
  - The dry summer of 2000 had reduced the generation of hydroelectric power.
Additional problems resulted from deregulation, which made the wholesale prices floating but kept the consumer prices fixed. As a result utilities had to buy energy for increasing prices but could not charge this price increase to the end-user. This resulted in financial problems for utilities, which in its turn limited their ability to buy power in other states.
Finally insufficient transmission infrastructure also limited the opportunities to transfer energy from one part of the country to the other.

What state electricity policies, if they were adopted, would make you stay in California?
In the short-term California should adopt policies that will reduce the current problems:
- Stimulate end users to reduce energy consumption
- Allow utilities to close long term contracts with energy generators in order to come to more predictable and lower pricing for the utilities.
- Have the state of California assist the utilities financially as a guarantee to out of state suppliers that financial obligations of the utilities will be met.
Note that it will not be enough to simply remove the price cap on consumer prices. This would mean that the end-user would be paying for the problems that have built up over the years and does not address the actual problems.

In addition California must adopt policies that address the long-term supply and demand issues:
- Supply must be increased creating incentives for the generators to build new capacity. This can for example be done through tax credits.
- Energy generators must be allowed to include reserve capacity in their pricing schedules.

Will other parts of the US shortly have the same problems?
Although the potential for similar problems in other states exists, it is unlikely that other parts of the US will face similar problems. The problems in California have served as a warning to other states and give them time to avoid similar problems. In most other states there is less divergence between supply and demand. In places where this is the case, for
example New York and Massachusetts, the short distance to Canada (which has plenty of hydroelectric power) can serve as a solution.

*What are the macro-economic implications of the electrical shortages in the US economy? Should one expect slower growth rates going forward?*

The impact of the energy crisis on investments in California will be small, assuming that the government adopts the right policies. Although the energy crisis is big news at this moment, other issues in the area like insufficient infrastructure are more important in investment decisions. Consumption may be impacted for a short period of time until supply and demand of energy are in balance again.

An increase in energy prices will serve as an increase in tax and therefore have a small impact on the multiplier. Additionally, the current problems will have a small impact on productivity in the state, both of which will reduce the growth of the Californian GDP. However, activities can be moved from California to other states. As a result, the macro economic impact on the growth in the US is most likely small, assuming that other states will not face similar problems.

Demand for electricity in California is largest during the summer. Policies must be in place before the summer to avoid a bigger impact on the economic growth.

Note that the impact of the crisis will be on growth of GDP (the flow) and not on GDP itself (the stock). The crisis may slow down growth but is not big enough to have an actual impact on the US GDP itself.

*Should we move our production facilities?*

When considering moving the production facilities there are several aspects to include in your decision:

- The dependency of the company on external energy and the capability to produce its own
- The costs associated with moving the facilities, including the investment in new facilities and the duration of the process
- The availability of skilled employees at the new location