



Written Comments to CA Senate by Dr. Sanjiv Malhotra:

75% of battery companies in the United States have R&D and Engineering operations in California. The California Energy Commission (CEC) has done a wonderful job of providing funding for these companies for scaling the First Valley of Death - when proof of concept of the technology has to be established.

Through the CEC's EPIC Program and CalSEED Program, these battery companies are able to scale the first valley of death and prepare to raise Venture Capital dollars as well as prepare for funding from the US Department of Energy to prepare their technology ready for pilot manufacturing.

When it comes to pilot manufacturing, **ALL OF THESE BATTERY COMPANIES LEAVE CALIFORNIA.**

They go to Michigan, Indiana, Tennessee, Nevada, and even Washington. Essentially the outcome is that one job in R&D leads to 30-40 production jobs. Typical battery companies are hiring 25-30 R&D and Engineering employees in California, and when it comes to manufacturing they would hire 700-1000 employees. Those hundreds of manufacturing jobs are what is lost by California.

The states mentioned above are providing the resources for setting up pilot manufacturing and infrastructure to establish manufacturing for the battery companies.

By providing the resources needed for pilot manufacturing and manufacturing infrastructure, these states are able to help these companies traverse the Second Valley of Death - when the companies are beyond the Venture Capital phase but are too early for Private Equity and Growth Equity and Federal dollars for manufacturing. By providing the resources to traverse the Second Valley of Death, these states are helping these companies attract hundreds of millions of dollars in investment from Private Equity and Federal dollars and, in the process, creating 500-1000 jobs per company.

This is ultimately what California is losing out on in supporting these battery companies. Sparkz recommends that the state of California, through the CEC, could possibly fund 3-4 pilot projects each at a cost of \$40-50 Million. This would result in at least 4-5 manufacturing facilities set up in the state of California with a total 4000-5000 high paying, High Road Union manufacturing jobs.