What is the economic impact of California's climate change regulations? Will they reduce actual emissions or just shift them out-of-state?

A new study by Resources for the Future addresses an important part of the puzzle. Reasearchers at RFF modeled the effect of compliance costs of $10/ton or $22/ton of CO_2 on highly energy-intensive industries such as glass bottle manufacturing, poultry processing, paperboard mills, and steel manufacturing. The models assume that other states do not have any carbon regulations in place. Thus, if the Clean Power Plan goes into effect, these estimates may become irrelevant

In the absence of something like the Clean Power Plan, the immediate impact of California regulations on these industries is significant, running between 10-15%. Note that manufacturing as a whole is only about 10% of the California economy, and some sectors are not as energy intensive, so we're talking about an overall economic impact on the state that's probably under 1%. In the longer run, however, even these impacts seem to largely disappear. According to the researchers, the "largest long-run output losses are less than 1 percent, and most industries have impacts very close to zero." As they explain, this "suggests that plants can adapt to an energy price shock. For example, they may adopt energy-efficient technology."

On the whole, this is encouraging news. Perhaps California may want to give these highly affected industries a couple of years of transition relief to give them time to adjust. But overall, the economic impact seems small. That's also important because it means that carbon leakage from production shifting is also probably small. Of course, the usual caveats are in order: this is only one study, and economic modeling is in any event an imperfect science.