Shore Up Connecticut is a policy mistake. A state loan program named Shore Back Connecticut would make more sense because retreat from the coast is the only viable long-term option. Recent developments in Antarctica have made this crystal clear.

As I write, the edge of the Thwaites Glacier is thinning and retreating back to the bedrock ridge that pins it in place. Once inside this threshold, the entire West Antarctic Ice Sheet will disintegrate, raising global sea level by 10 feet. The plug has already been pulled. The global drip will continue until the thaw is complete.

My source is a May 16 "News & Analysis" report published in Science, the magazine of the American Association for the Advancement of Science. Read it and weep. Backup for this claim is a report published in the same issue by a team of glaciologists from the University of Washington who've been scrutinizing their computer models in disbelief. They simply can't make the problem go away. Nor can a separate team who published equally alarming results following a separate line of inquiry.

This has happened before. Sometime within the last 750,000 years, an earlier version of the Thwaites Glacier melted back, the West Antarctic Ice Sheet disappeared, and global sea level rose sharply. Prominent glaciologist Richard Alley, who wasn't involved with either study, describes the near future: "Very crudely, we are now committed to global sea level rise equivalent to a permanent Hurricane Storm Sandy storm surge." Keep in mind that future storm surges will be superimposed above this new level.

The good news is the timing. Assuming the models are correct, we've got two centuries to respond. This may seem like a long time, but it's only half as old as the early coastal infrastructure we're trying to protect.

There's more good news in the planning. Scientists are already investigating policies that the politicians can't touch. A team from Vrije Universiteit in the Netherlands, the Massachusetts Institute of Technology in Cambridge, Mass., Princeton University in New Jersey and the University of Pennsylvania in Philadelphia published an unrelated Science report two weeks earlier titled "Evaluating Flood Resilience Strategies for Coastal Megacities." Note that all but one of these prestigious academies are located in megacities threatened by climate-driven sea-level rise.

The global situation is ominous. Urban populations in coastal flood-prone areas are still growing rapidly; trillions of dollars are still being invested for infrastructure in these areas; and flood damage remains the largest share of insured losses for such infrastructure. In spite of these compelling concerns, investments for flood protection have been haphazard due to political infighting, fear of making wrong choices and, most important, the short time frames for profitable economic investment.

Focusing on the physics and economics, these scientists put together an elegant numerical model to explore how coastal megacities should respond, using New York City as an example. Their model combines three basic inputs: the probable risk of flooding based on past statistics and future trends; the direct relationship between flood depth and dollar damage; and the total economic losses caused by damage, disruption and remediation. They calibrated their model using actual numbers from Hurricane Sandy.
The predicted economic losses are staggering. Given the status quo, the flood loss for New York City will average $174 million per year. Losses for storms with return periods of 100 and 1,000 years will be $2.2 billion and $25.4 billion, respectively. Obviously, something more must be done beyond hand-wringing, political posturing and bailing out homeowners and businesses with federal dollars that aren't there.

The key decision is whether to improve present practices or to bite the bullet and block the rising sea from invading vulnerable shores. When the model is tuned for minimum rates of sea level rise and storm intensification, changes in shoreline management make sense, and "shoring up" can be part of that solution. But when the model is tuned for greater rates of change such as those involving West Antarctic melt, the most cost-effective scenario involves sealing off Greater New York City with a physical barrier between the Rockaways in New York and Sandy Hook in New Jersey.

Building such a dike is not an option for the Connecticut shore because its hundreds of harbors open outward to the sea. Shoring back from the rising sea is our only hope.