

*Keri Schneirla, a Marketing Specialist at Pacific Northwest National Laboratory arranged for an interview with Dr. Ken Caldeira, a climate scientist from the Carnegie Institution's Department of Global Ecology at Stanford University after his presentation at Pacific Northwest National Laboratory on March 17, 2009.*

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**Keri Schneirla:** Here at Pacific Northwest National Laboratory, Dr. Ken Caldeira of the Carnegie Institution, from Stanford University's Department of Global Ecology is visiting as an invited speaker in a new seminar series on novel ideas in climate change and carbon management. Dr. Caldeira is well known in the climate change world and was named a "Hero scientist of 2008" by New Scientist magazine. I caught up with him after the seminar.

**Schneirla:** Dr. Caldeira, based on your studies, what's the most important thing we need to do to stabilize the climate?

**Dr. Ken Caldeira:** I think the most important thing we need to do is to dramatically move away from reduce carbon dioxide emitting devices like power plants and automobiles. If it were up to me I would just make regulations saying that we can't build a coal-fired power plant without carbon capture storage and then say within 10 years we have to move to electric cars and essentially I think we can outlaw devices that emit CO<sub>2</sub>.

**Schneirla:** You're known as a proponent of geoengineering, deliberately modifying the atmosphere to combat global warming. What would it take for geoengineering to become widely accepted?

**Caldeira:** I'm in favor of geoengineering research in that I believe that even if we work hard to reduce emissions, planetary temperatures will continue to increase throughout the century. So if there was an emergency, these geoengineering approaches are really the only way to cool off the earth but they are full of all kinds of potential problems, and I don't think that people will want to do this unless there is a real emergency because there is too much potential for conflict and damage. So I don't really want people to necessarily accept the idea of geoengineering, but the idea that we should be looking into this to understand if there really is an option.

**Keri Schneirla:** How are climate models being used to answer policy questions?

**Caldeira:** There is a whole range of proposals that have been made to address the climate problem and this includes reducing emissions, planting trees, storing carbons in the oceans and all of these things that effect the planet are amendable to study through the use of climate models and the same climate models we have been looking at to predict the consequences of climate change we can use to evaluate how effective various responses might be.

**Schneirla:** Great. Thanks for your time. We appreciate your insights on this important topic and hope to have you out again.