

# COPING WITH CLIMATE CHANGE

## WHAT WE CAN DO TO FIGHT IT

**Q&A**  
WITH THE  
EXPERTS

Climate change expert Dr. Robert Lempert talks about how our changing weather is affecting us, how policy is addressing climate-related changes, and what we can do to help.



**Dr. Robert Lempert** is a scientist who researches climate change, energy, our environment, and how people make important decisions. He is a lead author on the Intergovernmental Panel on Climate Change and was awarded the Nobel Prize for Peace in 2007 along with Vice President Al Gore. In his many published studies and talks across the world, Dr. Lempert works to help governments and policymakers understand how they can help people live well and remain safe as our planet changes. He is a professor at the Pardee RAND Graduate School and earned his Ph.D. in applied physics from Harvard University.

### What is climate change?

Climate change refers to the long-term changes in the weather. These changes are happening across our planet. The Earth's atmosphere acts like a blanket that holds in heat. This keeps our Earth at a pleasant temperature for people. If we didn't have that blanket, the Earth would be a big ball of ice. But humans live in ways that emit gases into the atmosphere. Driving cars, generating electricity, growing food, and manufacturing products all do this. And these activities have made the blanket thicker and the Earth warmer.

Over the last 70 years, the Earth has been getting warmer. This warming doesn't happen evenly. Sometimes it can still be very cold in some places. But scientific data from across the entire globe tells us the full story. It shows that the Earth is warmer now than it was when your grandparents were your age.

### How did you become interested in the topic of climate change?

I became interested in climate change because it is such an important problem. Human actions are changing the Earth where we live. Some of these changes are immediate. Others unfold over many years.

The more I work on climate change, the more I understand how important it is to solve this problem. I love California, where I live. The hills, sky, and seashore are beautiful. But you can see the effects of climate change here. We have more fires than ever before. We also have longer droughts and more-intense storms, and it is hotter in many places. Similar changes are happening all over the world. This is disruptive to people's lives. It also harms the animals and plants around us. If we act now, we can stop things from getting worse.



## **What are some of the biggest challenges that the world is facing because of climate change?**

Some of these challenges are affecting our lives now. Scientists call these direct effects. Direct effects include bigger and more-destructive storms than ever before. They also include hotter days, more flooding in some places, and more drought in others.

Other challenges come from different changes that build on one another. For example, there is a kind of tree-eating beetle in the United States that thrives in warmer weather. Warmer weather in more places means that there are more tree-eating beetles. More tree-eating beetles means more dead trees. More dead trees mean much bigger forest fires.

## **What are governments doing to stop or reduce climate change?**

To stop climate change, we need to make big changes. We need to rethink how we get around, provide light and heat for our homes, grow our food, and make the products we buy. The government can help by conducting research on new technologies. It can also make new policies that encourage people to shift to new ways of doing things. We have had some success already. When your parents were young, the United States generated most of its electricity by burning coal. All cars used gasoline back then. Today, solar power and wind generate approximately 12 percent of our electricity. Many people get around in electric cars. These new technologies are much more friendly to the Earth's climate. Recently, the federal government set up some important goals for itself for 2050. Policymakers decided that federal agencies will buy only electric vehicles and that buildings will use only wind, solar, and nuclear energy by then. This is an example of policy that can help the environment.

## **What do you think students can do to help fight climate change?**

There are lots of things that students like you can do! Learning about the problem is a big step. You could also create an eco-group in your school. You might want to calculate your school's carbon footprint. You could help find ways to reduce waste, eat less meat, consume fewer products, and get around without a car. You might also want to start advocating climate policies in your city, state, and in our government. Your voice is important because you are the future.

## **What is one surprising thing that you have learned in your research about climate change?**

Climate change is full of surprises, both good and bad. On the bad side, the effects of climate change have become apparent much faster than most scientists thought that they would. We used to think of climate change as something that would happen in the future. But we now see it happening all around us right now. On the good side, renewable energy from solar and wind has become inexpensive much faster than we thought. In most of our country, they are now the least expensive way to generate electricity.



## What are some things that people don't understand about climate change?

The pollution that causes climate change keeps building and building. If people dump bad chemicals into a river, the river will get clean once people stop dumping the chemicals. But you can't clean the atmosphere in the same way. The climate change we are experiencing today is the result of gases put into the atmosphere over the last 70 years. The gases we emit into the atmosphere today will cause climate change for our children and grandchildren. Also, most pollution is specific to one location, so that pollution in Los Angeles mostly affects Los Angeles. But with climate change, what happens in China affects the United States, and what happens in the United States affects China.

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This tool describes work documented in *Engaging Youth with Public Policy: Middle School Lessons to Counter Truth Decay*, by Andrea Prado Tuma and Alice Huguet, TL-A387-1, 2022 (available at [www.rand.org/t/TLA387-1](http://www.rand.org/t/TLA387-1)). The RAND Corporation is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest. RAND's publications do not necessarily reflect the opinions of its research clients and sponsors. **RAND**® is a registered trademark.

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