

SPEAK UP & ACT NOW: SHORT GUIDES TO ADDRESS CLIMATE CHANGE¹

RENEWABLE ENERGY

QUESTION: What is the role of renewable energy in addressing climate change?

ANSWER: The use of energy makes up 75% of global greenhouse gas emissions. It is these emissions of greenhouse gases like carbon dioxide and methane that are causing global warming. We use energy in all sectors of society: our homes; all other private and public buildings; transportation; industry; and agriculture.

Currently, fossil fuels supply 83% of global energy demand. Replacing fossil fuels, which emit greenhouse gases, with renewable energy sources like solar, wind, and geothermal, which don't emit greenhouse gases, is the closest thing to a panacea to address climate change. This is often referred to as decarbonizing our energy systems. Renewable energy sources are fully capable of meeting global energy needs. For example, according to the U.S. Department of the Interior, the amount of solar energy falling on the Earth within an hour and a half is enough to power global energy needs for a year.

Electricity supplies energy for many sectors like our buildings, industry, and agriculture. Electricity itself must first be generated. In the U.S., electricity generation makes up about 40% of our total energy consumption and, currently, about 60% is produced using fossil fuels. So, an important aspect of decarbonizing our energy systems is greening our electrical grids, meaning transitioning from using fossil fuels like coal and natural gas to generate electricity to using renewable energy sources. Some good news is that, in 2024, 90.5% of newly added utility-scale energy capacity in the U.S. was renewable energy and renewable energy storage.

Transportation makes up over 25% of energy consumption in the U.S., and passenger vehicles on the road are responsible for almost half of this. This transportation-related energy use contributes 28% of all U.S. greenhouse gas emissions. This is why electrifying our vehicles is so important.

ACTIONS – WHAT CAN WE DO?

1. ELECTRIFY YOUR HOME AND VEHICLES. By electrifying your home and vehicles, you can rely on an increasingly green electrical grid rather than natural gas and oil. See the companion “Speak Up & Act Now: Short Guides to Address Climate Change” on home energy and transportation for more information.

- 2. INSTALL SOLAR PANELS.** By doing so, you power your home and electric vehicles with renewable energy. If your utility has “net metering,” any excess energy you produce is sent to the electrical grid, adding it to the overall electricity supply. Check for tax credits and other financial incentives. **If installing solar panels is not possible,** see if you can enroll in a “green power”/ “renewable energy” option with your electric utility. These programs allow you to contribute to utility-scale renewable energy commensurate with your household’s electricity consumption.
- 3. SUPPORT RENEWABLE ENERGY PROJECTS IN YOUR COMMUNITY.** In addition to supporting renewable energy projects, including those that are large, utility-scale projects, support strategic plans to decommission utility-scale fossil fuel infrastructure and oppose any new or expanded fossil fuel projects. Decommissioned fossil fuel sites can be great locations to install renewable infrastructure like solar panels and battery storage because they are often big, open areas and have grid connections. In the Richmond, Virginia area, this includes supporting Dominion Energy’s Coastal Virginia Offshore Wind (CVOW) Project and supporting the City of Richmond’s plans to decarbonize Richmond Gas Works.
- 4. SUPPORT LOCAL CLIMATE ACTION PLANS** like Richmond, Virginia’s [Climate Equity Action Plan 2030](#), and particularly actions related to a clean energy transition for local buildings and transportation.
- 5. SUPPORT LEGISLATION AND REGULATIONS** at all levels of government that promote and help accelerate the transition to clean energy. In Virginia, this includes the [Virginia Clean Economy Act \(VCEA\)](#), passed in 2020, the purpose of which is to decarbonize the electrical grid by 2050. Communicate your support to your elected representatives, at public meetings, and by writing op-eds.

RESOURCES – WHERE CAN I LEARN MORE?

- [Renewable Energy Explainer](#) by Jennifer Morris, MIT Climate Portal
- [Renewable Energy - Powering a Safer Future](#) and [Five Ways to Jump-Start the Renewable Energy Transition Now](#), Climate Action website, United Nations

ⁱ Prepared by members of the University of Richmond Osher Special Interest Group on addressing climate change (2024-25)