
THE SHIFT FROM FOSSIL FUELS TO SOLAR AND WIND ENERGY FOR A GREENER FUTURE

Transitioning to renewable energy for sustainable development

AGENDA HIGHLIGHTS

- Understanding Climate Change and Its Effects
- The Role of Fossil Fuels in Climate Issues
- Solar and Wind Energy: Environmentally Superior Alternatives
- Economic Benefits of Solar and Wind Energy
- Leadership in Renewable Energy: U.S. States Making Progress
- Personal Steps Towards a Sustainable Future

UNDERSTANDING CLIMATE CHANGE AND ITS EFFECTS



OVERVIEW OF GLOBAL CLIMATE CHANGE IMPACTS

Sea Level Rise

Climate change causes sea levels to rise, increasing flooding and threatening coastal communities worldwide.

Melting Ice Flows And Glaciers

Warming temperatures contribute to sea level rise and habitat loss for polar species and reduction in available potable water.

Intense Storms

Climate change increases the frequency and intensity of storms, causing widespread damage and disruption.

Biodiversity Loss

Rising temperatures and habitat changes threaten global biodiversity, impacting ecosystems and food security.



LOCAL AND COMMUNITY-LEVEL CONSEQUENCES

Localized Flooding Effects

Flooding disrupts communities by damaging infrastructure and harming agricultural productivity.

Drought Impact on Agriculture

Drought conditions reduce crop yields and threaten food security for local populations.

Heatwave Challenges

Heatwaves strain infrastructure and pose health risks, requiring community adaptation.



EXTREME WEATHER EVENTS AND AFFECTED ECOSYSTEMS

Hurricane Impact

Hurricanes cause widespread destruction to natural and human environments, highlighting climate change severity.

Wildfire Devastation

Wildfires rapidly consume forests and habitats, dramatically altering ecosystems and threatening communities.

Drought-Stricken Areas

Extended droughts cause soil degradation and water scarcity, deeply affecting agriculture and wildlife. Consider the Central Valley.

Damaged Ecosystems

Extreme weather events disrupt ecosystems, threatening biodiversity and ecosystem health across regions.

THE ROLE OF FOSSIL FUELS IN CLIMATE ISSUES



HOW FOSSIL FUELS CONTRIBUTE TO GREENHOUSE GAS EMISSIONS

Fossil Fuel Combustion

Burning fossil fuels produces significant carbon dioxide and methane emissions contributing to atmospheric pollution.

Greenhouse Gas Effects

Carbon dioxide and methane trap heat in the atmosphere, leading to global warming and climate disruption. Acidification and warming of the oceans.

**SOLAR AND WIND ENERGY:
ENVIRONMENTALLY
SUPERIOR ALTERNATIVES**



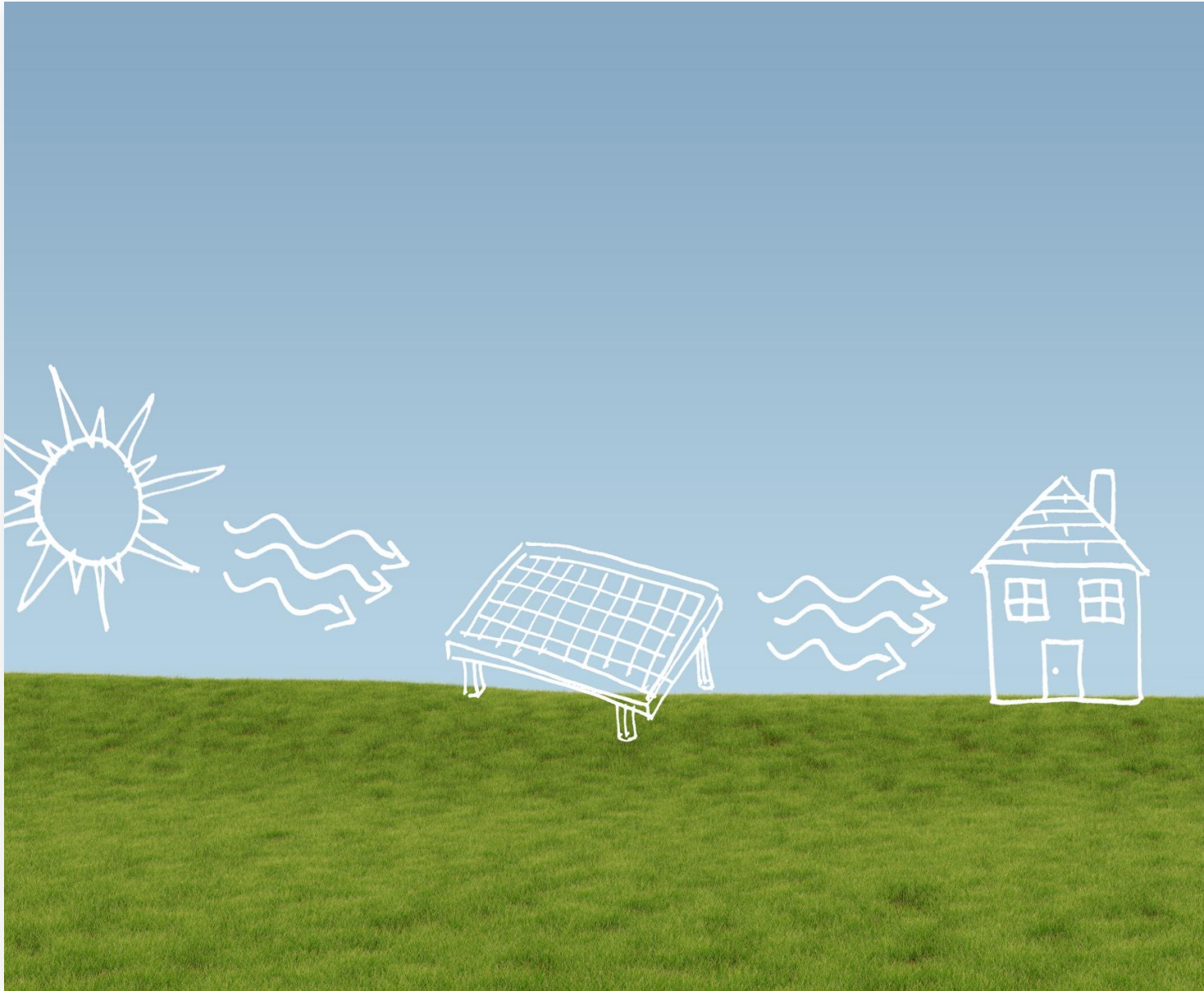
HOW SOLAR AND WIND POWER REDUCE EMISSIONS

Clean Energy Production

Solar panels and wind turbines generate electricity without releasing greenhouse gases into the atmosphere.

Lower Carbon Footprint

Using solar and wind power significantly reduces the carbon footprint compared to fossil fuel energy sources.



POSITIVE EFFECTS ON WILDLIFE AND HABITATS

Pollution Reduction

Renewable energy reduces pollution, leading to healthier ecosystems for diverse wildlife to thrive.

Habitat Preservation

Avoiding destructive extraction processes helps protect and preserve natural habitats for various species.

Support for Biodiversity

Renewables support biodiversity by maintaining balanced and healthy ecosystems across regions.



SOLAR FARMS, WIND TURBINES, AND HEALTHY LANDSCAPES

Solar Farms

Large expanses of solar panels convert sunlight into clean, renewable energy to reduce carbon emissions.

Wind Turbines

Tall wind turbines harness wind power to generate sustainable electricity without pollution.

Healthy Landscapes

Vibrant natural landscapes illustrate the environmental benefits of using renewable energy sources.

ECONOMIC BENEFITS OF SOLAR AND WIND ENERGY

JOB CREATION AND LOCAL ECONOMIC GROWTH



Job Growth in Renewable Energy

Renewable energy sectors are rapidly expanding jobs in manufacturing and installation, creating new employment opportunities.



Maintenance and Research Roles

Maintenance and research jobs in renewable energy industries contribute to sustaining and improving technology locally.



Boosting Local Economies

Job creation in renewable energy supports local economies by increasing income and stimulating related businesses.



LONG-TERM COST SAVINGS FOR INDIVIDUALS AND COMMUNITIES

Reduction of Fossil Fuel Dependence

Solar and wind energy systems decrease reliance on unstable fossil fuel markets for electricity generation.

Stable and Lower Electricity Costs

Renewable energy often provides more stable and reduced electricity costs over the long term for communities and individuals. Possibility of selling excess energy back to the utility. Payback period for solar can be 5-7 years. Then it's free electricity.

Reduction in Adverse Health Effects

Asthma, lung and cardiovascular disease (SO_x, NO_x, particulates), cancer from inhaling vapors, time from work. Do you want your grandchildren inhaling diesel fumes from school buses?

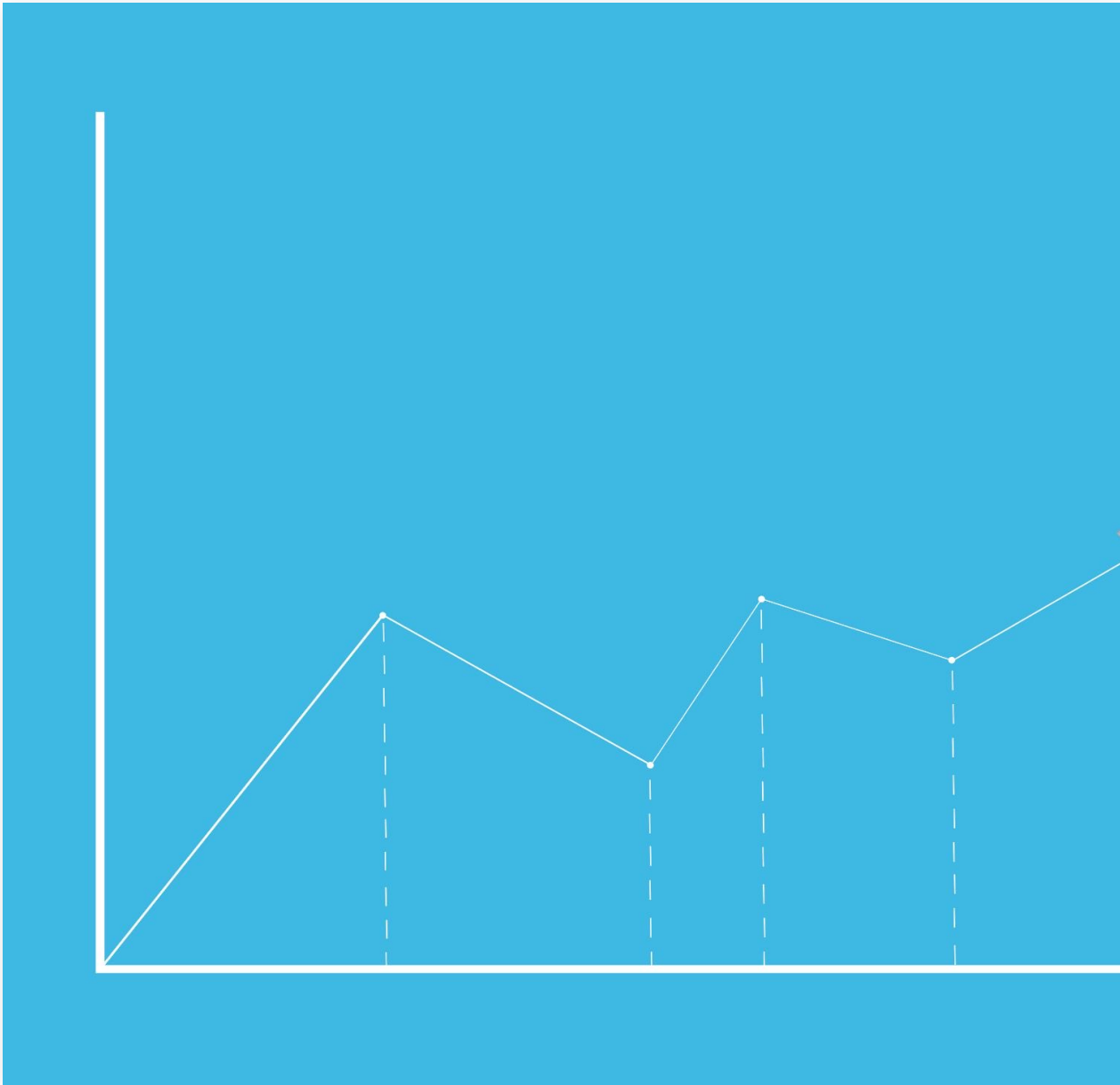
COMPARING ENERGY COSTS AND EMPLOYMENT FIGURES

Declining Renewable Energy Costs

The costs of renewable energy sources are steadily decreasing, becoming more affordable than fossil fuels.

Employment Growth in Renewables

Employment in the renewable energy sector is increasing, reflecting the industry's expanding role in the economy.





DECRASING COST OF SOLAR AND WIND ENERGY

Year	Solar PV (\$/MWh)	Onshore Wind (\$/MWh)
2010	\$378	\$89
2015	\$120	\$70
2020	\$57	\$40
2025 (est.)	\$35	\$30

LEADERSHIP IN RENEWABLE ENERGY: U.S. STATES MAKING PROGRESS



TOP STATES FOR WIND POWER ADOPTION

Texas Wind Energy Leadership

Texas leads in wind energy production with vast wind farms generating significant electricity. >19,400 turbines producing 21-24% of our power.

Iowa's Wind Power Investment

Iowa has heavily invested in wind energy, producing a large portion of its electricity from wind turbines.

Oklahoma's Wind Energy Growth

Oklahoma continues to expand its wind energy infrastructure contributing significantly to its power generation.



TOP STATES FOR SOLAR ENERGY DEPLOYMENT

California's Solar Leadership

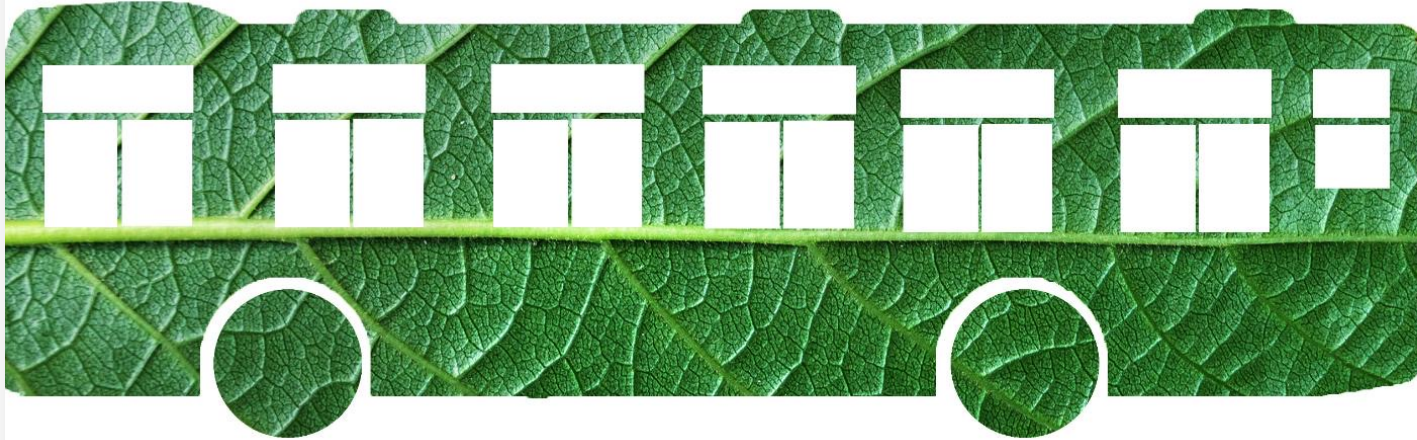
California leads in large-scale solar installations, driving sustainable energy use across homes and businesses.

Texas Solar Output

#2 behind California but #1 in installed utility-scale solar and new solar added in 2024.

88% of new energy sources added in 2025 were solar.

PERSONAL STEPS TOWARDS A SUSTAINABLE FUTURE



REDUCING PERSONAL FOSSIL FUEL CONSUMPTION

Using Public Transit

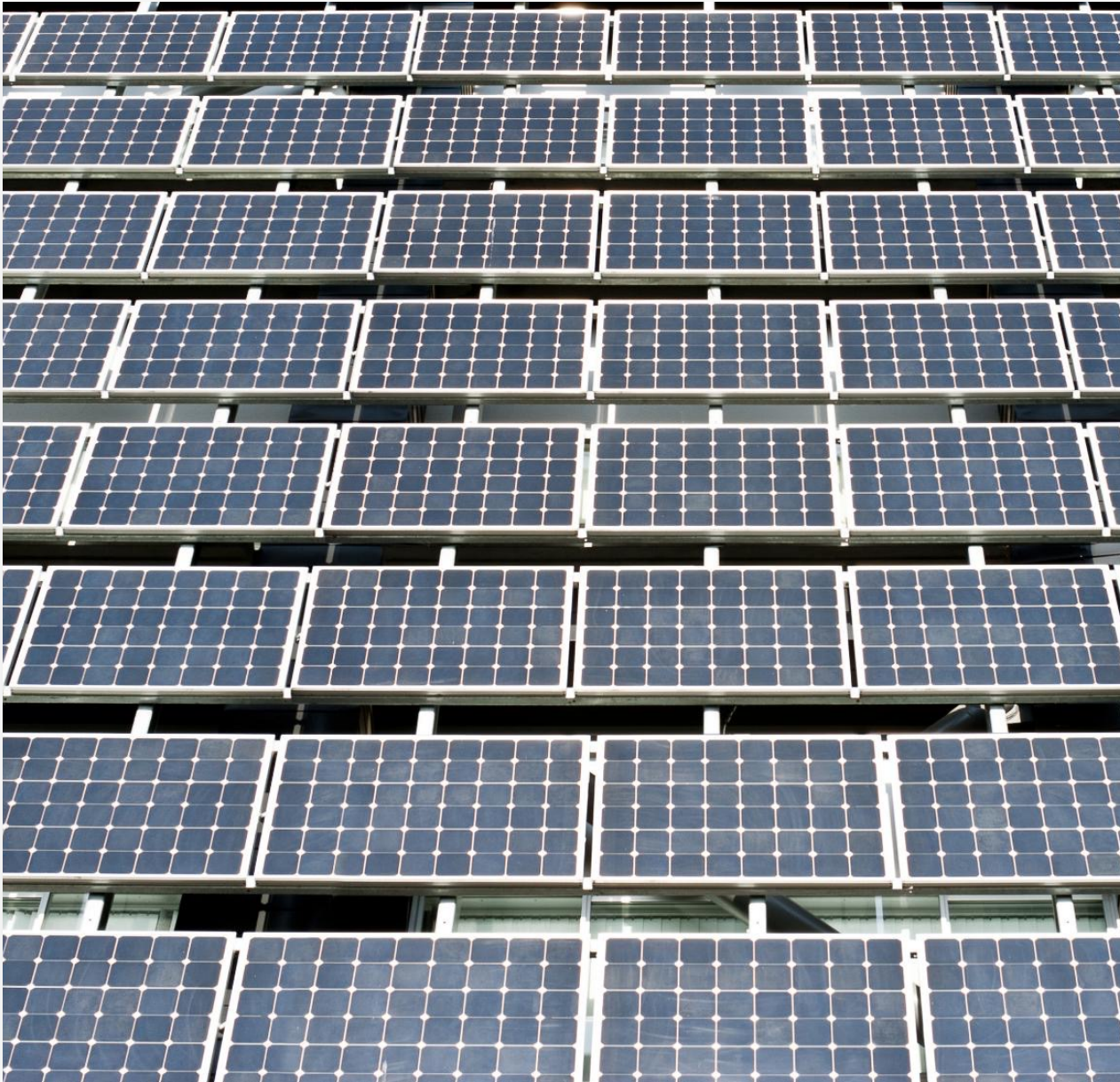
Utilizing buses and trains reduces individual fossil fuel use and lowers carbon emissions significantly.

Fuel-Efficient Vehicles

Driving fuel-efficient cars helps decrease fuel consumption and minimize environmental impact.

Energy Conservation at Home

Conserving energy through efficient appliances (EnergyStar) and mindful usage lowers household fossil fuel dependence.



INVESTING IN HOME SOLAR OR SUPPORTING COMMUNITY WIND PROJECTS

Home Solar Panels

Installing rooftop solar panels allows individuals to generate clean energy and reduce reliance on fossil fuels.

Community Solar and Wind Projects

Supporting these initiatives helps provide clean, local renewable energy accessible to many people. Distributed energy sources reduce the need for extensive grid buildout and development of massive and expensive powerplants.



DAILY SUSTAINABLE PRACTICES AND ADVOCACY

Recycling Habits

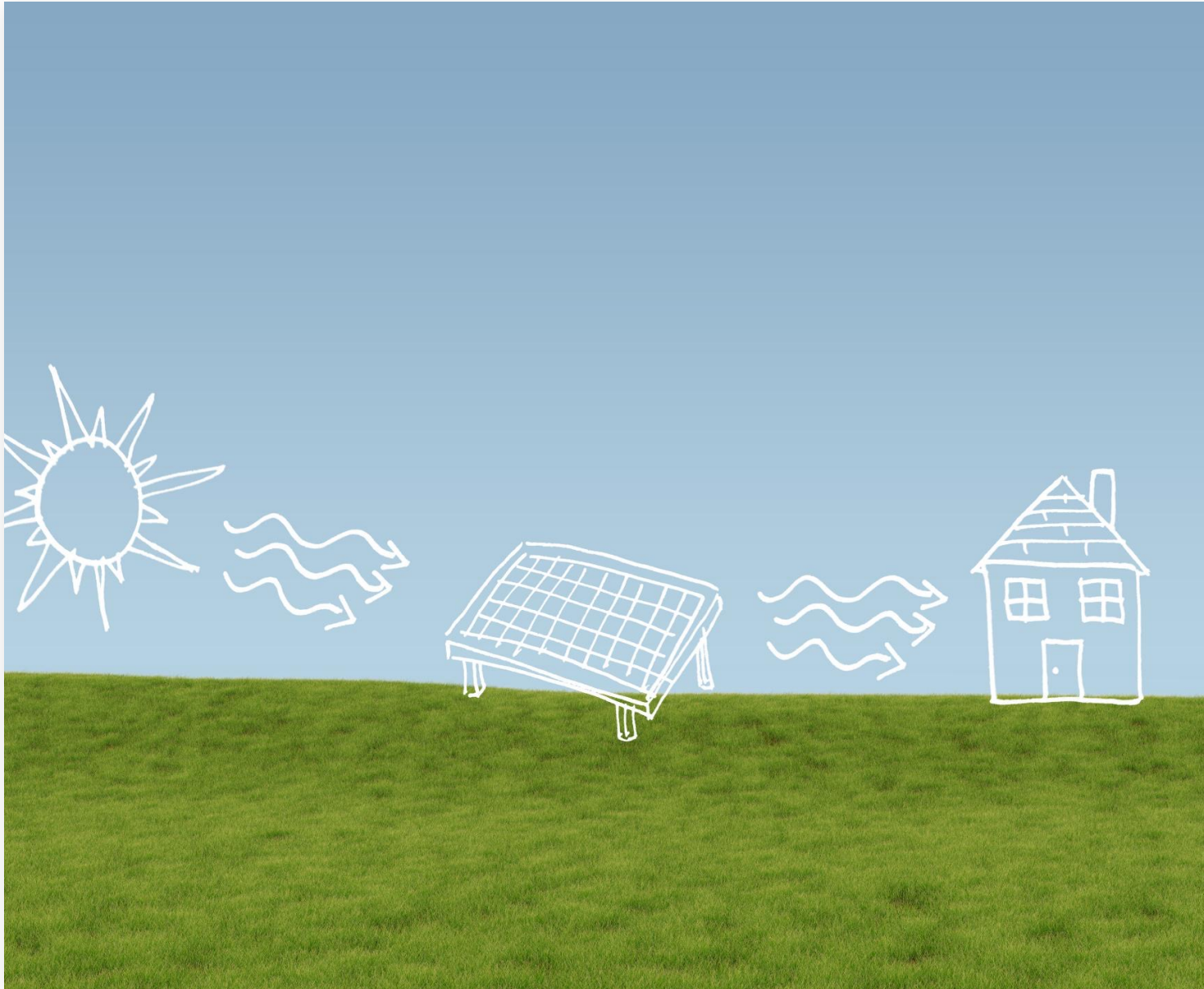
Recycling reduces waste and conserves natural resources, helping to protect the environment daily.

Water Conservation

Conserving water through simple actions can significantly reduce environmental impact and preserve resources.

Clean Energy Advocacy

Advocating for clean energy policies promotes sustainable solutions and reduces carbon footprints.



TAKING ACTION FOR GREEN ENERGY

Adopt Renewable Energy

Switch to solar panels or renewable energy providers, drive an electric car, install a heat pump, heat pump clothes dryer and induction stove.

Support Clean Energy Initiatives

Backing policies, organizations and politicians supporting clean energy helps drive collective change toward environmental sustainability.

Talk About It

Informing, educating and discussing the need for change with family, friends, others.



BENEFITS OF ROOFTOP SOLAR

- Lower monthly electricity bills
- Protection from rising utility rates
- Increases property value
- Potential tax credits and incentives
- Energy independence and reliability with storage
- Reduces household carbon footprint
- <https://www.energysage.com> and <https://www.rewiringamerica.org>

CONCLUSION: MOVING TOWARDS A GREENER FUTURE

Renewable Energy Transition

Switching from fossil fuels to solar and wind energy is crucial to combat climate change effectively.

Sustainable Economic Investment

Investing in renewable technologies supports economic growth and environmental sustainability simultaneously.

Individual and Collective Action

Informed personal choices and community efforts are vital for building a healthy and sustainable planet.