

AVoided Emissions and geneRation Tool (AVERT)

A tool that estimates the emission benefits of energy efficiency (EE) and renewable energy (RE) policies and programs

What is AVERT?

AVERT is a free tool with a simple user interface designed to meet the needs of state air quality planners and other interested stakeholders. Non-experts can easily use AVERT to evaluate county-level emissions displaced at electric power plants by EE/RE policies and programs. AVERT uses public data that are accessible and auditable.

Why use AVERT?

Organizations interested in the emission benefits of EE/RE policies and programs can use AVERT to:

- Quantify the fine particulate matter (PM_{2.5}), nitrogen oxides (NO_x), sulfur dioxide (SO₂), and carbon dioxide (CO₂) emission benefits of state and multi-state EE/RE policies or programs.
- Use AVERT-calculated emission impacts of EE/RE policies in air quality modeling and Clean Air Act plans to meet the National Ambient Air Quality Standards.
- Analyze the regional, state, and county-level emission impacts of different EE/RE programs based on their temporal energy savings and hourly generation profiles.
- Compare the emission impacts of different types of EE/RE programs, such as the impacts of wind versus solar installations.
- Understand the emission impacts of different EE/RE policies and programs during high electric demand days.
- Present information about location-specific emission benefits in easy-to-interpret tables and maps.
- Use AVERT-generated emission factors to quickly estimate the magnitude of emission impacts within an AVERT region.

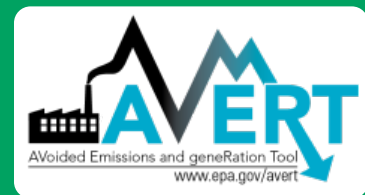
Cost-effective ways to reduce air pollution and include emission benefits in Clean Air Act plans

Many states are adopting, implementing, and expanding cost-effective EE/RE policies and programs. States are investing in EE/RE policies and programs to achieve many benefits:

- Lower customer costs
- Improve electric supply reliability
- Diversify their energy supply portfolios

Energy efficiency and renewable energy can also reduce pollution of criteria air pollutants and greenhouse gases.

EPA is committed to helping air quality planners calculate the emission benefits of EE/RE policies and programs and include AVERT-calculated emission reductions in Clean Air Act plans to meet National Ambient Air Quality Standards and other clean air goals.



When should AVERT not be used?

AVERT is only intended for analyzing the emission impacts of EE/RE policies and programs and should not be used to examine the emission impacts of major fleet adjustments or changes extending further than 5 years from the baseline year.

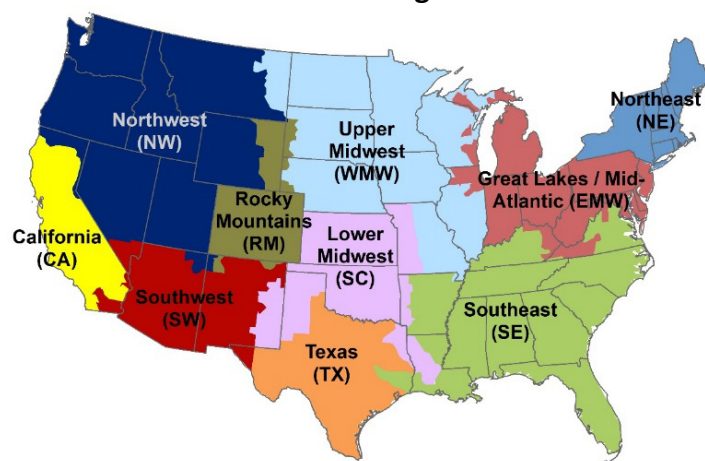
Who should use AVERT?

- Analysts looking to improve their understanding of the emission benefits of state-wide or multi-state EE/RE policies and programs.
- Environmental agency staff and air quality planners interested in assessing emission benefits and including them in Clean Air Act plans to meet the National Ambient Air Quality Standards or other clean air goals.
- Energy officials or public utility commission staff looking to estimate or promote the air benefits of existing or planned energy efficiency or renewable energy policies.

How do I run a scenario in AVERT?

AVERT's Main Module estimates the displaced emissions likely to result from EE/RE programs in reference to a base year or future year scenario. Users select one of 10 AVERT regions, upload a regional data file, and input data on the EE/RE programs they want to analyze. For EE policies and programs, users should have EE savings annual impacts (in MWh), or preferentially, an understanding of the policies' or programs' temporal profiles (e.g., would the EE program save energy during peak periods or the same amount through the year). For RE programs, users will need to know the capacity of the solar or wind resource they want to analyze.

AVERT Regions



For more information

- Visit the AVERT website, download AVERT, download avoided emission factors generated from AVERT, and take online training at www.epa.gov/avert
- Contact us at avert@epa.gov