

# Economic, Environmental, & Public Health Benefits of Residential Solar in Colorado

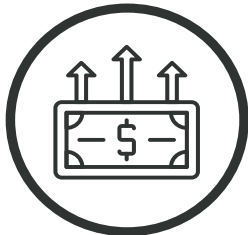
August 2024

The purpose of this report is to aid decision makers in evaluating the positive impact of residential net metered solar in the State of Colorado. The basis of this analysis is to study the direct, indirect, and induced impacts of small scale residential solar on the state's total economic output, job creation, wages, environment, and public health.

Residential net metered solar refers to solar photovoltaic (PV) panels, which use sunlight to generate electricity installed on homes and residential buildings. These can be either rented or owned by the homeowner. The home consumes some or all of the electricity generated by the panels rather than purchasing all electricity from the local utility. During hours in which the panel is not generating electricity or the amount consumed is greater than the amount produced, the household purchases electricity from the local utility. If the panels produce more electricity than is consumed by the household during a period of time, that electricity gets fed back into the local power grid and flows to the nearest neighbor in need of electricity at that time. Net metering is a billing system that credits solar owners for the power that they generate and share with their neighbors. The term net metering specifically refers to a one-to-one credit system in which the amount of electricity provided to the utility is credited to the customer at the same price as the customer purchases electricity, also called the "retail-rate." Net metered residential solar is typically governed at the state level.

The State of Colorado was home to more than 106,000 residential solar installations in 2022 (Statista, 2023). These residential solar installations in Colorado represent a total investment in excess of \$938 million over the last 13 years. This residential solar development has resulted in the following:

## Economic Impact, Environmental Benefits, and Public Health Benefits



### Economic Impact

- Over \$2.6 billion in new local Gross State Product (GSP) for the State of Colorado from net metered residential solar projects from 2011-2023
- 8,700 long-term jobs for Colorado from net metered residential solar projects from 2011-2023
- Over \$742.5 million in labor earnings for the State of Colorado from residential solar projects



### Environmental Benefits

- Over 3.2 million tons of total pollution reduction for the State of Colorado from net metered residential solar projects from 2014-2023



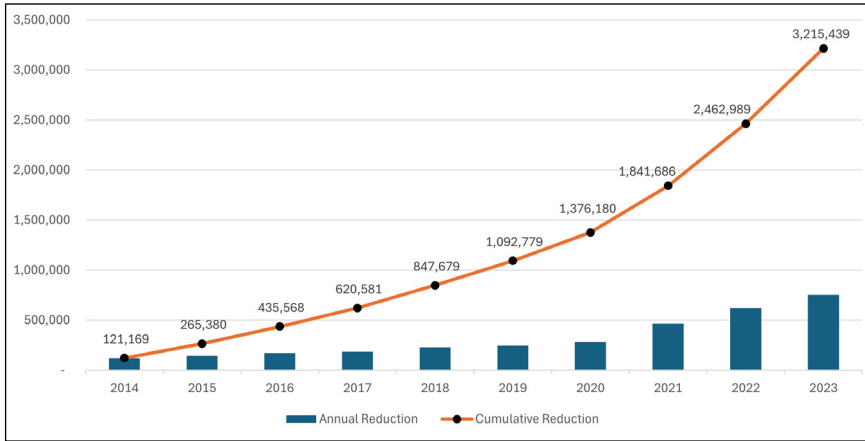
### Public Health Benefits

- Over \$30 million in estimated monetary value of statewide health incidence reduction in the State of Colorado from net metered residential solar projects from 2014-2023
- Between \$89-\$132 million in estimated monetary value of Colorado's emission reductions from net metered residential solar projects on national health from 2014-2023

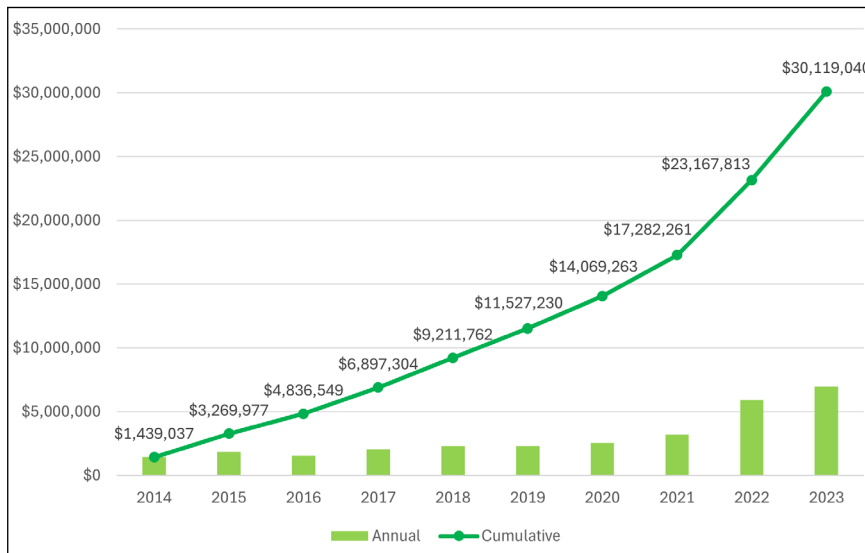
### Economic Impacts of Net Metered Residential Solar from 2011-2023 (2024\$)

Impact	Employment	Labor Income	Output
Direct	1,548	\$200,506,528	\$1,079,953,912
Indirect	4,313	\$374,117,384	\$971,142,728
Induced	2,923	\$167,885,536	\$526,158,172
<b>Total</b>	<b>8,784</b>	<b>\$742,509,448</b>	<b>\$2,577,254,811</b>

### Annual and Cumulative Reduction in Selected Colorado Pollutants 2014-2023 (tons)



### Annual Total Monetary Value of Health Incidence Reductions in Colorado 2014-2023



Retail-rate net metering is an essential ingredient for residential rooftop solar adoption and should continue to be offered throughout Colorado. Full retail-rate net metering will maximize the economic, environmental, and public health benefits of rooftop solar for Colorado, while anything less would yield lower benefits for the state and its residents.

