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Research

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Regions

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Home > News > Energy

Emissions cuts boost health and wealth

It's not just the planet that benefits from reductions in carbon dioxide and other greenhouse gases that intensify global warming.



Solar One panels at South California Edison Plant in Barstow, California. Image: Shutterstock

Going green by [switching to renewable sources of electricity](#) could be good business for the US, according to new research.

A report by researchers at the Lawrence Berkeley National Laboratory in California says that cutting greenhouse gas emissions meant that the US as a whole was \$2.2 billion better off in 2013.

And as a result of reductions in other forms of air pollution associated with burning coal, diesel and oil, in accordance with legislation known as state [renewable portfolio standards \(RPS\)](#), the US was perhaps \$5.2 billion the richer.

The RPS are state impositions on utility companies, requiring them to generate a proportion of their electricity from sources that do not burn fossil fuels and thus stoke global warming by emitting the greenhouse gas, carbon dioxide.

Different requirements

The requirements differ from state to state, and only 29 US states and Washington DC right now have such standards. Some states are contemplating revising or extending their standards.

Some US researchers have repeatedly argued that [wind and solar sources could power the entire US](#). But in a nation in which [only 44 per cent of people accept the evidence of climate change](#), there is no rush to put such arguments to the test.

But the differences such legislation makes are measurable – sometimes with surprising precision. Because fossil fuel-burning power plants use water to turn into steam to drive turbines, and as coolant, the standards save water. In 2013, utilities reduced their withdrawals by 830 billion gallons and cut consumption by 27 billion gallons.

The report's authors call their findings “impacts”, rather than benefits, because what might benefit one part of the economy imposes a cost somewhere else.

And their study is careful to embrace all the uncertainties of calculations that involve not just industrial book-keeping but social economics such as health costs and environmental benefits.

So the benefits from greenhouse gas reduction overall – a drop of 59 million tonnes – could be as high as \$6.3 billion, or as low as \$0.7bn, depending on how you do the accounting. Reductions in air pollution could deliver health benefits valued at \$2.6bn or \$9.9bn, depending on how you calculate, and then put a value upon, reductions in premature mortality.

The authors found that RPS policies supported 200,000 jobs in renewable energy-related businesses, and saved consumers \$1.2bn in reduced electricity prices and somewhere between \$1.3bn and \$3.7bn in reduced natural gas prices, because renewable sources displaced natural gas generation.

Vulnerable states

Although the accounting was conducted on a national basis, the report recognises that some states may have experienced more impact than others. The people who felt most keenly the reduction in sulphur dioxide emissions – down by 77,400 tonnes – from coal-fired plant were mostly in the Great Lakes, Northeast, Mid-Atlantic and Texas regions.

The people who benefited most from reductions in water withdrawal were in California and Texas – both states that are vulnerable to drought.

And the greatest share of jobs generated by renewable energy industries was in California, which in 2013 invested heavily in photovoltaic generation.

Altogether, the 29 states produced 98 terawatt-hours in 2013 (98 million megawatt-hours) of “new” renewable energy – that is, from plant built after the RPS standards were made into legislation.

[One megawatt-hour](#) is roughly equal to the total amount of electrical energy used by about 330 US homes during one hour.

Although the new energy is just 2.4 per cent of nationwide electricity generation, it represents a 3.6 per cent drop in total fossil fuel generation.

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