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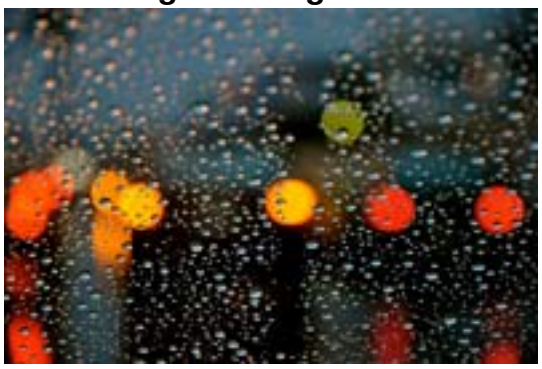
SolarChargedDriving.Com series: Climate change, water & renewable energy



SolarChargedDriving.Com reporter Johanna Zeller takes a close look at links between climate change, water resources and renewable energy in this exclusive four-part series. In this installment, the third of the series, Zeller looks at dire case scenarios and the ways in which renewable energy use might mitigate climate change's impact on water resources. The first part of the series = Climate change already affecting water resources. The second part = Few consider climate change's impact on water.

JOHANNA
ZELLER

Poll: Global warming

How concerned are you about global warming?

Very concerned

Somewhat concerned

Not Very concerned

Not at all concerned

Downside of dams

Although dams seem like a viable solution for water conservation, they also have notorious disadvantages.

According to International Rivers , an organization that supports the protection of rivers, by trapping river-borne nutrients, dams can lead to the growth of toxic algae. International Rivers explains that water stored for months or even years behind a major dam may become lethal to most life in the reservoir and in the river for long distances below the dam.

International Rivers further notes that because dams greatly enlarge the surface area of water exposed to the sun, dams can increase evaporation. About 170 cubic kilometers of water evaporates from the world's man-made reservoirs every year, more than seven percent of the total amount of freshwater consumed by all human activities.

Water conservation key

It is hard to say if there might be a single solution to water scarcity problems, but there are definitely ways to conserve water resources

“I think it’s more on the side of people calculating and using what they need, maybe if prices of water increase people will conserve more and think more about what they really need,” says Kerwin.

Global warming has dried up several regions on Earth, and the unreliable amount of rainwater and shortages of drinkable water have caused major human security concerns for various countries.

Kerwin notes that it is hard to erase human water and carbon footprints.

“We are already committed to a certain amount of climate change even if we took extreme actions,” he says. “However, I also think that if cities start planning and doing smarter development there could be better usage and distribution of water resources.”

There are several water conservation methods people can use every day. Water conservation is not only beneficial for water preservation, but it can also help people save a lot of money.

Water saving tips

Web sites like those for Denver Water and Water Use it Wisely have several tips for water conservation methods.

Wateruseitwisely.com lists 112 ways you can conserve water and save money. Several of these require very simple efforts:

- When washing dishes by hand, don't let the water run while rinsing. Fill one sink with wash water and the other with rinse water.
- Adjust sprinklers so only your lawn is watered and not the house, sidewalk, or street.
- Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.
- Use the garbage disposal sparingly. Compost vegetable food waste instead and save gallons every time.

In preparation for drought conditions, Denver Water has pursued a multi-pronged water strategy to increase supply and decrease demand. Among other things, it has implemented an aggressive conservation plan, constructing a recycled water treatment plant and distribution system, and developing additional water supply.

Paying attention to the way we use water and making an effort to reduce water consumption is a very effective method of saving water resources.

Innovative water savings

Today there are many innovative solutions that present answers to water problems. Irrigation fields now use technology that reuses water supplies. Furthermore, the agricultural sectors are looking into more sustainable ways of irrigating crops that require large amounts of water intake.

According to a World Bank study and their web page, more than 300 irrigation projects have been funded in several different countries. The World Bank notes that increasing water scarcity, climate change, and the high proportion of water used in agriculture are drawing attention to the urgent need to improve water management in both irrigated and rain-fed agriculture.

At the international level we also see many projects and solutions to water scarcity issues taking place. Places such as Saudi Arabia have invested heavily in desalination technology that now provides fresh and clean water to hundreds of thousands of people in the Middle East.

Renewable energy & water resources

According to Harvard International Review , the kingdom of Saudi Arabia is not only using desalination methods to produce water for its people, but is now building solar powered desalination plants in order to reduce its oil consumption and go green in production on drinkable water.

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Projects like the solar-powered desalination plants in Saudi Arabia could be a potential solution to water shortages in water stressed areas of the world. Renewable energy powered projects will also reduce the amount of carbon being poured into the atmosphere thereby ideally reducing the negative impact of climate change on global water supplies.

In the end, as Kerwin points out, the relationship between renewable energy use, climate change and water resources is complex.

“It’s a pretty indirect relationship talking about renewable energy and water supply. You would have to make several connections to link the two of them, but one that some people are talking about is the carbon that we can save when using renewable energy,” Kerwin notes.

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