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Recommended Citation

Lore, Michael W. "Subsidies for Corn-Derived Ethanol May Leave Us Thirsty." *Sustainable Development Law & Policy*, Fall 2007, 53, 86.

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SUBSIDIES FOR CORN-DERIVED ETHANOL MAY LEAVE US THIRSTY

by Michael W. Lore*

A new report from the National Research Council (“NRC”) indicates that ethanol from corn production may have a substantial negative impact on the U.S. water supply.¹ The U.S. ethanol subsidy program, \$0.51 per gallon, is designed to help wean domestic dependence on foreign oil. However, subsidies for corn-derived ethanol may accelerate a domestic and global water crisis² without establishing national energy independence. Congress should eliminate inefficient subsidies for corn-derived ethanol in the upcoming Energy Bill because the over-production of corn for corn-derived ethanol will likely accelerate the depletion of U.S. water quality and quantity.

According to NASA and the World Health Organization, severe water shortages will affect four billion people by 2050 and southwestern states in the U.S. will face severe freshwater shortages by 2025.³ U.S. corn production has several externalities that contribute to freshwater scarcity and environmental degradation. For instance, it creates more soil erosion and uses more herbicides and insecticides than any other U.S. crop.⁴ These inputs become residues in well water.⁵ These pesticides are arguably the cause of the Gulf of Mexico “dead zone,” an ever-increasing seasonal phenomenon where nutrient runoff causes oxygen depletion in an area the size of Massachusetts, causing harmful impacts on marine and coastal fish populations.⁶ Moreover, ethanol itself is likely to leak into ground water and cause harm to our drinking supply because ethanol will mainly be stored underground and there have been over 400,000 reports of leaks in the last few decades.⁷ The NRC has taken alarm to statistics like these and undertook an extensive study to find answers to potential water concerns related to corn-derived ethanol. The NRC suggests alternative subsidies to reduce impacts of biofuels production on water use and quality, policies to encourage best agricultural practices and policies to encourage biofuels produced from some cellulosic alternatives rather than from corn.⁸

The perfect storm of high oil prices and record-breaking U.S. corn yields has allowed the powerful corn lobby to dictate many policies in the renewable energy debate. The Energy Policy Act of 2005 established the Renewable Fuel Standard (“RFS”) that requires the use of 7.5 billion gallons of renewable fuels by

2012, with most of the renewable fuel originating from subsidized corn ethanol.⁹ President Bush suggested a thirty-five billion gallon domestic ethanol target during his 2007 State of the Union Address.¹⁰ Last June, the Senate voted 65-27 to expand the production of renewable fuels to thirty-six billion gallons by 2022, with fifteen billion to come from corn-derived ethanol.¹¹ The U.S. House of Representatives is in the process of negotiating an Energy Bill but House and Senate Democratic leaders intend to avoid the conference committee process and instead plan to bounce versions of their bills back and forth.¹² Therefore, critical debate over the impact of corn-derived ethanol subsidies on water supplies must occur immediately.

The ethanol debate is complex and it is perpetually evolving because new environmental externalities periodically emerge and prices of energy and food commodities perpetually change. Congress has the duty to include all future costs associated with ethanol in their energy and environmental impact analysis when developing federal policy related to subsidies that promote corn ethanol production. Over-farming to produce ethanol from corn will significantly erode drinkable water quantity and overused pesticides, herbicides, and fertilizers will eventually ruin the general quality of our water. Only a diligent analysis of all environmental factors and wise policy choices in the Energy Bill can supply the United States with its greatest needs while reflecting the country’s highest values.



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Endnotes:

¹ *Water Implications of Biofuels Production in the United States (Prepublication Copy)*, Nation Resources Defense Council, Oct. 10, 2007 (explaining how corn ethanol production can harm the U.S. water supply), available at http://books.nap.edu/openbook.php?record_id=12039&page=R1 (last visited Nov. 20, 2007).

² See generally Sara Hughes et al., *The Development of Biofuels Within the Context of the Global Water Crisis*, SUSTAINABLE DEV. L. & POL’Y, Spring 2007, at 58.

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ENDNOTES: SUBSIDIES FOR CORN-DERIVED ETHANOL *continued from page 53*

³ Dan Vergano, *Water shortages will leave world in dire straits*, USA TODAY, Jan. 1, 2003, available at http://www.usatoday.com/news/nation/2003-01-26-water-usat_x.htm (last visited Oct. 23, 2007).

⁴ David Pimentel, *Ethanol Fuels: Energy Balance, Economics and Environmental Impacts are Negative*, 12 NATURAL RES., 127 (2003), available at <http://www.ethanol-gec.org/netenergy/neypimentel.pdf> (last visited Nov. 20, 2007).

⁵ David Tilman, *Environmental, economic and energetic costs and benefits of biodiesel and ethanol biofuels*, 103 PNAS, 11206, 11207, available at <http://www.pnas.org/cgi/reprint/0604600103v1> (last visited Nov. 20, 2007).

⁶ LIZ MARSHALL, WORLD RESOURCES INSTITUTE, THIRST FOR CORN: WHAT 2007 PLANTINGS COULD MEAN FOR THE ENVIRONMENT (June 2007), available at http://pdf.wri.org/policynote_thirstforcorn.pdf (last visited Nov. 20, 2007).

⁷ Tad W. Patzek, *Ethanol from Corn: Clean Renewable Fuel for the Future, or Drain on Our Resources and Pockets*, 7 ENV'T, DEV. AND SUSTAINABILITY 319, 320-21 (2005), available at <http://petroleum.berkeley.edu/papers/patzek/PublishedEDS2005.pdf> (last viewed Nov. 20, 2007).

⁸ The National Research Council, The National Academies, Division on

Earth and Life Studies, Water Science and Technology Board, Oct. 10, 2007, available at <http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=12039> (last visited Oct. 14, 2007).

⁹ EPA Fuel and Fuel Additives, *Renewable Fuel Standard Program*, Aug. 30, 2007, available at <http://www.epa.gov/otaq/renewablefuels> (last visited Oct. 14, 2007).

¹⁰ President George W. Bush, *2007 State of the Union Address*, Jan. 23, 2007, available at <http://www.whitehouse.gov/news/releases/2007/01/20070123-2.html> (last visited Oct. 14, 2007).

¹¹ J.R. Pegg, *Senate Approved Energy Bill, Calls for Fuel Economy Increase*, ENVTL. NEWS SERV., June 22, 2007, available at <http://www.ens-newswire.com/ens/jun2007/2007-06-22-10.asp> (last visited Oct. 12, 2007).

¹² Jennifer Yachnin, *It's 'Ping-Pong' for Energy Bill*, ROLL CALL, Oct. 11, 2007, available at http://www.rollcall.com/issues/53_41/news/20423-1.html (last visited Oct. 14, 2007).
