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ON THE COVER: We dedicate this cover to the winners of ES&T's 2013 Reviewer Awards. See inside for announcement of the awards, including names and information for the 30 winners of the Excellence in Review Award and the 3 winners of the Super Reviewer Award.

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Characteristic Profiles of Benzonphenone-3 and its Derivatives in Urine of Children and Adults from the United States and China

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Multiwalled Carbon Nanotubes and C₆₀ Fullerenes Differentially Impact the Accumulation of Weathered Pesticides in Four Agricultural Plants

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Energy and the Environment

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Water Consumption Footprint and Land Requirements of Large-Scale Alternative Diesel and Jet Fuel Production

Mark D. Staples, Hakan Olcay, Robert Malina, Parthasarathi Trivedi, Matthew N. Pearlson, Kenneth Strzepek, Sergey V. Paltsev, Christoph Wollersheim, and Steven R. H. Barrett*

12566  [dx.doi.org/10.1021/es402265y](https://doi.org/10.1021/es402265y)

Laboratory Studies on Secondary Organic Aerosol Formation from Crude Oil Vapors

R. Li,* B. B. Palm, A. Borbon, M. Graus, C. Warneke, A. M. Ortega, D. A. Day, W. H. Brune, J. L. Jimenez, and J. A. de Gouw

12575  [dx.doi.org/10.1021/es402437n](https://doi.org/10.1021/es402437n)

Source Water Changes and Energy Extraction Activities in the Monongahela River, 2009–2012

Jessica M. Wilson* and Jeanne M. Van Briesen

12583  [dx.doi.org/10.1021/es402749f](https://doi.org/10.1021/es402749f)

A Thermophilic Gram-Negative Nitrate-Reducing Bacterium, *Calditerrivibrio nitroreducens*, Exhibiting Electricity Generation Capability

Qian Fu, Hajime Kobayashi,* Hideo Kawaguchi, Tatsuki Wakayama, Haruo Maeda, and Kozo Sato*

12591 [dx.doi.org/10.1021/es402863v](https://doi.org/10.1021/es402863v)

Two-Stage Alkaline–Enzymatic Pretreatments To Enhance Biohydrogen Production from Sunflower Stalks

Florian Monlau, Eric Trably,* Abdellatif Barakat, Jérôme Hamelin, Jean-Philippe Steyer, and Hélène Carrere

12600  [dx.doi.org/10.1021/es402910p](https://doi.org/10.1021/es402910p)

Energy Recovery and Emissions of PBDD/Fs and PBDEs from Co-combustion of Woodchip and Wastewater Sludge in an Industrial Boiler

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12607  [dx.doi.org/10.1021/es403207m](https://doi.org/10.1021/es403207m)

Influence of Natural Organic Matter Fouling and Osmotic Backwash on Pressure Retarded Osmosis Energy Production from Natural Salinity Gradients

Ngai Yin Yip and Menachem Elimelech*

Additions and Corrections

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Correction to Intracellular Organic Matter from Cyanobacteria as a Precursor for Carbonaceous and Nitrogenous Disinfection Byproducts

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