



**ON THE COVER:** Decentralized membrane-based water treatment and refill stations are a growing business in developing countries. These drops are a compilation of images from refill stations in Indonesia, including Jakarta, a village in Sumatra, peri-urban Surabaya, and a fishing town in Flores. Pictures were taken by Laura Sima and Budi Darmawana.

## Comment

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[dx.doi.org/10.1021/es4024892](https://dx.doi.org/10.1021/es4024892)Announcing *Environmental Science & Technology Letters*

Jerald L. Schnoor

## Features

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[dx.doi.org/10.1021/es304384n](https://dx.doi.org/10.1021/es304384n)**More than a Drop in the Bucket: Decentralized Membrane-Based Drinking Water Refill Stations in Southeast Asia**

Laura C. Sima and Menachem Elimelech\*

Decentralized membrane-based water treatment and refill stations represent a viable and growing business model in Southeast Asia, which rely upon the purchase of water from refill stations by consumers. This feature article discusses these water treatment and refill stations, including the appropriateness of the technology, the suitability of the business models employed, and the long-term environmental and operational sustainability of these systems. We also provide an outlook for the sector, highlighting key technical challenges that need to be addressed in order to improve the capacity of these systems, such that they can become an effective and financially viable solution. Decentralized membrane-based water treatment and refill stations represent a viable and growing business model in Southeast Asia, which rely upon the purchase of water from refill stations by consumers. This feature article discusses these water treatment and refill stations, including the appropriateness of the technology, the suitability of the business models employed, and the long-term environmental and operational sustainability of these systems. We also provide an outlook for the sector, highlighting key technical challenges that need to be addressed in order to improve the capacity of these systems, such that they can become an effective and financially viable solution.

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[dx.doi.org/10.1021/es402460r](https://dx.doi.org/10.1021/es402460r)**Filling Gullies to Create Farmland on the Loess Plateau**

Qiang Liu, Yunqiang Wang, Jing Zhang, and Yiping Chen\*

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[dx.doi.org/10.1021/es402549p](https://dx.doi.org/10.1021/es402549p)**Energy-Pollution Nexus for Urban Buildings**

Prashant Kumar\* and Lidia Morawska

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7624 dx.doi.org/10.1021/es400382c

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7633 dx.doi.org/10.1021/es4004137

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7655 dx.doi.org/10.1021/es4007433

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7688 dx.doi.org/10.1021/es4002828

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7696 dx.doi.org/10.1021/es400491b

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7704 dx.doi.org/10.1021/es400676q

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7722 dx.doi.org/10.1021/es4008933


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7729 dx.doi.org/10.1021/es401096w


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7739  dx.doi.org/10.1021/es4010976  
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7787  dx.doi.org/10.1021/es402013t  
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7795  dx.doi.org/10.1021/es4005398  
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7830  dx.doi.org/10.1021/es400395t  
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7840 dx.doi.org/10.1021/es400567k  
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7855 dx.doi.org/10.1021/es400744g  
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7862  dx.doi.org/10.1021/es4014773  
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7868  dx.doi.org/10.1021/es401486f  
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7892  dx.doi.org/10.1021/es4006288  
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7899  dx.doi.org/10.1021/es400708w  
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7909  dx.doi.org/10.1021/es4008646  
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7918  dx.doi.org/10.1021/es401730s  
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7927  dx.doi.org/10.1021/es401320e  
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7934  dx.doi.org/10.1021/es400786p  
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7940  dx.doi.org/10.1021/es401481a  
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## Ecotoxicology and Human Environmental Health


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7958  dx.doi.org/10.1021/es401725s  
Nonmonotonic and Monotonic Effects of Pesticides on the Pathogenic Fungus *Batrachochytrium dendrobatidis* in Culture and on Tadpoles  
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7965  dx.doi.org/10.1021/es400643x  
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7974  dx.doi.org/10.1021/es400937y  
Distribution of Poly- and Perfluoroalkyl Substances in Matched Samples from Pregnant Women and Carbon Chain Length Related Maternal Transfer  
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7982  dx.doi.org/10.1021/es401014b  
Applicability of Passive Sampling to Bioanalytical Screening of Bioaccumulative Chemicals in Marine Wildlife  
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7989  dx.doi.org/10.1021/es401368u  
Evolutionary Patterns in Trace Metal (Cd and Zn) Efflux Capacity in Aquatic Organisms  
Monica D. Poteat, Theodore Garland Jr., Nicholas S. Fisher, Wen-Xiong Wang, and David B. Buchwalter\*

7996  dx.doi.org/10.1021/es4014954  
How to Characterize Chemical Exposure to Predict Ecologic Effects on Aquatic Communities?  
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8005  dx.doi.org/10.1021/es401758d  
Molecular Mechanisms of Toxicity of Silver Nanoparticles in Zebrafish Embryos  
Ronny van Aerle,\* Anke Lange, Alex Moorhouse, Konrad Paszkiewicz, Katie Ball, Blair D. Johnston, Eliane de-Bastos, Timothy Booth, Charles R. Tyler, and Eduarda M. Santos

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8015  [dx.doi.org/10.1021/es401857v](https://doi.org/10.1021/es401857v)  
Temporal Trends of Polybrominated Diphenyl Ethers (PBDEs) in the Blood of Newborns from New York State during 1997 through 2011: Analysis of Dried Blood Spots from the Newborn Screening Program  
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## Energy and the Environment

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8022  [dx.doi.org/10.1021/es400179w](https://doi.org/10.1021/es400179w)  
Electric Urban Delivery Trucks: Energy Use, Greenhouse Gas Emissions, and Cost-Effectiveness  
Dong-Yeon Lee,\* Valerie M. Thomas, and Marilyn A. Brown

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8031  [dx.doi.org/10.1021/es401419t](https://doi.org/10.1021/es401419t)  
Peak Oil Demand: The Role of Fuel Efficiency and Alternative Fuels in a Global Oil Production Decline  
Adam R. Brandt,\* Adam Millard-Ball, Matthew Ganser, and Steven M. Gorejick

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8042  [dx.doi.org/10.1021/es303954g](https://doi.org/10.1021/es303954g)  
Environmental Implications of *Jatropha* Biofuel from a Silvi-Pastoral Production System in Central-West Brazil  
Rob Ballis\* and Goksin Kavlak


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8051 [dx.doi.org/10.1021/es4007788](https://doi.org/10.1021/es4007788)  
Flue Gas Recirculation and Enhanced Performance of Waste Incinerators under Waste Uncertainty  
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8062  [dx.doi.org/10.1021/es400399h](https://doi.org/10.1021/es400399h)  
Designing Climate Change Mitigation Plans That Add Up  
Bojana Bajželj, Julian M. Allwood,\* and Jonathan M. Cullen

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8070  [dx.doi.org/10.1021/es4013917](https://doi.org/10.1021/es4013917)  
Highly Robust Thin-Film Composite Pressure Retarded Osmosis (PRO) Hollow Fiber Membranes with High Power Densities for Renewable Salinity-Gradient Energy Generation  
Gang Han, Peng Wang, and Tai-Shung Chung\*

## Correspondence

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8078 [dx.doi.org/10.1021/es401944q](https://doi.org/10.1021/es401944q)  
Comment on "Extending Applicability of Correlation Equations to Predict Colloidal Retention in Porous Media at Low Fluid Velocity"  
Kirk E. Nelson,\* Timothy R. Ginn, and Tamir Kamai

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8080 [dx.doi.org/10.1021/es4024942](https://doi.org/10.1021/es4024942)  
Response to Comment on "Extending Applicability of Correlation Equations to Predict Colloidal Retention in Porous Media at Low Fluid Velocity"  
Huilian Ma, Michal Hradisky, and William P. Johnson\*

## Additions and Corrections

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8082 [dx.doi.org/10.1021/es402685v](https://doi.org/10.1021/es402685v)  
Correction to Flagella-Mediated Differences in Deposition Dynamics for *Azotobacter vinelandii* in Porous Media  
Nanxi Lu, Tara Bevard, Arash Massoudieh, Changyong Zhang, Alice C. Dohnalkova, Julie L. Zilles, and Thanh H. Nguyen\*

 Supporting Information available via online article