FOCUS

The Future of Fracking: New Rules Target Air Emissions for Cleaner Natural Gas Production

Bob Weinhold
A272–A279 | http://dx.doi.org/10.1289/ehp.120-A272

Natural gas is lauded as a cleaner-burning fuel than either coal or oil, but getting the fuel out of the ground can be a dirty process, especially given the widespread adoption of the technology known as hydraulic fracturing (“fracking”). Concerns about toxic air emissions from previously unregulated fracking sites led to the U.S. Environmental Protection Agency announcement on 18 April 2012 of new and updated air pollution regulations for these facilities and certain other elements of oil and natural gas production and transmission. Compliance with the new regulations is expected to result in major reductions in emissions of methane and volatile organic compounds, particularly from new fracked natural gas wells.
FORUM

CDC Updates Guidelines for Children’s Lead Exposure

Kellyn S. Betts
A268 | http://dx.doi.org/10.1289/ehp.120-A268

Maryland Bans Arsenical Drug in Chicken Feed

Charles W. Schmidt
A269 | http://dx.doi.org/10.1289/ehp.120-A269

Newly Discovered Mechanism for Chlorpyrifos Effects on Neurodevelopment

Carol Potera
A270–A271 | http://dx.doi.org/10.1289/ehp.120-A270a

The Beat

Erin E. Dooley
A270–A271 | http://dx.doi.org/10.1289/ehp.120-A270b

SPHERES OF INFLUENCE

Why Is It So Difficult to Choose Safer Alternatives for Hazardous Chemicals?

Valerie J. Brown
A280–A283 | http://dx.doi.org/10.1289/ehp.120-A280

The discovery of persistent, bioaccumulative, and toxic flame-retardant chemicals everywhere from animals north of the Arctic Circle to the breast milk of California women has been a cause for considerable concern. Alternative flame retardants were introduced to replace these chemicals, but investigators had not even produced the first empirical data on the substitutes’ metabolic fate and toxicity before emerging evidence indicated they, like their predecessors, were accumulating rapidly in the environment. As the postmarket research continues, one wonders: Who, exactly, decides on the replacements for toxic chemicals, and on the basis of what criteria? And why does finding truly safer alternatives seem so difficult?
SCIENCE SELECTIONS

Housekeeping Tip: Long-Term Frequent Use of Some Household Products May Affect Heart Rate Variability

Julia R. Barrett
A284 | http://dx.doi.org/10.1289/ehp.120-A284a

Glow Fish: A New Biosensor to Detect How Environmental Estrogens Affect Tissues

Wendee Holcamp
A284 | http://dx.doi.org/10.1289/ehp.120-A284b

Judging the Data: Peer Review versus Good Laboratory Practice Standards

Charles W. Schmidt
A285 | http://dx.doi.org/10.1289/ehp.120-A285a

A Sensitive Approach to Studying ASDs: Teasing Out Relationships between Autism and Maternal Smoking

Tanya Tillett
A285 | http://dx.doi.org/10.1289/ehp.120-A285b

REVIEWS

Information Quality in Regulatory Decision Making: Peer Review versus Good Laboratory Practice

Lynn S. McCarty, Christopher J. Borgert, Ellen M. Mihaich
927–934 | http://dx.doi.org/10.1289/ehp.1104277

Endocrine Disruptors and Asthma-Associated Chemicals in Consumer Products

Robin E. Dodson, Marcia Nishioka, Laurel J. Standley, Laura J. Perovich, Julia Green Brody, Ruthann A. Rudel
935–943 | http://dx.doi.org/10.1289/ehp.1104052

Tipping the Balance of Autism Risk: Potential Mechanisms Linking Pesticides and Autism

Janie F. Shelton, Iva Hertz-Picciotto, Isaac N. Pessah
944–951 | http://dx.doi.org/10.1289/ehp.1104553
RESEARCH

**Omega-3 Fatty Acid Supplementation Appears to Attenuate Particulate Air Pollution–Induced Cardiac Effects and Lipid Changes in Healthy Middle-Aged Adults**

Haiyan Tong, Ana G Rappold, David Diaz-Sanchez, Susan E Steck, Jon Berntsen, Wayne E Cascio, Robert B Devlin, James M Samet

952–957 | [http://dx.doi.org/10.1289/ehp.1104472](http://dx.doi.org/10.1289/ehp.1104472)

**Heart Rate Variability in Association with Frequent Use of Household Sprays and Scented Products in SAPALDIA**

Amar J. Mehta, Martin Adam, Emmanuel Schaffner, Jean-Claude Barthélémy, David Carballo, Jean-Michel Gaspoz, Thierry Rochat, Christian Schindler, Joel Schwartz, Jan-Paul Zock, Nino Künnli, Nicole Probst-Hensch, SAPALDIA Team

958–964 | [http://dx.doi.org/10.1289/ehp.1104567](http://dx.doi.org/10.1289/ehp.1104567)

**Chronic Exposure to Fine Particles and Mortality: An Extended Follow-up of the Harvard Six Cities Study from 1974 to 2009**

Johanna Lepeule, Francine Laden, Douglas Dockery, Joel Schwartz

965–970 | [http://dx.doi.org/10.1289/ehp.1104480](http://dx.doi.org/10.1289/ehp.1104480)

**Neighborhood Built Environment and Transport and Leisure Physical Activity: Findings Using Objective Exposure and Outcome Measures in New Zealand**

Karen Witten, Tony Blakely, Nasser Bagheri, Hannah Badland, Vivienne Ivory, Jamie Pearce, Suzanne Mavoa, Erica Hinckson, Grant Schofield

971–977 | [http://dx.doi.org/10.1289/ehp.1104584](http://dx.doi.org/10.1289/ehp.1104584)

**Urinary Bisphenol A Concentrations and Implantation Failure among Women Undergoing in Vitro Fertilization**

Shelley Ehrlich, Paige L. Williams, Stacey A. Missmer, Jodi A. Flaws, Katharine F. Berry, Antonia M. Calafat, Xiaoyun Ye, John C. Petrozza, Diane Wright, Russ Hauser

978–983 | [http://dx.doi.org/10.1289/ehp.1104307](http://dx.doi.org/10.1289/ehp.1104307)

**Bisphenol A Diglycidyl Ether Induces Adipogenic Differentiation of Multipotent Stromal Stem Cells through a Peroxisome Proliferator–Activated Receptor Gamma-Independent Mechanism**

Raquel Chamorro-Garcia, Séverine Kirchner, Xia Li, Amanda Janesick, Stephanie C. Casey, Connie Chow, Bruce Blumberg

984–989 | [http://dx.doi.org/10.1289/ehp.1205063](http://dx.doi.org/10.1289/ehp.1205063)

**Biosensor Zebrafish Provide New Insights into Potential Health Effects of Environmental Estrogens**

Okhyun Lee, Aya Takesono, Masazumi Tada, Charles R. Tyler, Tetsuhiro Kudoh

990–996 | [http://dx.doi.org/10.1289/ehp.1104433](http://dx.doi.org/10.1289/ehp.1104433)
**PCB-95 Promotes Dendritic Growth via Ryanodine Receptor–Dependent Mechanisms**
Gary A. Wayman, Dongren Yang, Diptiman D. Bose, Adam Lesiak, Veronica Ledoux, Donald Bruun, Isaac N. Pessah, Pamela J. Lein
997–1002 | [http://dx.doi.org/10.1289/ehp.1104832](http://dx.doi.org/10.1289/ehp.1104832)

**PCB-95 Modulates the Calcium-Dependent Signaling Pathway Responsible for Activity-Dependent Dendritic Growth**
Gary A. Wayman, Diptiman D. Bose, Dongren Yang, Adam Lesiak, Donald Bruun, Soren Impey, Veronica Ledoux, Isaac N. Pessah, Pamela J. Lein
1003–1009 | [http://dx.doi.org/10.1289/ehp.1104833](http://dx.doi.org/10.1289/ehp.1104833)

**Exposure to Secondhand Smoke Outside of a Bar and a Restaurant and Tobacco Exposure Biomarkers in Nonsmokers**
1010–1016 | [http://dx.doi.org/10.1289/ehp.1104413](http://dx.doi.org/10.1289/ehp.1104413)

**Cadmium Exposure and All-Cause and Cardiovascular Mortality in the U.S. General Population**
Maria Tellez-Plaza, Ana Navas-Acien, Andy Menke, Ciprian M. Crainiceanu, Roberto Pastor-Barriuso, Eliseo Guallar
1017–1022 | [http://dx.doi.org/10.1289/ehp.1104352](http://dx.doi.org/10.1289/ehp.1104352)

**Air Pollution and Symptoms of Depression in Elderly Adults**
Youn-Hee Lim, Ho Kim, Jin Hee Kim, Sanghyuk Bae, Hye Yin Park, Yun-Chul Hong
1023–1028 | [http://dx.doi.org/10.1289/ehp.1104100](http://dx.doi.org/10.1289/ehp.1104100)

**Differential Estrogenic Actions of Endocrine-Disrupting Chemicals Bisphenol A, Bisphenol AF, and Zearalenone through Estrogen Receptor α and β in Vitro**
Yin Li, Katherine A. Burns, Yukitomo Arao, Colin J. Luh, Kenneth S. Korach
1029–1035 | [http://dx.doi.org/10.1289/ehp.1104689](http://dx.doi.org/10.1289/ehp.1104689)

**CHILDREN’S HEALTH**

**Thyroid Function and Perfluoroalkyl Acids in Children Living Near a Chemical Plant**
Maria-Jose Lopez-Espinosa, Debapriya Mondal, Ben Armstrong, Michael S. Bloom, Tony Fletcher
1036–1041 | [http://dx.doi.org/10.1289/ehp.1104370](http://dx.doi.org/10.1289/ehp.1104370)

**Maternal Smoking during Pregnancy and the Prevalence of Autism Spectrum Disorders, Using Data from the Autism and Developmental Disabilities Monitoring Network**
Amy E. Kalkbrenner, Joe M. Braun, Maureen S. Durkin, Matthew J. Maenner, Christopher Cunniff, Li-Ching Lee, Sydney Pettygrove, Joyce S. Nicholas, Julie L. Daniels
1042–1048 | [http://dx.doi.org/10.1289/ehp.1104556](http://dx.doi.org/10.1289/ehp.1104556)
Serum PBDEs in a North Carolina Toddler Cohort: Associations with Handwipes, House Dust, and Socioeconomic Variables
Heather M. Stapleton, Sarah Eagle, Andreas Sjödin, Thomas F. Webster
1049–1054 | http://dx.doi.org/10.1289/ehp.1104802

Associations of Prenatal Exposure to Organophosphate Pesticide Metabolites with Gestational Age and Birth Weight
Stephen A. Rauch, Joe M. Braun, Dana Boyd Barr, Antonia M. Calafat, Jane Khoury, M. Angela Montesano, Kimberly Yolton, Bruce P. Lanphear
1055–1060 | http://dx.doi.org/10.1289/ehp.1104615

Prenatal Arsenic Exposure and DNA Methylation in Maternal and Umbilical Cord Blood Leukocytes
Molly L. Kile, Andrea Baccarelli, Elaine Hoffman, Letizia Tarantini, Quazi Quamruzzaman, Mahmuder Rahman, Golam Mahiuddin, Golam Mostofa, Yu-Mei Hsueh, Robert O. Wright, David C. Christiani
1061–1066 | http://dx.doi.org/10.1289/ehp.1104173

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