

# Environmental digest

DOI: 10.1039/c2em90056d

## Legislation

### Commission under fire over biofuels proposal

Both industry and environmental groups have given a poor reception to the EU's long-awaited directive on biofuels, threatening to leave Europe's biofuels policy in disarray.

Under the proposals published in October, the European Commission has stuck to its proposed 5% limit on biofuels from food crops but their indirect land-use change (ILUC) impacts would not be included in sustainability criteria until at least 2021. The EU executive said it would review whether the future law has helped limit biofuels' ILUC impacts by December 2017 and decide then whether to strengthen the sustainability criteria.

of their products, rather than when proving they meet their 6% GHG reduction obligation under the fuel quality directive (FQD). This is an important difference compared with an earlier version which stated that the ILUC impacts of certain biofuels should be accounted for when calculating their life-cycle emissions for compliance with the FQD.<sup>1</sup>

Environmental groups were disappointed by the decision, saying that without a requirement to account for biofuels' ILUC impacts, fuel suppliers will simply carry on selling biodiesel from palm oil, soybeans and rapeseed oil as normal.

Industry, meanwhile, was unhappy at the retention of the 5% cap on the use of biofuels from food crops. The bioethanol and biodiesel industry, farmers' organisation Copa-Cogeca and vegetable oil industry association Fediol collectively rejected the plan, which they said would have a devastating economic impact on their members.

The Commission had failed to take several key issues into account, the associations said, for instance the fact that food crops used for biofuel production generate feedstock that would have to be imported if the proposal is adopted. Other economically valuable by-products that are now threatened include glycerine from biodiesel and the enriched CO<sub>2</sub> from sugar beets, according to the ePure, the bioethanol industry association. Copa-Cogeca questioned the link made between first generation biofuels and high food prices: about 2% of EU arable land has not been farmed since 2006 and less than 3% is used for biofuel production, according to the trade association.

The draft directive also proposes changes to the scope of the 60% GHG saving requirement for biofuel installations. The requirement previously applied to plants starting operation on 1 July 2012 or later. It has now been pushed back to 1 July 2014. The final version also provides a detailed list of 'good' biofuels that would count more than others in efforts to achieve the EU's 10% renewables target for transport.

Independent commentators claim reductions in GHGs are not as great as Commission studies estimate.<sup>2</sup>

*European Commission:* [http://ec.europa.eu/climalpolicies/transport/fuel/docs/com\\_2012\\_595\\_en.pdf](http://ec.europa.eu/climalpolicies/transport/fuel/docs/com_2012_595_en.pdf); *EEB:* [www.eeb.org](http://www.eeb.org)

### Call to tighten EU air rules

The Belgian government is calling on the EU to set more ambitious limits on air pollutant emissions. Spokesperson Denis Van Eeckhout said that existing emission standards were "out of balance" with air quality standards and that the region needs to take a more coherent approach instead.

Although significant improvements have been made, a recent European Environment Agency (EEA) report has shown 80% of citizens still breathe air that does not comply with World Health Organization (WHO) standards. The only way to address this is to strengthen EU legislation, says the Belgian note. The WHO standards are more stringent than the ones in place in the EU. Member States recently agreed to meet stricter emission ceilings for four air pollutants



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Under the proposal fuel suppliers would only be required to take emission values into account when reporting the lifecycle greenhouse gas (GHG) emissions

under the Gothenburg Protocol,<sup>3</sup> but several countries are struggling to comply even with existing standards.<sup>4</sup>

New rules on solvent emissions, road vehicles and small combustion plants may be among the outputs of the review of EU air quality policy next year. But if new legislation proves unsatisfactory, Belgium raises the prospect of taking unilateral action, which could impose disproportionate costs on industry. On the other hand, more stringent EU controls boost innovation and competitiveness.

Belgium's approach contrasts with the UK, which according to Mr Van Eeckhout is seeking to reduce air quality ambitions in order to cut the risk of being taken

to court by the European Commission. "That's not our message", he said.

Meanwhile, France plans to triple the tax on air pollutants such as sulfur oxides and solvents. According to the budget proposal for 2013, the existing tax on sulfur oxides, non-methane hydrocarbons, solvents and other volatile organic compounds will be set at €136.02 per tonne compared with €45.34 now. The tax will also be extended to five pollutants including benzene, mercury and arsenic. In total, the measure is expected to raise about €38m from next year. The decision confirms pledges made by French Prime Minister Jean-Marc Ayrault in September and will help the country comply with its air quality obligations

under EU legislation. France has the second lowest level of green taxation in the EU after Spain.

*Council of Ministers:* <http://register.consilium.europa.eu>

## References

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- 2 M. Sharpe, *J. Environ. Monit.*, 2012, **14**, 2546.
- 3 M. Sharpe, *J. Environ. Monit.*, 2012, **14**, 1736.
- 4 M. Sharpe, *J. Environ. Monit.*, 2012, **14**, 2291.

## Environmental quality

### Boost for biodiversity funding

Policy-makers and NGOs have welcomed an agreement by world governments to increase funding on conservation programmes. The agreement was made at a meeting of the UN's Convention on Biological Diversity (CBD), in Hyderabad, India.

Developed countries agreed to double funding by 2015 to support efforts in developing states towards meeting the internationally-agreed Biodiversity Targets, and the main goals of the Strategic Plan for Biodiversity 2011–2020. The Sargasso Sea, the Tonga archipelago and key corals sites off the coast of Brazil are among a range of marine areas to receive special attention by governments as part of renewed efforts to sustainably manage the world's oceans. Many of the areas are beyond national jurisdictions and, as such, receive little or no protection at present.



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International targets for 2020 were agreed two years ago at the Convention's

previous meeting in Nagoya, Japan, after acknowledging a goal to halt biodiversity loss by 2010 had been missed.<sup>5</sup> It was agreed then that a "substantial increase" in financial resources would be required, but a decision on funding was deferred.

Other key decisions taken in Hyderabad include new measures to factor biodiversity into environmental impact assessments linked to infrastructure and other development projects in marine and coastal areas. UNEP's *Protected Planet 2012* report, published at the Convention, found that half of the world's richest biodiversity zones remain entirely unprotected, despite a 60% increase in the number of protected areas since 1990. The latest study by the highly regarded TEEB (The Economics of Ecosystems and Biodiversity) initiative – also released at the meeting – highlights the key role that rapidly diminishing wetlands play in supporting human life and biodiversity and calls for measures to avoid further degradation and losses.

Braulio Ferreira de Souza Dias, Executive Secretary of the Convention on Biological Diversity said: "these results, coming in a period of economic crisis, demonstrate that the world is committed to implementing the CBD. We see that governments are moving forward in implementation and seeing biodiversity as an opportunity to be realized more than a problem to be solved".

But conservation experts questioned whether the commitments were sufficient. They claim the Convention's 2020 objectives will be missed unless spending is increased at least ten-fold. Writing in the journal *Science*, leading researchers estimated that meeting just two of the so-called Nagoya targets will require annual conservation spending of \$78bn. Current funding is less than a tenth of that, they say.

The work draws on contributions from researchers across the world including the RSPB, the UN's World Conservation Monitoring Centre, the New Zealand Department of Conservation, and the universities of Cambridge, Princeton, Copenhagen and Freiburg. The researchers looked at just two of the 2020 goals: to prevent further human-induced extinctions of known threatened species and to expand coverage of protected areas to 17% of terrestrial and 10% of marine areas.

Meanwhile, UK researchers have questioned whether payment for 'ecosystem services' is a route to better environmental management or a policy red herring. Academics at the Rural Economy and Land Use Programme at Newcastle University say such payments could be beneficial, but call for appropriate safeguards to ensure that harmful trade-offs do not compromise important natural resources such as wildlife.

UN Convention on Biological Diversity: [www.cbd.int](http://www.cbd.int); Newcastle University: [www.relu.ac.uk](http://www.relu.ac.uk)

## Ministers back blue growth

Ministers have backed the European Commission's so-called 'Blue Growth Strategy', a plan to boost the EU's integrated maritime policy. Meeting in Limassol, Cyprus, environment ministers largely endorsed the Commission's recent policy paper,<sup>6</sup> the objective of which is to "maximise the sustainable use of the oceans, seas and coasts".

Specific goals include increasing the use of short sea shipping in intra-EU trade, helping shipbuilders increase the environmental performance of vessels, and the development of marine energy. Other elements include access to seabed minerals. Commission President José Manuel Barroso described the

declaration as a "very important doctrine for the policy and guidelines of EU maritime policy" that will help generate growth and jobs in the maritime sector.

Campaign groups say the Commission's plan and the Limassol declaration do not put sufficient emphasis on environmental protection. For example, they fear that mining deep sea minerals will cause considerable damage to ecosystems. NGOs also argue that there is no reference to the Marine Strategy Framework Directive, which requires good environmental status (GES) in European seas by 2020.<sup>7</sup>

Concern here is justified by the fact that 12 Member States missed a vital October deadline to report indicators and targets related to GES in their marine waters. The 12 countries are Bulgaria, Estonia, Finland, France, Ireland, Latvia, Lithuania, Malta, Poland, Portugal, Slovenia and the UK. Such delays "signal that

some governments do not share the sense of urgency that is needed to protect and restore seas and oceans that are under huge stress from overfishing, pollution and biodiversity loss", reacted NGO Seas at Risk. Following the publication of its own assessment report in 2013, the Commission will decide if further action is needed on compliance.

*Limassol declaration:* [www.cy2012.eu](http://www.cy2012.eu); *EC Marine Scorecard:* <http://ec.europa.eu/environment/marine/>; *Seas at Risk:* [www.seas-at-risk.org](http://www.seas-at-risk.org)

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## Chemical hazards

### Review recommends nano revisions

The European Commission will consider amending some of REACH's annexes to clarify how nanomaterials are addressed and safety demonstrated in substance registrations under the EU chemicals regime. The Commission's announcement came as it presented the conclusions of its second regulatory review to determine whether the existing legislative framework sufficiently addresses the risks posed by nanomaterials. Major changes remain off the agenda, it concluded.

"Overall the Commission remains convinced that REACH sets the best possible framework for the risk management of nanomaterials when they occur as substances or mixtures but more specific requirements for nanomaterials within the framework have proven necessary", according to the review.

The European Chemicals Agency is likely to develop further guidance for registrations after 2013. But EU legislation does not need a radical overhaul given there is still a "considerable lack of

data on exposure to nanomaterials". In addition, the Commission will host a web portal to facilitate the sharing of information on nanomaterials, including from national registries such as those being setup by Denmark and France.<sup>8</sup> It will also launch an impact assessment to identify the best ways to increase the transparency and regulatory oversight of nanomaterials. Regarding product information, the EU executive says a legislative proposal due this year will propose a labelling requirement for medical devices.

The Commission's suggestions fall short of demands made by Green MEP Carl Schlyter, who wants more significant changes to EU legislation. Mr Schlyter drafted a 2009 parliament resolution calling for specific provisions on nanomaterials in laws on cosmetics, biocides, electronic waste and chemicals.<sup>9</sup> "The Commission has only committed to 'nano-steps' even though it acknowledges that companies have failed to address the safe use of nanomaterials under REACH", he said.

Due to their small scale of 1 to 100 nm, nanomaterials are usually produced in

volumes below one tonne, the threshold for mandatory registration under REACH. Apart from providing a definition of nanomaterials,<sup>10,11</sup> which is considered weak by NGOs such as EEB, the Commission has done little on the issue, the MEP added.

*European Commission:* <http://ec.europa.eu/rapid/> (reference: IP/12/1050); and <http://ec.europa.eu/nanotechnology/>

### Greens slam REACH implementation

The European Chemicals Agency (ECHA) is failing in its mission to ensure that the REACH regime is properly implemented, green groups EEB and ClientEarth say in a highly critical report.

The assessment is based on data released on ECHA's dissemination portal and its classification and labelling (C&L) inventory between late 2011 and March 2012. It shows C&L data on 28 of the 40 substances reviewed was either missing, incomplete or incoherent. For example,



the NGOs found that two firms had classified benzophenone, a chemical used in inks, as toxic to aquatic life with long-lasting effects and damage to organs while another only referred to its toxicity to aquatic life. One company failed to mention it posed any risks.

Another finding is that in some cases no information on toxicological studies had been provided in the REACH registration dossiers. And many of the studies submitted were “grey literature” – non-peer-reviewed industry or government analyses.

Tatiana Santos of the European Environmental Bureau (EEB) acknowledged that some of the shortcomings highlighted in the assessment may now have been rectified because registration dossiers and C&L information is frequently updated. However, she denounced the poor quality of the data submitted by companies in the first place. ECHA should not have granted registration numbers to dossiers that did not comply with REACH requirements, she said. “This means substances for which essential information is missing continue to be marketed and used in the EU”.

ECHA’s lack of transparency and close links with industry were also criticised in the report. This was flagged up in a PwC report published by the European Commission’s Industry and Enterprise Directorate earlier this year.<sup>12</sup> In a statement, ECHA said it shared some of the concerns highlighted in the EEB report. “However, the Agency refutes some of the comments made, in particular on independence and transparency of decision making”, it added.

Hubert Mandery, head of chemical industry association CEFIC, said: “the assessment of whether or not REACH works is in the hands of EU authorities, who have the oversight and relevant information. If there are shortcomings on the industry side, they need to be sorted out, because we want to make REACH work”.

EEB: [www.eeb.org](http://www.eeb.org)

## Experts recommend flame retardant ban

UN experts have recommended that hexabromocyclododecane (HBCD), a

widely used industrial flame retardant, be phased out of global production and use. HBCD is used mainly in expanded polystyrene and extruded polystyrene. It is also used in textile coatings and in high impact polystyrene for electrical and electronic equipment.



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The Persistent Organic Pollutants Review Committee, a subsidiary body of the Stockholm Convention on Persistent Organic Pollutants (POPs), called for the substance’s elimination at a recent meeting in Geneva. The move would see HBCD included in the Convention’s Annex A for elimination, with specific exemptions for expanded and extruded polystyrene to give countries time to phase-in safer substitutes.

This was one of 12 decisions adopted by the Committee, including on the industrial chemicals chlorinated naphthalenes (CNs) and hexachlorobutadiene (HCBd), and the pesticide pentachlorophenol (PCP) and its salts and esters, which will now move forward to the next stage of review.

The European Union is planning to update its POPs legislation to bring into line with recent changes to the Convention.<sup>13</sup>

Stockholm Convention: [www.pops.int](http://www.pops.int)

## France decides on BPA

French health agency ANSES has called on the European Chemicals Agency (ECHA) to classify bisphenol A (BPA) as a more severe category 1 reprotoxic substance under the EU rules on the classification, labelling and packaging (CLP) of chemicals.

At present BPA is classified as a category 2 substance, which means its reprotoxicity is only suspected. But the French agency says there is now

sufficient evidence to change the chemical’s CLP status to clearly hazardous. Making BPA a category 1 substance would lead to the adoption of more stringent restrictions in Europe, ANSES said in a statement.

The EU bans the chemical in baby bottles while several Member States including France, Belgium and Denmark also have restrictions on food packaging.<sup>14</sup> Some countries have gone even further. In June, Sweden’s chemicals agency called for a ban on BPA in till receipts and other thermal paper products such as tickets.<sup>15</sup>



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The French proposal to change BPA’s classification will now be considered by ECHA’s risk assessment committee. A public consultation will also be launched by the end of the year or early 2013. The Committee will give an opinion within 18 months of the proposal’s publication on the ECHA website.

ANSES: [www.anses.fr](http://www.anses.fr)

## Chlorpyrifos under review

The EU has launched a toxicity review of chlorpyrifos, a widely used insecticide that has been allowed on the European market since 2005.

In May, MEP Marisa Matias asked whether the European Commission would continue to allow sales of the product after new independent scientific studies had shown that, even in small quantities, chlorpyrifos is harmful to health and ecosystems. In August, the Commission replied it would review recent studies and more detail was provided in a letter sent to Hans Muilerman of PAN Europe.

In the letter, the Commission’s Health Directorate stated a review had been launched in June. Spain, the member

state in charge of this dossier, has been asked to conduct the investigation and report back to the Commission. The letter also reveals that chlorpyrifos is one of several potential persistent organic pollutants (POPs) being investigated at EU level.

Recent research in the US has linked prenatal exposure to chlorpyrifos to brain abnormalities in infants.<sup>16</sup>

*Pan-Europe:* [www.pan-europe.org](http://www.pan-europe.org)

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- 13 M. Sharpe, *J. Environ. Monit.*, 2012, **14**, 2547.
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- 16 M. Sharpe, *J. Environ. Monit.*, 2012, **14**, 1746.

## Public and occupational health

### Paraquat exposure linked to Parkinson's

Exposure to one of the most widespread herbicides in the world may increase the risk of developing Parkinson's disease, dramatically so in individuals carrying a common genetic variation, US researchers say.

The study specifically looked at the risk of Parkinson's disease in individuals exposed to 1,1'-dimethyl-4,4'-bipyridinium dichloride, a herbicide marketed under the name Paraquat. This herbicide has been widely used for decades in the farming of fruits and vegetables, to treat cotton before harvesting, and to kill weeds in fields before crop planting. In 2009, it was used on more than a million acres in California alone.

Research into the correlation between Paraquat exposure and the incidence of Parkinson's disease was conducted among participants of the Agricultural Health Study (AHS), an ongoing project tracking 89 000 individuals residing in Iowa and North Carolina, many of whom worked as pesticide applicators (mostly farmers), and their spouses.

In the latest study, 87 AHS participants were identified to have Parkinson's disease; another 343 people without Parkinson's disease were used as a control group. As well as detailed questioning about their exposure to Paraquat, participants were given blood tests to see if they had a common variant of the *GSTT1* gene. When functioning properly, this gene makes an enzyme (glutathione *S*-transferase T1) that protects the body from a variety of toxicants. However, approximately 20%

of the general population has a defective version of the gene and completely lacks this enzyme.

The study found that the risk of Parkinson's disease was doubled in people who worked with Paraquat. Strikingly, among participants who had the defective *GSTT1* gene variant, risk for developing Parkinson's disease after working with Paraquat was increased eleven-fold – one of the largest risks ever reported.

"*GSTT1* gene deletions are very common", said study leader Dr Samuel Goldman. "Although our results require replication, carriers of this genetic variant potentially may be at extremely high risk of developing Parkinson's disease from exposure to environmental toxicants such as Paraquat".

*Parkinson's Institute:* [www.theipi.org](http://www.theipi.org)

### Antibiotics accumulate in marine sediments

Antibiotics accumulate in soft marine sediments at the bottom of the ocean and pose a potential risk to humans and the environment, Swedish researchers say.

The presence of pharmaceuticals and personal care products (PPCPs) in the environment has received increasing attention over recent years, but this is one of the first studies to look at effects on the marine environment. More than 10 000 tonnes of antibiotics are consumed in Europe each year, and 30–60% pass through animals and humans completely unchanged. The different substances then reach the ocean *via* hospitals, municipal

sewage, fish farms and run-off from agriculture and landfills.

The research group from the University of Gothenburg, led by Maria Granberg, is focusing on the potential effects of accumulating antibiotics in the seabed in the waters off Greenland. "Greenland has no sewage treatment whatsoever, which means that waste water from inhabited areas is discharged straight into the sea", said Granberg. "So Greenland is home to both very clean and very polluted waters, which is great for comparing environmentally pristine areas with polluted ones".

The soft sediments on the seabed act as a reservoir for hard-to-break-down substances that are released into the environment. Even substances that are not discharged directly into the sea gradually find their way there from the land and air *via* rainwater. This means that antibiotics can affect marine sediment ecosystems over a long period, with detrimental effects on natural marine communities of bacteria, among other things.

"The presence of antibiotics in the marine environment is worrying as it can result in widespread resistance to antibiotics in marine bacteria with unknown consequences for the spread of resistance genes to bacteria that can reach humans through the consumption of seafood and fish", said Granberg. The marine sediment bacteria being studied are also important from a global perspective as they metabolise nitrogen and carbon, which are linked to both eutrophication and climate problems. A key aspect is also that resistance genes can be transferred between bacteria.

## Toxicity of indoor mould explained

Finnish researchers claim to have discovered how indoor mould makes people ill. The only remedy is to heal the living environment, they say.

For more than a decade, it has been known that the fungus *Trichoderma longibrachiatum* is the most common finding wherever people are suffering from health hazards related to damp building damage. However, it has not been known how this mould – which is typical of most buildings with indoor air problems – harms people's health. A study by researchers at the University of Helsinki's Department of Food and Environmental Sciences explains how microbial metabolites in the living environment cause health problems.



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They discovered that the toxic substance produced by the mould fungus *Trichoderma* consists of small peptides containing  $\alpha$ -aminoisobutyric acid and other amino acids not found in proteins. The discovery and purification of the toxin to determine its molecular structure was made possible by a sperm test developed earlier by the same team. This test served as a detector in tracing

the toxin molecules produced by the fungus.

The toxic foreign peptides were named trilogins. Their toxicity is based on their ability to be absorbed in tissues and cells in the body and produce nanochannels that permeate potassium and sodium. A channel formed by trilogins can obstruct vital control communication systems that regulate heart cells, respiratory cells and nerve cells, for example.

Health hazards related to foreign peptides cannot be prevented with antimicrobial drugs and trilogins are also highly resistant to heat and antimicrobial chemicals. The team discovered more than ten chemically resistant foreign peptides and determined their molecular structures.

*FEBS Journal*: [http://onlinelibrary.wiley.com/journal/10.1111/\(ISSN\)1742-4658](http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1742-4658)

## Research activities

### Europe seeks a green industrial dawn

Eco-industries are at the heart of a new strategy to revitalise Europe's industrial base. The European Commission has set a new target of increasing the share of manufacturing in the EU's GDP to 20% by 2020 to counter the decline seen in recent years.

Launching the paper on industrial policy, EU Industry Commissioner Antonio Tajani said: "today we tabled the conditions for the sustainable industry of the future in Europe". This 're-industrialisation' will be achieved through major investment in six areas: clean production technologies, key enabling technologies such as ICT and nanotechnologies, bio-based products, sustainable construction, green vehicles and smart grids. These areas were selected due to their growth potential and consistency with other EU objectives on climate, energy and resource efficiency. For example, the market for bio-chemical products could be worth €40bn and provide more than 90 000 jobs by 2020.

The EU has shown leadership in these innovative sectors but it has failed to turn

this advantage into an economic opportunity, says the Commission. 'Roadmaps' will be drawn up for the development of each of these markets. While some commentators are sceptical, the Commission firmly believes there is strong potential to develop new markets in Europe. "Our figures are crystal clear. European industry can deliver growth and can create employment", said Mr Tajani. The final version of the policy paper puts a greater emphasis on the need for public private partnerships, for instance for robotics or the bio-economy.

But the paper did not go far enough for some. In a government report, Swedish researcher Lars Nilsson, of University of Lund, said Europe must adopt a long-term plan to deliver the radical technology changes needed to decarbonise its industrial sector. Public-private partnerships, such as the recent SPIRE initiative,<sup>17</sup> will not be enough as their "ambition is too low". The Commission's industrial policy paper mainly foresees short-term actions, rather than the more radical, longer-term perspective argued for by Dr Nilsson. Such a long-term technology strategy – aiming towards

zero net emissions by 2050 – should cover the supply of sustainable biomass, carbon capture and storage (CCS), hydrogen and smart grids, alongside plans for the development of specific technologies, such as magnesium-based cement. The study suggests developing roadmaps for each sector and picking technology winners "based on a relatively limited menu of options".

Environmental research is a key part of the EU's planned research activities for the period 2014–2020.<sup>18</sup>

*European Commission*: <http://ec.europa.eu/enterprisepolicies/industrial-competitiveness/industrial-policy>

### A digital future for 'e-PA'

The US Environmental Protection Agency is continuing to invest in a digital future with the release of a number of new online systems and applications.

In October the Agency launched e-NEPA, a new online system that allows federal agencies to submit environmental impact statements (EISs) electronically.



These assessments are required under the National Environmental Policy Act (NEPA). Traditionally, EISs have been submitted to EPA in hard copy. e-NEPA eliminates the need to mail or deliver copies of EISs to EPA headquarters, reducing printing, shipping, and delivery costs. It also saves time through electronic filing and e-confirmation and improves transparency, allowing EPA to post EIS documents to its website.

Another innovation is My Waterway, a new app and website to help people find information on the condition of thousands of lakes, rivers and streams across the United States from their smart phone, tablet or desktop computer. The system uses GPS technology or a user-entered zip code or city name to provide information about the quality of local water bodies. Its release helped mark the 40th anniversary of the Clean Water Act, enacted in October 1972.

EPA: [www.epa.gov/compliance/nepalsubmiteis/index.html](http://www.epa.gov/compliance/nepalsubmiteis/index.html); [www.epa.gov/mywaterway](http://www.epa.gov/mywaterway)

## And finally, the end of JEM News

**EDITOR'S NOTE:** If readers will forgive the indulgence, we end with some news about ourselves. This is the last edition of the *Journal of Environmental Monitoring*; the journal will be published as *Environmental Science: Processes & Impacts* from January 2013. With the launch of the new title, we have decided to end the News Section, which has been a feature of JEM since it launched fourteen years ago. Consequently, this is the last contribution from Mike Sharpe, JEM's freelance News Editor, who has done a magnificent job in providing these news updates month in, month out with exceptional quality. With the advent of a huge number of web services people now have many other means of accessing this type of news information. Mike indicates that it has been a pleasure to serve the environmental sciences community over the past fourteen years and to report on the many and varied developments he has discussed

and we thank him for his exceptional service both to the journal and the community.



Mike Sharpe

Environmental chemistry and related fields have changed substantially over this period and while there is no room for a full review here, it is interesting to reflect on 'what's in' and 'what's out'. Some issues have been with us throughout. Our first news section, in February 1999, included items on mercury and PCBs, international action in relation to POPs and HFCs, and moves to revise US regulations on drinking water and air toxics. Plus there was a feature article on endocrine disrupting chemicals (EDCs), all issues that are still topical today. Other staples over the years have included fine particulates (PM<sub>2.5</sub>), phthalates, PCBs, dioxins and BPA. 'New' pollutants have also emerged onto the scene, such as drugs and personal care products, petroleum additives, chemical mixtures, and even the environmental impact of road salt.

Not surprisingly, the monitoring and measurement of environmental quality has been a recurring theme. In addition to air quality, water quality and waste, recent years have seen a higher priority given to other media, such as soil, noise and marine protection.

Climate change has gradually occupied more space in our columns, as the body of scientific evidence that mankind is irreversibly altering our planet has grown.

We have covered the mechanics of global warming (ocean acidification, atmospheric processes, links between air pollution and climate), its consequences (especially in Arctic, mountain, marine and wetland environments), and policy responses (the rush to biofuels and shale gas, carbon capture and storage, and the uncertain future of nuclear power).

Our public and occupational health section has reported on general concerns about the impacts of environmental pollutants on human and animal health as well as evidence linking specific chemicals. We have also tracked the protracted debate about genetically-modified crops and the increasing interest in nanomaterials.

Balancing the needs of industrial producers and users, on the one hand, and society and consumers on the other has been a frequent theme. Too often such debates can get portrayed in simplistic terms – industry *versus* environmental groups – with each side seeking to deploy science to support its arguments. We have looked too at how governments marshal science to their cause as they seek to juggle long-term challenges and short-term expediency. The need for open engagement between scientists and the public they serve has never been more important.

As elsewhere, the environmental sciences scene has been influenced by the spread of technology: the growth of eScience and more sophisticated modelling, the use of satellite data, electronic reporting systems, apps and websites and open access publishing have all featured in our columns.

No doubt these and many other issues will continue to feature in the pages of *Environmental Science: Processes & Impacts* in the years to come. Your News Editor wishes the journal and its readers every success for the future.

## References

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