

our planet

The magazine of the United Nations Environment Programme — April 2011

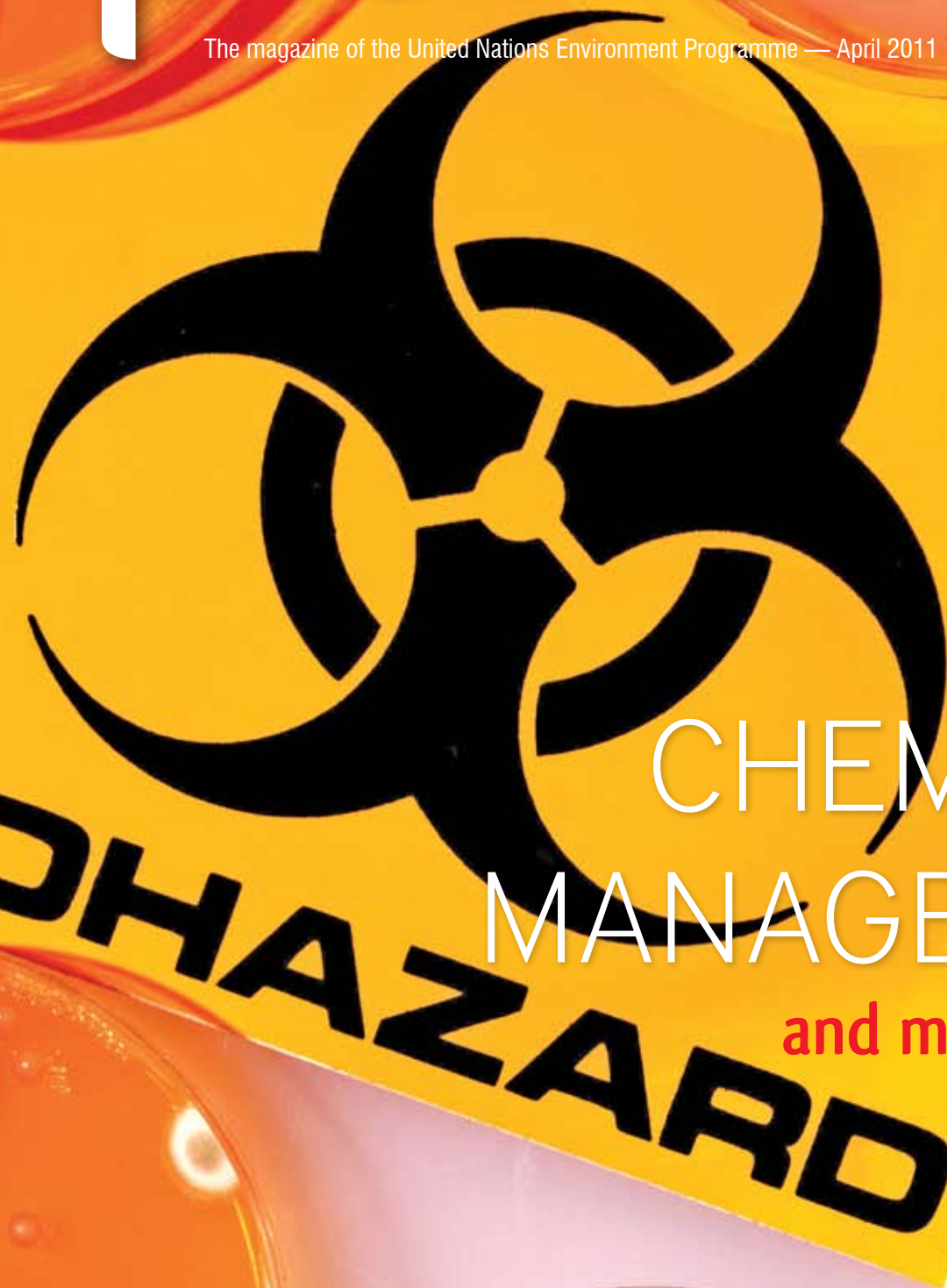


JOSÉ MANUEL BARROSO
REACHING SUSTAINABILITY

KAREN ELLEMANN
TIME TO TACKLE CHEMICALS

MAANEE LEE
BORROWING THE PRESENT

NANCY JACKSON
CHEMISTRY
AS NATURE DOES IT



CHEMICALS
MANAGEMENT
and marine plastics



Our Planet, the magazine of the United Nations Environment Programme (UNEP)

PO Box 30552, Nairobi, Kenya
Tel: (254 20) 762 1234
Fax: (254 20) 762 3927
e-mail: unepub@unep.org

To view current and past issues of this publication online, please visit
www.unep.org/ourplanet

ISSN 1013 - 7394

Director of Publication : Satinder Bindra

Editor : **Geoffrey Lean**

Coordinator : Geoff Thompson, Mia Turner

Special Contributor : **Nick Nuttall**

Distribution Manager : Manyahleshal Kebede

Design : **Amina Darani**

Produced by : UNEP Division of Communications and Public Information

Printed by : **Progress Press**

Distributed by : SMI Books

The contents of this magazine do not necessarily reflect the views or policies of UNEP or the editors, nor are they an official record. The designations employed and the presentation do not imply the expressions of any opinion whatsoever on the part of UNEP concerning the legal status of any country, territory or city or its authority or concerning the delimitation of its frontiers or boundaries.

* All dollar (\$) amounts refer to US dollars.

Cover Photo: © Getty Images

UNEP promotes environmentally sound practices globally and in its own activities. This magazine is printed on 100% recycled paper, using vegetable-based inks and other eco-friendly practices. Our distribution policy aims to reduce UNEP's carbon footprint.



JOSÉ MANUEL BARROSO : Reaching sustainability **PAGE 6**

Regulating chemicals can protect health and the environment while enhancing competitiveness and innovation.



KAREN ELLEMANN : Time to tackle chemicals **PAGE 10**

The International Year of Chemistry should be used to strengthen the regime for managing chemicals and prepare for the future.



MAANEE LEE : Borrowing the present **PAGE 12**

Action must be taken now to ensure that future generations are free from hazardous chemicals.



NANCY JACKSON : Chemistry as nature does it **PAGE 14**

Green Chemistry can be the catalyst for global sustainable development.



PRITI MAHESH : Passing the poisonous parcel **PAGE 16**

How improperly recycling E-waste endangers the health of hundreds of thousands of people, and contaminates the environment.



KUMI NAIDOO : Turning the toxic tide **PAGE 20**

Exploiting companies' competitiveness has spurred a race to the top in producing products free of toxic chemicals.



DAVID de ROTHSCHILD : Message on a bottle **PAGE 22**

Plastic waste must be treated as a resource if the life of the oceans is to be safeguarded.



PETER JOHN KERSHAW : Beware Mermaid's Tears **PAGE 26**

Microplastics are an emerging and growing threat to life in the oceans which necessitates political commitment and investment.



GWYNNE LYONS : Pollutants with passports **PAGE 30**

Precautionary policies are needed to limit exposure to hazardous chemicals in food and consumer products.

- ALSO**
- books **PAGE 4**
- reflections **PAGE 5**
- products **PAGE 9**
- UNEP at work **PAGE 18**
- awards and events **PAGE 25**
- people **PAGE 28**
- verbatim and numbers **PAGE 32**
- www **PAGE 33**
- star **PAGE 34**

books

www.unep.org/publications



The Emissions Gap Report

Launched for the Cancun climate meeting, this report spells out what the pledges of Governments might actually mean in terms of putting the world on track to limit global temperature rises. The report is a partnership between over 30 leading researchers at climate modelling institutes across the globe. It spotlights worst-case and best-case scenarios up to 2020 while estimating the emissions gaps likely under various outcomes that will need to be bridged in order to avoid “dangerous” climate change.

Africa Water Atlas

This new publication from UNEP outlines the major challenges facing Africa’s water resources. The *Africa Water Atlas* uses hundreds of “before and after” shots, detailed new maps and satellite images from 53 countries to show the problems facing Africa’s water supplies, such as the drying of Lake Chad and the erosion of the Nile Delta, as well as new, successful methods of conserving water. The Atlas maps out new solutions and success stories from across the continent.

Protecting Arctic Biodiversity: limitations and strengths of environmental agreements

Current warming in the Arctic atmosphere, oceans and on land is contributing to far-reaching and rapid change across the world’s largest eco-region. This report addresses the growing concerns about the region’s vulnerability. It responds to the request by the participants to the Arendal Seminar in 2006, co-organised by UNEP/GRID-Arendal and the Standing Committee for Parliamentarians of the Arctic Region (SCPAR), to examine the limitations and strengths of existing environmental agreements for conserving and protecting Arctic biodiversity and options for improvement.

TEEB Synthesis Report

TEEB (The Economics of Ecosystems and Biodiversity) is an international assessment showcasing the enormous economic value of forests, freshwater, soils and coral reefs, as well as the social and economic costs of their loss. The final report in the TEEB series – *the Synthesis Report* – presents three scenarios: a natural ecosystem (forests), a human settlement (city), and a business sector (mining), to illustrate how the economic concepts and tools described in TEEB can help equip society with the means to incorporate the values of nature into decision-making at all levels.

Environmental Consequences of Ocean Acidification: A Threat to Food Security

This report sheds light on the consequences of rising concentrations of CO₂ in the marine environment on food chains and ecosystems as well as human activities such as tourism and fishing. Rising CO₂ emissions are causing our oceans to become more acidic and posing a greater risk to marine organisms. With around 1 billion people reliant on seafood as their main source of protein, the report also analyses the effects of ocean acidification on global food security.



Governance for The Environment: A Comparative Analysis of Environmental Policy Integration

Edited by Alessandra Goria, et al. (Edward Elgar)

This book presents a diverse set of perspectives and experience on how to support sustainable development through the integration of environmental issues into various policy sectors. The authors examine existing research on environmental policy integration (EPI) at three levels of policy making: national, regional and local. New and innovative approaches to the study of EPI at these levels of governance are proposed.

Conserving and Valuing Ecosystem Services and Biodiversity – Economic, Institutional and Social Challenges

K. N. Ninan (ed.) with Foreword by Achim Steiner (Earthscan)

This book comprehensively addresses the economic, social and institutional difficulties in conserving biodiversity and the ecosystem services that it provides. It covers a wide range of issues including: biodiversity, ecosystem services and valuation in the context of diverse ecosystems such as tropical forests, marine areas, wetlands and agricultural landscapes; non-timber forest products; incentives and institutions; payments for ecosystem services; governance; intellectual property rights and the protection of traditional knowledge, and climate change and biodiversity.

Prosperity without Growth – Economics for a finite planet

Tim Jackson (Earthscan)

In the advanced economies there is mounting evidence that ever-increasing consumption adds little to human happiness, and it is now clear that the ecosystems that sustain our economies are collapsing under the impacts of rising consumption. Unless we can radically lower the environmental impact of economic activity we will have to devise a path to prosperity that does not rely on continued growth. This book presents a credible vision of how human society can flourish – within the ecological limits of a finite planet.



reflections

ACHIM STEINER

UN Under-Secretary-General and
Executive Director, UNEP

How the international community manages its response to both the challenges and the opportunities presented by chemicals and wastes enters a new era this year.

Over the coming months the three principle treaties in the area — the Basel, Rotterdam and Stockholm conventions — will streamline their operations and actions in new and potentially far-reaching ways. All three will adopt decisions, as part of reform measures, to enhance co-operation and coordination, maximizing their collective impact and so improving human health.

These new governance arrangements will be launched at the Fifth Meeting of the Conference of the Parties to the Stockholm Convention on persistent organic pollutants in Geneva in late April. They will then be agreed at the Rotterdam Convention in the same city in June and the Basel Convention in October in Cartagena, Colombia.

Among many other key issues to be decided at the Stockholm meeting is whether to list endosulfan — an insecticide, more than half a century old and which is banned in at least 60 countries because of health and other concerns. If it is, it will join a catalogue of some 22 persistent organic pollutants controlled under the treaty.

Meanwhile, endosulfan is being considered under the Rotterdam Convention — along with chrysotile asbestos and some other chemicals — for inclusion in the prior informed consent procedure which requires exporting Parties to obtain the support of importing ones for shipments of chemicals listed in its Annex III.

And if endosulfan is added to the Stockholm Convention, the Basel Convention will be requested to draw up waste management guidelines for it.

The example demonstrates how — unlike the past, where decisions might be taken in a vacuum — a more comprehensive and ‘joined-up’ series of actions relating to chemicals and wastes is beginning to get under way.

All this may seem prosaic to an outsider. But it offers an opportunity to align these important treaties in ways that can produce better chemicals and waste management within and beyond national borders.

Similar evolutions — the result of decisions taken by governments in Bali, Indonesia, last year — include appointing a single head to oversee the running of the three treaties and sharing administrative services — which may free-up funds to be invested in more projects on the ground.

These reforms come little more than a year before governments meet for the UN Conference on Sustainable Development (Rio+20) to be held two decades after the Rio Earth Summit that has set the contemporary sustainable development course ever since. Its two themes are Green Economy in the context of poverty eradication and sustainable development and an Institutional Framework for Sustainable Development.

It has long been clear that the growth of multilateral environmental agreements has, in its current configuration, imposed increasing strains and complexity on the compliance and participation of many developing countries.

At the same time, fragmentation can undermine the effectiveness of the overall effort for sustainable development and lead to duplication and a less than efficient use of scarce financial resources.

The chemicals and wastes agenda also echoes the social outcomes of the Green Economy in terms of prospects for decent employment and improvements in human health and well being, which are key elements in the Safer Planet campaign spearheaded by the three treaties.

During UNEP’s last Governing Council, ministers of environment underlined that the status quo — including the existing management and effectiveness of current institutions — was not an option.

Proposals for reforming international environmental governance are now part of the global discussions in advance of the Rio+20 conference next June.

The closer working relationship between the chemicals and waste agreements, and the fresh directions it will bring, offers a way forward to redressing these shortfalls between ambition and action.

They are part of the overall urgency in accelerating and scaling up a definitive and decisive shift towards achieving a low carbon, resource-efficient global economy for all.



JOSÉ MANUEL BARROSO

President,
European Commission

REACHING SUSTAINABILITY

Protecting the health of citizens and our environment, while enhancing competitiveness and innovation: such is the challenge of REACH, the European Union's groundbreaking and holistic regulation on chemicals.

Through REACH – Registration, Evaluation, Authorization and restriction of Chemicals, which entered into force in 2007 – the EU regulates nearly all chemicals, whether handled in industrial or consumer environments.

Chemicals are omnipresent in our daily life, and it is difficult to imagine living without them. We are not always aware of all the benefits they bring. But we also need to ensure that they are safe.





© Alexander Raths/Stockphoto

REACH places greater responsibility on industry to manage risks and provide appropriate safety information to professional users and — for the most hazardous substances — to consumers. It applies to the manufacture, placing on the market or use of substances on their own, in mixtures or in articles.

Its registration process asks industry to prove that chemicals are used safely and ensures that manufacturers, workers and citizens know more about the chemicals they are using. Companies must document the safe use of chemicals by sending a dossier to the European Chemicals Agency (ECHA). Those placing most of the total volume of chemicals on the EU market — and the most dangerous ones — have already

filed their registrations to ECHA and the process continues for other substances. Some 25,000 existing substances have been registered, and all new ones must be registered before they are manufactured, imported or used in the EU. Failure to register means that the substance cannot be manufactured, imported or used in the EU.

The approach is based on risk: the more of the chemical that is produced, or the more dangerous it is, the more detailed the dossier must be. Industry can choose the most cost-effective measures to control the risks.

The Agency checks that the dossier is complete, and carries out detailed spot checks on the quality of the information, through a separate evaluation process.

Evaluation can also be conducted to try to clarify whether using a particular substance — selected by the Agency in cooperation with Member States — harms human health or the environment. Substances are evaluated according to priority criteria, considering hazard, exposure and volume.

The information on how to use the chemical safely is circulated down the supply chain, from the manufacturer to purchasers, who in turn pass it to their own customers. Those who use a chemical in their industrial or professional activities have to apply the risk management instructions for dangerous substances which are communicated by the supplier via safety data sheets. They can also contact their supplier to identify how to best control risks.

*“REACH’s main benefit
is to identify
and control
the risks of chemicals
more systematically,
thus allowing for appropriate
risk management measures
by industry or,
if necessary,
further regulatory action
by the public authorities.”*

A system of authorization applies to substances of very high concern listed in Annex XIV of REACH. These substances cannot be used or placed on the market unless an authorization has been granted. Substances of very high concern can include ones that are carcinogenic, mutagenic or toxic for reproduction; those having persistent, bioaccumulative and toxic properties or very persistent and very bioaccumulative ones; and those presenting an equivalent level of concern, such as substances with endocrine disrupting properties. There is no tonnage limit. The process includes identifying substances of very high concern and prioritizing them for inclusion in Annex XIV. Once a substance is listed in that Annex, operators wishing to place the substance on the market or use it must apply for an authorization at ECHA. The final decision granting or refusing an authorization is adopted by the Commission, on the basis of the opinions given by the responsible ECHA committees. The intention is to ensure that risks are properly controlled and that these chemicals will be progressively replaced by suitable alternative substances

from the Commission) and contains information on hazards and risks, available information on alternatives and a justification for restrictions at community level, and may also include a socio-economic assessment.

The main tasks of the Agency — which became operational in 2008, and manages REACH’s technical, scientific and administrative aspects — are to handle the registration of chemicals, carry out the evaluation of dossiers and oversee the evaluation of substances ensuring consistency across the EU. It provides guidance to industry and information to the public and plays an important international role through disseminating up information

REACH’s main benefit is to identify and control the risks of chemicals more systematically, thus allowing for appropriate risk management measures by industry or, if necessary, further regulatory action by the public authorities. This will help prevent health problems that could be caused by exposure to chemicals, leading to less disease and preventable death, and thus lower costs for national health systems. The benefits will come progressively as more and more substances are phased in. Though quantitative assessment is difficult, the Commission’s 2003 Impact Assessment developed an illustrative scenario which put the health benefits alone in the order of €50 billion over 30 years.

The chemicals industry now benefits from a regulatory system based upon a risk-based approach, which has decision-making with clear deadlines, and results in greater consumer confidence in their products. Users of chemicals will get relevant information on the safe use of substances in their production processes, which will help them

预览已结束，完整报告链接和二维码如下：

https://www.yunbaogao.cn/report/index/report?reportId=5_9825

