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## Joint statement from ACC, Cefic, CLA, CLC, CLI and ECPA on review of WHO-UNEP 2012 report on Endocrine Disruptors

### Statement

The 2012 WHO-UNEP report should not be used as the basis for supporting chemicals policy on endocrine disruptors, as the report does not provide an objective assessment of the current state of the science on endocrine disruption. Unfortunately, WHO-UNEP chose not to use a transparent process for selecting authors with recognized expertise and varying perspectives, failed to employ best practices for data collection and evaluation and relied on the authors' judgment/opinion instead of ensuring the use of a transparent weight-of-evidence framework for objectively integrating results for determining cause and effect at relevant levels of exposure.

### Background

On 19 February 2013 the United Nations Environment Programme (UNEP) and the World Health Organization (WHO) published a report entitled, "*State of the Science on Endocrine Disrupting Chemicals – 2012*". The report was accompanied by a "*Summary for Decision Makers*". The stated purpose of these documents was to provide the global status of scientific knowledge on exposure to and effects of endocrine disrupting chemicals.

The 2012 WHO-UNEP report was positioned to be an update of the previous report, published in 2002 by WHO in collaboration with the International Programme on Chemical Safety (IPCS)<sup>1</sup>. The 2012 report and summary have since been presented to policy makers internationally, and have been used by some to call for additional precautionary chemicals policy on endocrine disruptors.

ACC, Cefic, CLA, CLC, CLI and ECPA<sup>2</sup>, representing the general chemicals and crop protection industries, jointly commissioned a consortium of scientific experts to independently review the 2012 WHO-UNEP report. The review has recently been published

<sup>1</sup> Global assessment of the state-of-the-science of endocrine disruptors (WHO/IPCS/EDC/02.2), 2002

<sup>2</sup> ACC: American Chemistry Council, [www.americanchemistry.com/](http://www.americanchemistry.com/)  
Cefic: European Chemical Industry Council, [www.cefic.org/](http://www.cefic.org/)  
CLA: CropLife America, [www.croplifeamerica.org/](http://www.croplifeamerica.org/)  
CLC: CropLife Canada, [www.croplife.ca/](http://www.croplife.ca/)  
CLI: CropLife International, [www.croplife.org/](http://www.croplife.org/)  
ECPA: European Crop Protection Association, [www.ecpa.eu](http://www.ecpa.eu)

in the peer-review journal *Regulatory Toxicology and Pharmacology* (available at: <http://www.sciencedirect.com/science/article/pii/S0273230014000269> ).

### **Why did industry commission the expert review of the 2012 WHO-UNEP report?**

At the time it was published, ACC, Cefic, CLA, CLC, CLI and ECPA identified significant shortcomings with the 2012 WHO-UNEP report and the accompanying “*Summary for Decision Makers*”. We were concerned with the selective citation of the literature, the failure to employ best practices for systematic review, and the use of “judgment” and opinion in lieu of a formal weight of evidence analysis. This lack of adherence to basic principles of scientific inquiry for evaluating cause and effect raised considerable doubt about the scientific validity of the report’s conclusions and the basis for the serious implications being claimed for human health and the environment.

Additionally, we were concerned with the process employed in preparing the 2012 report and that despite its serious shortcomings it was being used to call for more precautionary chemicals policy.

The chemicals industry is committed to the protection of human health and the environment, and we believe that chemicals policy should be based on a thorough, systematic and objective evaluation of current science. The significant concerns with the 2012 report led ACC, Cefic, CLA, CLC, CLI and ECPA, to jointly commission the expert review, to provide an independent evaluation of the report and the scientific basis for its conclusions.

### **What are the main conclusions of the expert review?**

The review concludes that the 2012 WHO-UNEP report does not provide an objective assessment of the current state of the science on endocrine disruption. The major shortcomings identified are:

- Although the report cites the WHO/ICPS (2002) definition of an endocrine disruptor, its conclusions focus on the potential ability of substances to interact with the endocrine system.
- The 2012 report does not follow the 2002 WHO-ICPS recommended weight of evidence framework for assessing and integrating the available data on endocrine disruption. It relies instead on “*best professional judgement*”.
- A formal framework for assessing causation is not employed (i.e. for assessing evidence of whether adverse effects result from chemical exposures).
- Trends in human disease incidence or prevalence are attributed to endocrine disruption, without evidence of their known causes or discussion of other possible causative factors (e.g. diet, lifestyle, physical activity among others).
- There is little discussion of dose-response and potency, and the report often fails to mention the doses at which effects are observed in laboratory animal studies.
- The 2012 report should not be considered an “update” of the 2002 WHO-IPCS report. The report did not refer to the conclusions of the 2002 report, nor was there consideration of whether new information has changed the state of understanding since 2002.
- The process for developing the 2012 report did not attempt to capture the full spectrum of expert views on the issue of endocrine disruption. Instead the report was prepared by a set of authors who represent one side of that spectrum.
- The *Summary for Decision Makers* is not truly representative of the conclusions in the main report and asserts findings not reflected in the main document.

A detailed discussion of these points including specific examples, is included in the review (available at the link given above).

Given the significant shortcomings identified, in our view neither the 2012 WHO-UNEP report nor the *Summary for Decision Makers* should be used as the basis for supporting chemicals policy on endocrine disruptors.

### **Path forward**

Endocrine disruption is an issue of significant public, political and scientific interest, often with diverging points of view. Our industries have made significant contributions to the basic research on endocrine disruption and applied research to develop new standardised and validated tests for assessing substances and potential endocrine related effects. Industry has invested significant resources in the research and development of innovative products and in stewardship projects to ensure products are used safely.

We believe that chemicals policy should be based on a clear and comprehensive evaluation of current science. We support the use of a structured weight of evidence approach to integrate all available information on exposure, (eco)toxicological testing, mode of action and epidemiology in a transparent and objective manner.

The 2002 WHO-IPCS report received wide acceptance as an objective assessment of the state of science on endocrine disruptors. The 2002 report was notable for its process in gathering a group of international experts with varying viewpoints and undertaking a scientifically robust and objective weight of evidence approach to assess the available scientific data. Unfortunately, the authors of the 2012 report inexplicably abandoned this structured approach.

In the future, we urge WHO-UNEP to use a transparent process for selecting experts with recognised experience and varying perspectives, to employ best practices for data collection and evaluation and to ensure that a clear weight of evidence framework is used for objectively integrating results for determining cause and effect. Adherence to these principles should ensure that state of the science reports meet 21<sup>st</sup> century standards for comprehensive, systematic reviews of the literature when evaluating complex scientific issues.

On the issue of endocrine disruption we believe that an inclusive and collaborative approach should be taken encompassing the broad range of viewpoints and with a genuine commitment to seek consensus and to encourage further dialogue to address outstanding issues of uncertainty or controversy. There should also be broad consensus on critical areas requiring further research, including further developments in testing methods.

Our industries believe that the continued protection of human health and the environment should be founded on scientific and risk-based policy making. We will continue to invest in the research, development and safety evaluation of products, and in the establishment of responsible stewardship practices. We will maintain our support for the work of OECD in developing validated, internationally harmonized test guidelines and assessment procedures which can be deployed by regulatory agencies to evaluate chemicals for their potential to interact with the endocrine system and to cause adverse effects. Results from such high-quality studies can be relied on globally as the best available science and can be used as the scientific basis for risk-based decision-making for protecting human health and the environment.