

(202, 0.5); Canadian Solar Manufacturing (Changshu) Inc., 174.2 percent (90.1, 84.1); Changzhou Trina Solar Energy Co. Ltd., 126.5 percent (125.7, 0.8); Zhejiang Jinko Solar Co. Ltd., 115.9 percent (114.2, 1.7); Jinko Solar Co. Ltd., 111.8 percent (110.7, 1.1); Hanwha SolarOne (Qidong) Co. Ltd., 103.3 percent (103, 0.3); Hefei JA Solar Technology Co. Ltd., 50.6 percent (47.5, 3.1); Wuxi Taichen Machinery & Equipment Co. Ltd., 27.7 percent (25.9, 1.8); Renesola Jiangsu Ltd., 9.14 percent (9.1, 0.04).

BY PETER MENYASZ

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Chemicals

Study Says Endocrine Disruptors, Illnesses Cost Billions; Basis of Claims Questioned

Endocrine disrupting chemicals and the illnesses they may contribute to in the European Union are costing €157 billion annually in lost earnings, foregone economic contributions and direct medical costs, U.S. and European endocrinologists wrote in a new analysis.

An attorney and pesticide regulatory manager speaking recently at a chemicals conference, however, questioned the basis of the manifold claims being made about endocrine disruptors.

In an analysis published March 5, the endocrinologists estimated endocrine disruptors in the EU cause a median annual cost of €157 billion (\$170 billion).

Their analysis, “Estimating Burden and Disease Costs of Exposure to Endocrine-Disrupting Chemicals in the European Union,” was posted online in the *Journal of Clinical Endocrinology & Metabolism*. The journal is published by the Endocrine Society, which in a 2009 statement concluded that the evidence for adverse reproductive and other health problems from exposure to endocrine disrupting chemicals was strong.

The endocrinologists reached their conclusions using methods including expert panel consensus on the probability that illnesses such as childhood obesity, attention-deficit hyperactivity disorder and male infertility are associated with exposure to chemicals that mimic, block or otherwise interfere with hormones.

No Definition. Prior to the publication of the analysis, Ruxandra Cana, an attorney with Steptoe & Johnson LLP, and Pat Kwiatkowski, regulatory policy and issue manager for Bayer CropScience LP, described at a recent chemicals conference concerns they have about allegations of harm resulting from exposure to endocrine disruptors. They spoke at GlobalChem, a global chemical regulatory conference organized by the American Chemistry Council and the Society of Chemical Manufacturers & Affiliates.

There is no consensus on important basics in the debate, Kwiatkowski said. These include:

- the definition of endocrine disrupting chemicals;
- the criteria that define endocrine disruption; and
- the data and procedures to be used for regulatory decision making.

The concept that endocrine disruption must result in an adverse effect to be a concern also has increasingly faded from public policy discussions, Kwiatkowski said.

Yet there is a continuing push for lists of suspected endocrine disruptors by non-governmental organizations and some countries and many reasons given why endocrine disruptors must be banned, she said.

Four EU Regulations Refer to Endocrine Disruptors. Cana described government and NGO efforts in the EU to increase the regulation of what she agreed were as-yet-undefined endocrine disruptors.

Endocrine disruptors, Cana said, are referred to in four legal acts under EU law:

- REACH, the registration, evaluation and authorization of chemicals regulation, (EC) No 1097/2006);
- the Plant Protection Products Regulation (PPPR; (EU) No 1107/2009);
- the Biocidal Products Regulation (BPR; EU) No 528/2012); and
- the Cosmetics Regulation ((EU) No 1223/2009).

These regulations urge the European Commission to take actions by various deadlines that it deems necessary to address endocrine disruptors, she said.

If the commission proceeds to regulate chemicals as endocrine disruptors—in the absence of a legally certain and legally binding definition of that term—the regulation would be discretionary and out of line with the European Union’s principle of legal certainty, Cana said.

Such regulations should be challenged before EU courts or the European Chemical Agency’s Board of Appeals, Cana said.

EPA: Get Involved. David Dix, director of the U.S. Environmental Protection Agency’s Office of Science Coordination and Policy, which manages the agency’s endocrine disruptor screening program, did not take a position on political debates of the endocrine issue.

He encouraged interested parties, however, to become more involved in the UN Environment Program’s Advisory Group on Endocrine Disrupting Chemicals and work by the Organization for Economic Cooperation and Development (OECD) on developing toxicity tests to detect endocrine disruption.

BY PAT RIZZUTO

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Estimating Burden and Disease Costs of Exposure to Endocrine-Disrupting Chemicals in the European Union is available at <http://press.endocrine.org/doi/10.1210/jc.2014-4324>.