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Oral Statement
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Thank you for the opportunity to speak to you today.

The CEC's Operational Plan for 2007-2009 includes Project 5, Reporting on the State of the North American Environment, under Priority 1, Information for Decision-Making. The reporting under this project is intended to track progress and trends on the North American scale in order to provide the means for identifying, assessing and tracking environmental issues of continental concern. This is needed to support the measurement of the effects of trade on the shared environment, and it reflects the desire of the Parties to inform decision makers, as expressed by the Puebla Declaration.

CIELAP encourages the CEC to include an assessment of the environmental impacts related to the use of nanotechnology in North America as one of these environmental issues of continental concern.

Founded in 1970 to provide leadership in the research and development of environmental law and policy that promotes the public interest and sustainability, with a focus on emerging issues, CIELAP is one of the very few environmental organizations in North America that is scrutinizing developments and policy in the exploding field of nanotechnology. The development and use of nanotechnology holds enormous potential for business, but only if a framework exists to encourage its safe development and use, protecting the health of consumers and the environment.

Nanotechnology is the ability to measure, see, manipulate and manufacture materials at the scale of between 1 and 100 nanometers (nm). One nanometer is a billionth of a meter, which is about a hundred thousand times smaller than the cross section width of a human hair, and a thousand times smaller than a red blood cell.

While most people are unaware of nanotechnology, it could be the single most important technological advance of this new century. In 2006 alone, $12.4 billion was invested in nanotechnology research and development worldwide, and over $50 billion worth of nano-enabled products were sold [1].

What makes the technology so valuable is that materials at this scale can exhibit novel properties that are different from the substance's properties at the macro or even micro scales. Colour, conductivity, reactivity and a host of other properties alter in surprising and potentially useful ways.

Nanotechnology is currently used in hundreds of products, including consumer products such as clothing, cosmetics, bedding, jewelry, sporting goods, nutritional and personal care items, and it holds tremendous potential for breakthroughs in medicine, in the production of clean water and energy, and in computers and electronics.

Nanotechnology is seen as a platform technology that will affect the further development of other technologies and all sectors of our societies. Its convergence with information technology and biotechnology is already happening in the laboratory and will soon have commercial applications: for example, genetically engineered microbes that can be used to make self-assembling nano-scale factories and robotic machines for various purposes.

Nanotechnology development and commercialization are proceeding at incredible speed, without governments' oversight and with little public awareness. There is also very little or nothing known about the toxicity and ecological fate and effects of these materials. What little is known about materials at this scale indicates that they can cross both the blood-brain and placental barriers. A number of studies have found that nanoscale particles are substantially more toxic and reactive biologically than larger particles of the same material. Tissue damage to lungs, brains and hearts has been found in animal species exposed to nanomaterials, and there are concerns that nanoscale particles may be able to penetrate barriers in the body that exclude larger particles. At present there are no accepted protocols for testing or assessing risks of nanomaterials.

As well as there being a lack of scientific information, there is also a lack of basic policy tools such as a legal and regulatory framework. In a recent report by CIELAP we describe 12 key elements which we believe must be included in addressing the environmental impacts of nanotechnology at a policy level throughout North America. These include public education and engagement; science and research support; commercialization and social and economic benefits; and labeling of nanomaterials in consumer products and consumer protection.

While there are many potentially significant applications that would have benefits for both the environment and human health, and economic benefits in North America, there are also social, ethical, and economic impacts that remain unexplored.

As our countries promote these technologies, we need to find practical ways to implement a precautionary approach, even while exploring these exciting new advances in knowledge.

I urge the CEC to include an assessment of the environmental impacts related to the use of nanotechnology in North America. This is an emerging environmental issue of continental concern.

Thank you.