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Nanomaterials and the Environment: Regulatory Implications and Research Needs

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Virtually all synthetic materials, solvents and adhesives in common use are derived from buried hydrocarbon feedstocks. These products rely on foundational raw materials that have, in past, been inexpensive and abundant. This is no longer the case. In addition, concerns about the environmental side-effects of hydrocarbon exploitation have led us to consider how to decrease reliance on oil for products that can be made by alternative methods. Nanotechnology has the potential to help us move Alberta's economy beyond buried hydrocarbons to renewable bio-based feedstocks for the development of many existing and novel product classes. It is expected that in future nanoscience and nanotechnology, enabling the analysis and manipulation of matter at the molecular level, will underpin global shifts in industrial activity and regional competitive advantage.

This talk will focus on the environmental and regulatory implications of this shift and the critical need for environmental health and safety research to underpin the responsible development of nanotechnology.