

The role of chemists and in a sustainable world¹

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The world is at a crossroads. It has come from a time where fossil fuel resources provided the raw materials for almost everything and most things were used and thrown away.

Because fossil fuels are finite and their burning causes global changes in climate, and because most other resources are finite, we must move to a world where renewable resources are used to make reusable and recyclable objects in a circular economy for sustainable development. The renewable resources must not compete for land with food production.

The United Nations has defined seventeen goals for sustainable development. In this talk we shall explore how chemistry can contribute to achieving all of these goals.

In a special section, our own work using we shall describe how cashew nut shell liquid, a mildly toxic by-product from cashew nut processing, available at >500,000 tonnes per year can be used to make co-monomers for polyethylene,² large ring macrolactones,³ detergent precursors,⁴ polymer precursors,³ a tse-tse fly attractant⁵ and ephedrine type pharmaceuticals⁶ using homogeneous catalysts.

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