The key role of the meat industry in transformation to a low-carbon, climate resilient, sustainable economy

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Abstract

Climate change, air pollution and refugees have become key global challenges threatening sustainability of lifestyles, economies and ecosystems. Agri-food systems are the number one driver of environmental change. Livestock production is the world's largest land user, responsible for half of greenhouse gas emissions from agri-food systems, and the source of repeated health crises. Poor diets have become the number one cause of ill health. Recommendations for a healthy diet emphasize plant-based food. Rapidly falling costs in information technology, biotechnology, renewable energy and battery technology will disrupt current energy and transportation systems and offer opportunities for responsible meat production. Growing consumer interest in healthy food, combined with innovative information systems, offer opportunities to create value through quality control and consumer information in integrated value chains. Meat scientists have a major role to play in the necessary transformation of global agri-food systems towards a new model of green economic growth that is climate resilient, sustainable and provides green jobs.

1. Global Sustainability Outlook

In the 70's, the Club of Rome made its dire predictions of global crisis due to natural resource scarcity and population growth (Meadows et al., 1972). Their forecast was a world running out of food, water and fossil fuels. That world has not come to pass. Despite record population numbers, planet Earth can still provide ample food for everyone; water scarcity has more to do with poor resource management than "running dry" (Rijsberman, 2006); and newly exploited fossil fuels like shale gas have turned the US energy market upside down in less than ten years (Cooper et al., 2016), with the US set to become an oil and gas exporting power house.

While planet earth has not run out of natural resources per se, we have run into some very real planetary boundaries (Steffen et al., 2015). Today's concerns are not predictions of problems