emissions generated include dust, fluorides, sulphur oxides, nitrogen oxides, polycyclic aromatic hydrocarbons (PAHs) and perfluorocarbons (PFCs). Besides the management of air emissions, smelting involves environmental aspects such as water effluent and solid waste.

A final activity is aluminum rolling, where sheets (ingots) from the smelting process are reduced in thickness. Environmental aspects in rolling include minimizing waste and eliminating hazardous chemicals.

**Voluntary and Non-Regulatory Initiatives (VNRIs)**

Underlying Alcan's environmental commitment are two major voluntary components: a global Environmental Management System (EMS) and Product Stewardship. The company's commitment to continual environmental improvement has been accomplished through the interaction of employees, suppliers, customers, consumers and governments.

Alcan's EMS is a top down approach, where the president and chief executive officer, along with four outside directors, comprise the Environment Committee of the Board of Directors. The Environment Committee reviews environmental policy and management programs, monitors the effectiveness of the systems in place, and evaluates management's plans and long term objectives. To accomplish these objectives, each plant identifies and establishes its environmental priorities within the framework of the corporate EMS.

Product Stewardship is another important strategic voluntary initiative at Alcan. The company believes Product Stewardship will help address global environmental concerns because it encourages industry and other stakeholders to work with each other to solve problems associated with product systems. Its basic principle calls for organizations to assume responsibility for their products from design to disposal. This second commitment ensures that products, in every stage of their life cycle, makes the most of the inherent environmental value of aluminum.

Alcan's commitment to the environment has lead to several environmental benefits including:

- Reduction in canstock thickness has yielded an increase of 20% more cans per equivalent weight of aluminum.
- Aluminum's light weight is beneficial to the automotive sector because it helps the sector respond to increasingly stringent environmental regulations.
- Every 10% reduction in the weight of a vehicle results in a 6% increase in fuel efficiency.
- Alcan's well-established recycling network enables it to recycle about 32% of its combined primary and secondary production capacities.
- Alcan's smelting losses are less than 2% and they can recover over 98% of the metal in used beverage containers.
- Alcan has also achieved significant energy, air emission, water effluent and solid waste reductions.

**Effects of VNRIs on Trade and Investment**

The last decade has witnessed a dramatic increase in concern about the global environment. Alcan is aware of the tremendous activity and international discussions that are taking place on the environment. As a global company, its environmental commitment is due, in part, to this growing interest and the product choices consumers are making. Stakeholders' perceptions of