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Bangalore: The green potential of glass as a packaging medium has the lowest hazard in Human Toxicity Potential (HTP: toxicological impact on human), Terrestric Ecotoxicity Potential (TETP: toxicological impact on water and soils) and Photochem, Ozone Creation Potential (POCP: interference with ozone creation) compared to other forms of packaging, according to a life-cycle analysis (LCA) study conducted by the All India Glass Manufacturers' Federation (AIGMF).

The first ever ISO 14040/44 compliant and independently reviewed cradle-to-cradle LCA study on glass packaging by any industry in India, commissioned by AIGMF and executed by PE Sustainability India, subsidiary of PE International AG, Germany, was conducted by data collection from 28 furnaces representing 72 percent of Indian glass container production. It is in line with the methodology followed for Glass Packaging Institute (GPI), i.e. North American Glass Association and European Container Glass Federation (FEVE). It examines the impact of every stage in the life cycle of glass containers, from raw material extraction to end-use.

The glass packaging industry in India is valued at close to $ 1.07 billion (Rs 6000 crore) and continues to grow remarkably at a healthy rate of 8 - 10 percent per annum. India is amongst the top 15 markets for glass packaging globally and it is the third fastest growing market after Turkey and Brazil. The industry is driven primarily by downstream demand from of its user industries such as liquor, pharmaceuticals, food and beverage, cosmetics and perfumery etc.

With the focus on sustainability, the LCA insights will enable manufacturers to communicate with clients on advantages of glass not only from product shelf life and human toxicity perspectives but also from the GRI, green funds and green purchasing program perspectives. The study will help the industry in focusing towards an integrated product policy (IPP) approach, practicing sustainable consumption and production (SCP) modules and maintaining regulatory standards.

LCA study has come up with the following recommendations;

â€¢ Increase deployment of Narrow Neck Press and Blow (NNPB) technology from current 60 percent to 80 percent by 2015 aiming at reducing glass weight from current 5 percent to 20 percent within the said timeframe. This technology will enable

production lines can run at a much faster pace because there is less glass per container and less energy needed for cooling.
â€¢ It also has a firm plan to increase cullet recycling from current all India average of 35 to 50 percent within the next three years. Recycling glass containers provides for unmatched production efficiencies and significant environmental benefits: decreases the amount of raw materials used, lessens the demand for energy, cuts CO2 emissions, extends furnace life without any processing by-products and saves on overall manufacturing costs.
â€¢ The study also suggests that there is an enormous opportunity lying in converting the fuel type in container glass furnaces from furnace oil to natural gas. Natural helps to improve furnace performance, reduces repair and maintenance, besides it is a clean fuel. The industry aims to increase natural gas based operations from present 30 to 50 percent within the same time frame of three years.

Mr Mukul Somany, president, AIGMF, said, "Glass manufactures have come together through this life cycle study to magnify the green potential of glass. In European countries per capita consumption of glass is as high as 64 kg compared to India's 1.4 kg. It is a preferred medium because of its 100 percent naturalness and non-reactionary nature to the content. In India with the growing environmental and human toxicity concerns we have come together to enhance the latent goodness so that user industries can chose sustainable and responsible packaging."