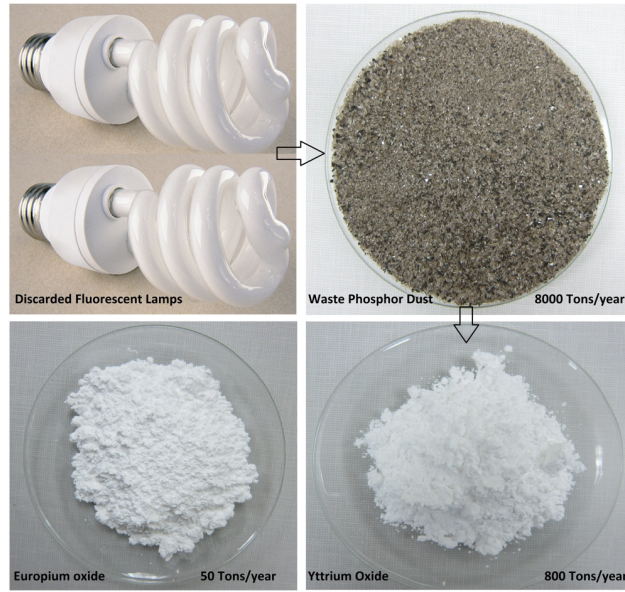


Separation of Eu and Y from Phosphor Dust



8,000 tons of phosphor dust waste are generated each year in the United States from disposed fluorescent lamps. This waste phosphor dust can contain a resource of up to 800 tons/year of yttrium oxide and 50 tons/year of europium oxide.

Objectives:

- Create a process that is technically, economically, and environmentally sustainable to produce purified yttrium oxide and purified europium oxide.
- Produce a consistent, salable output from waste phosphor dust
- Minimize waste generation
- Increase materials independence

Deliverables:

- Perform physical separation process to improve the project economics
- Develop a hydrometallurgical process that yields salable, purified yttrium oxide and europium oxide from semi-pure mixed rare earth oxides
- Conduct an economic analysis using Monte Carlo simulation that validates the process is economically feasible

RESEARCHERS

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