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Materials Science and Engineering

Renewable Materials for the next wave of renewable wind energy

- Millions of dollars of materials comprise an OSW generator (OSWG)
- Several serious problems must be overcome
 - Wind energy generator manufacturing generate more CO₂ than they avoid
 - Wind energy generator materials are not recyclable
 - Wind energy materials are not inexpensive to manufacture
 - Wind energy magnets are based on scarce material supply chains
- OSWG materials generate CO₂ 1 to 10,000 Kg-CO₂/kg-material
- The first generation of OSWGs deplete all magnet mineral sources
- No extraction technologies for the next generation of minerals
- Proposed Project
 - Reduce cost of OSWG materials from \$2 to 0.50/kg
 - Reduce overall carbon footprint to carbon neutral or negative
 - Create low-cost manufacturing and recycling technologies for magnets
 - Create carbon-negative concrete and advanced composite materials