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Opportunities for renewable energy in regenerative development

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Various philanthropic, development and agricultural organizations have begun to prioritize regenerative development, which aims to reverse ecological degradation while generating benefits, including ecosystem services, for people and biodiversity. These efforts aim to transcend sustainable development, which aims to minimize harm to the environment and human health. Here, we review the literature on ways in which renewable energy infrastructure could play important roles in regenerative development initiatives, e.g., offshore wind projects designed with artificial reef structures, photovoltaic (PV) projects accompanied with pollinator plantings, and agrivoltaics that combine crops with PV. We also identify anticipated challenges to such development, e.g., potentially larger land area requirements and higher costs than typical renewable energy development. Lastly, we provide recommendations on policies and practices that could strengthen the role of renewable energy in regenerative development.