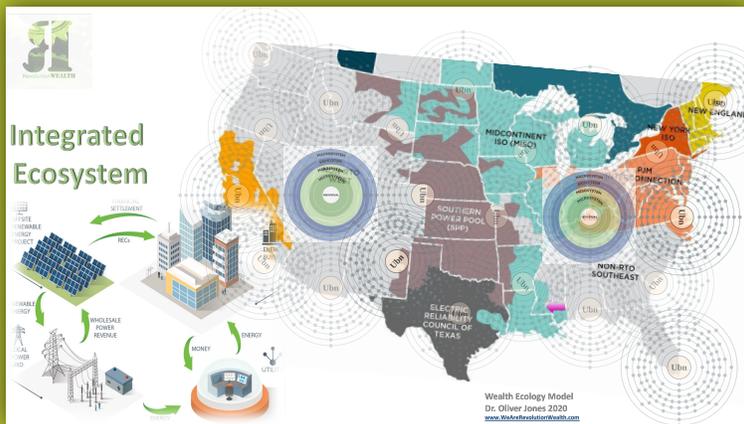


# Wealth Ecology Model

HBCU Endowments in the Era of COVID-19: Making the Case for Photovoltaic Farm Ecosystems in Opportunity Zones



Placed-based development incentive programs like Opportunity Zones need a robust framework to meaningfully identify and measure public benefits and the delivery of them (Castellas et al, 2019). A symbiotic relationship with anchor institutions like Historical Black Colleges and Universities (HBCUs), Opportunity Zone Funds, and the impacted communities could provide this framework. HBCUs have shouldered systematic inequity challenges (financially and academically) for over 150 years. Founded as a place for African Americans to promote upward mobility and economic growth, HBCUs have experienced growth and recognition as institutions of applied research and practical degree offerings. The advancement of these institutions has transformed the lives of many African Americans, but they continue to face challenges with economic instability. External influences and barriers like dwindling grant funding, and federal budget cuts have contributed to the lack of resources at HBCUs. Internal barriers include the rising cost of college, low alumni giving, and low-income students have also contributed. Endowments are essential to the survival of any university in the twenty-first century.

HBCUs' issues are directly related to the fortunes of the core communities they serve – communities with the characteristics of the Qualified Opportunity zones. Wealth disparities among these communities have been stubbornly consistent. Research has demonstrated that, income-generating and enhancing opportunities, new business development (focus on existing community assets) or entrepreneurship, all with directed capital inflows are invaluable to the long-term sustenance of community wealth growth. We focus on place-based business development utilizing existing Qualified Opportunity Funds (QOF), to direct income enhancement and growth, and asset ownership in OZs around identified HBCUs while improving HBCUs endowment funds. Seeking out and establishing partnerships with mission aligned QOFs should assure the needed capital inflows to kickstart and support the revitalization of the identified OZs within HBCUs spheres of influence and importantly provide the much-needed inflows to the OZ aligned HBCU endowment funds. An innovative approach to overcome the above mentioned barriers is to invest in real estate primarily to build and operate renewable energy businesses, using Photovoltaic (PV) Solar farms network (with wholesale power revenue) as the cornerstone of the strategy. Forming partnerships with QOFs targeting Renewable energy with social impact should inform the search for capital. This effort seeks to sell generated solar power to regional transmission/retail/distribution energy companies with Power Purchase Agreements (PPAs), while placed in endowment funds as revenue generating assets.

Research has shown that these types of urban development projects uplift the community by increasing employment, increasing real estate value, and improving transportation. By recognizing that factors such as financial assets and income levels, financial and market knowledge, and human capital are all drivers that have hindered real estate investment within black communities, the complexities and dynamics around real estate investment continue to plague economic growth and development. Developing a renewable energy investment business in the opportunity zones can unpack the potentials and opportunities in real estate development within these communities for investment opportunities to be enhanced. Making this investment in opportunity zones not only creates generational wealth that can be reinvested within these undeserved areas; and also increases financial knowledge, which could lead to a redistribution of wealth among African Americans. The key to realizing this economic improvement and wealth redistribution is the creation of a digital business infrastructure (Lazazzara et al., 2019) integrating the decentralized opportunity zone PV farms as well as existing energy market ecosystems, HBCUs, and these low-income communities.

The advancement of digital technology has led to the collaborative organizational network of the digital business ecosystem (DBE). DBE's are made up of various entities collaborating and leveraging resources through digital technologies to create entity value and respond to customer needs (Nachira et al., 2019). (Immonen & Kalaoja, 2019) explains that digitization has forced energy markets and their actors to evolve, innovate, and inter-operate to achieve their respective business goals efficiently. Our renewable energy investment, DBE integration, requires a reliable and secure digital interconnection with existing regional transmission organizations (RTOs) and independent system operators (ISOs), collectively known as RTOs and electronic brokerage platforms, are critical to effectively wholesale energy to electricity markets and also to exchange information about the dynamics of the PV energy farms and regional electrical power systems. RTOs are responsible for maintaining grid stability and reliability and at the same time optimizing buy/sell prices for each MWh they trade in the open electricity market. DBE integration with existing RTOs provides the means to manage our operations and also collect monies from our renewable energy sales. To illustrate, on an annual basis, a single 5-MW photovoltaic farm earns roughly \$1.5 million. Thus, the break-even point for a \$5 million dollar investment in the photovoltaic farm is approximately three to five years. With a typical lifespan of 20 years, a real estate investment in one farm can help change the landscape of Opportunity Zones and sponsor a community organization with a mission to support an HBCU endowment fund for decades.

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This community organization called the Wealth Ecology Endowment will become the foundation for economic transformations of HBCUs providing revenue to promote perpetual improvement in processes and elevate programming through innovation and technology. The Wealth Ecology Endowment Organization will incorporate a knowledge transfer system to promote financial and philanthropic literacy, increasing alumni engagement with the institutions and entrepreneurial endeavors in these underserved communities. Explicitly enhancing the richness of HBCUs, the endowment funds will designate HBCUs as competitive with predominately white institutions and eliminate financial instability, restoring HBCUs as the premier gateway to excellence, culture, and pride. This standard of education will be the infrastructure for wealth growth, knowledge empowerment, and community recovery in opportunity zones.