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From single projects to platforms: How renewables financing is evolving

by Franjo Salic

Renewables financing is moving from single projects to managed platforms. In the market's early stages, a wind or solar park could be financed through its own project company: Revenues were often secured by long-term feed-in tariffs, and the main risks could be assessed at site level. That model will not disappear overnight. But looking at each project in isolation is increasingly insufficient in a market where assets are becoming larger; government-backed revenues are becoming less important; and repowering, hybridization and battery storage are gaining importance.

Financing itself also has changed. Banks today have far more experience with renewable energy than they did during the market's pioneering phase. At the same time, assets have become larger, revenue models more diverse and structures more complex — in some cases combining several generation technologies. Project development, repowering, storage and revenues based on spot-market exposure or power-purchase agreement (PPA) structures place different demands on debt financing than a completed wind farm with a 20-year guaranteed tariff. Modern renewables financing, therefore, needs to be more closely integrated with ongoing asset management.

For institutional investors, this is more than a technical consideration. Over long holding periods, investors require downside resilience, visibility on distributions and financing structures that remain robust through construction and development phases. Their assessment should, therefore, place greater weight on the quality of portfolio management and its ability to coordinate financing, power markets, liquidity, technical operations and capital allocation across multiple assets.

The shift to portfolio-level management starts with the risk base. A single asset carries site-specific weather risk, technical availability risk, grid constraints, regulatory changes and power-marketing risk directly within its own debt-service profile. In a sufficiently broad portfolio, these effects can be spread across locations, technologies, contract maturities and different stages of the asset lifecycle. This does not eliminate risk, but it broadens the risk base and makes cash flows more stable. That quality of cash flow is particularly relevant to lenders.

The resulting changes in risk and cash-flow profiles can, therefore, support a more efficient financing structure. Refinancing of existing loans, construction bridge facilities, liquidity reserves and hedging instruments can be combined at the portfolio level and aligned with the actual investment plan. Banks then assess not only one individual site, but the broader pool of assets. This can make larger financing volumes and more competitive terms achievable. For investors, that can make a material difference when an existing portfolio is being modernized without requiring fresh equity for every individual project.

Portfolio financing also can reduce the number of interfaces involved. Instead of refinancing a series of separate project loans and negotiating a new structure for each development measure, a common financing framework can cover multiple projects and investment phases. This also changes the way lenders assess the investment. The quality of overall portfolio management becomes more important relative to the isolated assessment of individual assets.

Repowering illustrates this particularly well. Many wind and solar parks from the first major wave of renewable-energy development are now reaching an age at which replacing them with more powerful technology becomes economically attractive. At the same time, existing grid connections and established sites have gained value because new grid capacity is scarce in many regions. At the level of a single project, however, repowering can create temporary revenue interruptions, capital-expenditure peaks and additional financing needs.

Within a portfolio, construction phases can be staggered. While one site is being repowered, other assets continue to generate electricity. In the case of wind, the existing turbine can sometimes remain in operation until the replacement turbine is commissioned. Solar repowering can be carried out in stages and scheduled for periods with lower expected output.

For investors, the effect is straightforward: Portfolio cash flow remains more stable throughout a multiyear transformation program, while capital requirements and liquidity become easier to plan. Ongoing revenues from operating assets can absorb transitional periods. Under the right conditions, this structure can even make it possible to finance a large-scale repowering program without requiring additional equity from existing investors.

The benefits of a portfolio approach extend beyond financing. A professionally managed group of assets also creates additional options in power marketing. Wind and solar parks have different daily and seasonal generation profiles. Combining multiple sites and adding battery storage can create a more balanced and predictable generation profile. That is a tangible advantage in PPAs. A single solar park can only offer its own production profile; a diversified portfolio can offset fluctuations and provide offtakers with a more reliable supply profile.

This becomes increasingly important as electricity buyers grow larger and more demanding. Industrial companies, utilities and data centers require significant volumes, long-term visibility, reliability and the highest possible availability — therefore, a production profile that fits their consumption. A broader wind-solar-storage portfolio is better positioned to meet these requirements than a single asset. An integrated approach to portfolio management, therefore, broadens not only the range of financing options, but also the potential offtaker base and the variety of contractual structures that can be offered.

At the same time, flexibility in power marketing remains valuable. PPAs and support mechanisms can limit price risk and make revenues more predictable. Full hedging, however, is not necessarily optimal in every market environment. Retaining some exposure to spot or forward markets preserves the opportunity to benefit from periods of higher power prices. Battery storage creates additional options by shifting generation over time and responding to negative prices or grid constraints. The quality of a portfolio is therefore also reflected in how effectively different routes to market are combined.

Another source of scale benefits is operational management. Procurement, maintenance, insurance and service-provider contracts can be bundled across multiple sites. Framework agreements with suppliers and service providers can be negotiated differently from individual contracts, while recurring processes create experience advantages in permitting, decommissioning, grid connections, supply chains and construction. These effects may appear less striking to investors than a large financing transaction, but over the life of an investment they are equally relevant because they can improve cost efficiency and reduce execution risk and operational complexity.

Insurers also view a larger diversified asset base differently from an isolated single risk. The relevant factor is not simply the size of the portfolio, but the quality of risk management behind it. Cybersecurity and sabotage risks, for example, have become part of the operating environment for critical energy infrastructure and may influence insurability as well as insurance terms. Robust security standards can be a prerequisite for obtaining appropriate insurance coverage in the first place. Portfolio-level management therefore also means assessing and managing technical and financial risks according to consistent standards. A portfolio with many assets but fragmented management remains, regardless of its size, a collection of individual risks. Value is created when technical, commercial and financial

decisions are made on a common basis. That requires reliable data; clear decision rights; consistent standards; and the ability to connect financing, power marketing, repowering, hybridization and day-to-day operations throughout the entire asset lifecycle.

The next stage in the evolution of renewables financing will, therefore, be shaped less by any single financing instrument than by the quality of the platform behind it. Repowering, hybridization and storage increase capital requirements, but they also create new opportunities to use existing sites more efficiently and improve revenue profiles. For institutional investors, the central due diligence question is therefore whether the manager can demonstrate robust governance, reliable data, operating capability and disciplined capital allocation across the full asset lifecycle. The greater value lies in the ability to manage a portfolio in a way that distributes risk, stabilizes cash flows and makes growth financeable from existing operating structures.

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