TAM Research (Renewables)

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Global Renewable Megaproject Spending (≥ $100 M)

Scale of Annual Investment: The world is investing heavily in renewable energy projects. In 2024, global investment in renewable energy reached roughly **$728 billion** (excluding nuclear) . This includes large utility-scale projects across **solar, wind, hydro, geothermal, biomass** (including bioenergy/biofuels), and emerging areas like **green hydrogen**. To focus on megaprojects (≥ $100 million), we note that the bulk of this investment is in utility-scale installations and large plants, as small distributed systems form only a minor share. For example, **solar PV and wind dominate ~97% of renewable power investment** , indicating that other technologies (hydro, geothermal, biomass, etc.) make up only a few percent of the total.

- **Solar PV:** Annual spending on solar projects is on the order of **$300 billion** globally . In 2022, solar accounted for about 62% of all new renewable power investment (over $300 billion) . Much of this comes from utility-scale solar farms that often cost $50–500 M each (many above the $100 M “megaproject” threshold).

- **Wind Power:** Global wind power projects attract roughly **$170–180 billion** per year . Wind was 35% of 2022 renewable investment ($174.5 billion) . This includes onshore wind farms (typically $100 M+ for large 100 MW installations) and offshore wind farms (often **multi-billion** dollar megaprojects).

- **Hydropower:** New hydropower project spending is more difficult to track. BloombergNEF data shows only around **$7–8 billion** annually for hydropower (reflecting limited new large dam financings) . However,

IEA estimates suggest actual global hydro *project* investment is much higher – on the order of **$50 billion in 2023** – when including large dam construction often funded by governments. (Hydropower remains a major sector, but many big projects are state-driven and slow-moving.) For our TAM analysis, we include hydro megaprojects given their significant budgets and long timelines.

- **Geothermal & Biomass:** These sectors see relatively small investment compared to solar/wind. They are a **tiny fraction** of global renewables spending (grouped into the ~3% "other" category). Annual project investment in **geothermal power** is on the order of **$1–2 billion** globally (only a few large geothermal plants are built each year). **Biomass and waste-to-energy** power projects, along with biofuel production facilities, might attract on the order of **$5–10 billion** per year (for example, global investment in liquid biofuels was about $8 billion in 2021). Many of these projects (ethanol plants, large biomass power stations, etc.) can exceed $100 M, but in aggregate they are much smaller than solar/wind.

- **Green Hydrogen:** This is an emerging area with many announced megaprojects (power-to-hydrogen plants). Actual spending is still modest – **only about $3.5 billion was spent worldwide on hydrogen projects in 2023** – but huge growth is expected. (Over 680 large hydrogen projects worth $240 billion have been proposed through 2030 .) For TAM, we include green hydrogen projects as a future-growth sector, acknowledging current spend is a few billion per year and could approach tens of billions annually later this decade .

Summary: In total, **annual global spending on renewable megaprojects** (≥$100 M) is on the order of **half a trillion dollars** or more. For a baseline, we will use roughly **$550–600 billion per year** across all relevant sectors (solar, wind, hydro, geothermal, biomass, green hydrogen). This aligns with authoritative estimates (e.g. ~$720 billion in 2024 for renewables , of which the majority is in large-scale projects). The **table below** details approximate annual spending by sector and will be used to estimate Allocc's TAM:

Sector	Annual Spending (global)	Typical Project Timeline	Examples
Solar PV	~$300 B/year ren21.net	~1 year (utility-scale farm)	Large solar parks, 100–500 MW
Wind (Onshore & Offshore)	~$175 B/year ren21.net	~1–4 years (onshore ~1.5 yrs; offshore ~3–5 yrs)	Wind farms (onshore 100+ MW; offshore ~500 MW+)
Hydropower	~$50 B/year iea.org	~5–7 years (for big dams)	Large dams, 500 MW+ plants
Geothermal	~$2 B/year (est.)	~3–4 years	Geothermal plants (50+ MW)
Biomass & Bioenergy	~$5–10 B/year (est.)	~2–3 years	Biomass power plants, biofuel refineries
Green Hydrogen	~$3–5 B/year (early 2020s) iea.org	~2–4 years (for large H_2 projects)	Electrolyser projects (100+ MW)

Sources: BloombergNEF/REN21 for solar & wind , IEA for hydro , IEA Hydrogen Review for H_2 , others estimated from industry reports.

Impact of 30–50% Faster Execution on Time and Cost

Megaprojects are notoriously slow and prone to overruns. **Project Management Institute (PMI) and consulting studies show chronic delays and cost inflation:** “Nine out of ten megaprojects have cost overruns; overruns of up to 50% in real terms are common” and extensive delays are the norm . In fact, around **77% of megaprojects run at least 40% behind schedule** . Large energy and infrastructure projects typically end up **20% late and ~80% over budget on average** according to McKinsey research . Even in recent years, **major energy projects still run 15–20% over budget** on average . These overruns are often directly related to extended execution times and poor schedule management, which drive up financing and overhead costs.

Reducing project duration by 30–50% (as Allocc’s solution aims to do) would yield significant **time and cost savings**:

- **Direct Cost Savings:** Shorter execution means lower construction overhead and less interest accrued on project debt. Large capital projects incur substantial interest during construction and site management costs for every extra month of work. For example, a typical power project might incur financing and overhead costs on the order of **5–10% of the project budget per year** of construction. If a project that would normally take 2–5 years can be delivered 30–50% faster, the reduction in interest payments, contractor overhead, and inflationary cost increases can easily save **>5–15% of the total project cost**. In practice, this means many millions saved. (One study notes that a U.S. utility cut 15% off multi-year solar project costs by streamlining execution .) For a $500 M wind farm, for instance, preventing an

18-month schedule slip could avoid tens of millions in interest and labor costs. Across our estimated ~$550 B annual megaproject pool, even a modest ~5% average cost saving would equate to **roughly $25–30 billion** saved per year in aggregate. In a scenario of ~40% time reduction, the savings could be higher (on the order of ~$50 billion globally, or ~10% of spend), given that **"over budget, over time" is the industry norm** and Allocc's approach directly attacks those inefficiencies.

- **Schedule Benefits:** A time reduction of 30–50% implies **project delivery months or years sooner** than usual. For example, if a large offshore wind farm typically needs 5 years from groundbreaking to commissioning, Allocc's software could potentially cut that to ~3 years. A solar farm that might take 12 months could be done in 6–8 months. This acceleration has a compounding benefit: it not only **caps costs** as noted, but also frees up project resources and capital to be deployed on other projects sooner (improving capital productivity). The Project Management Institute emphasizes that shortening project lead times allows organizations to **deliver more projects with the same resources** – a crucial advantage in an era of simultaneous renewable build-outs. In summary, faster execution directly translates to lower cost risk and higher capital efficiency across the megaproject portfolio.

Bottom Line: By cutting execution times nearly in half, Allocc can help avoid the common delays and cost blowouts plaguing megaprojects. The **potential cost savings** across global renewable projects are on the order of **tens of billions of dollars annually** (e.g. avoiding ~10% cost overruns on a $550 B base = ~$55 B saved). These savings accrue to project developers/owners in the form of lower final project costs and improved ROI. (These figures align with

industry observations – for instance, Bain & Co. estimate that schedule/cost improvements could save a typical large energy company ~$1.5 B a year through 2030 .) The next section explores the **revenue upside** of earlier project completion, which is another major source of value.

Additional Revenue Unlocked by Earlier Completion

Finishing renewable energy projects 30–50% faster not only saves costs but **unlocks significant revenue** by bringing assets online sooner. Once a solar plant, wind farm, or other facility is commissioned, it starts generating electricity (or fuel, in the case of biofuel/hydrogen plants) and thus revenue. Every month of schedule acceleration is a month of extra operations that would not have occurred in the slower baseline scenario. For large projects, this **early generation can be extremely valuable**:

- **Estimating the Revenue Gain:** Utility-scale renewable plants typically generate annual revenue on the order of **8–12% of their capital cost**, depending on technology and energy prices. For example, a $100 M solar farm might produce ~200 GWh per year (capacity factor ~20%), and if electricity is sold at around $50/MWh, that yields about **$10 M in revenue per year** (which is 10% of the $100 M investment). A $200 M onshore wind farm (≈150 MW) might earn on the order of **$20 M+ per year** once operational, given a 30–40% capacity factor and typical power prices. Thus, a project's **"revenue per month"** of operation can be substantial – e.g. roughly $0.8–1 M per month for a $100 M solar plant, or $1.5–2 M+ per month for a $200 M wind farm in this illustrative range.

- **Impact of a 30–50% Schedule Reduction:** If Allocc's solution accelerates completion, the project starts earning sooner. Consider a project originally slated for 24 months that is delivered in 16 months (a ~33% time reduction). The asset comes online 8 months early, yielding 8 months of additional revenue that would otherwise be lost to waiting. Using the examples above: our $100 M solar farm could gain ~$6–8 M in

extra revenue by being 8 months early; the $200 M wind farm might gain $10–15 M for an 8-month head start. For longer projects, the effect is even larger: **big hydro or offshore wind megaprojects** often have 4–6+ year timelines, so cutting, say, 2 years off a 5-year schedule means **24 months of bonus generation**. A multi-billion-dollar offshore wind farm (several GW) can easily earn hundreds of millions per year once operational, so 2 extra years in service could unlock **billions** in additional revenue. (As an example, a $5 B offshore wind project might generate ~$400 M in annual revenue; finishing 2 years early yields ~$800 M extra revenue that would have been delayed.)

- **Aggregate Global Potential:** Summing across the global portfolio, the **earlier completion of all renewable megaprojects could unlock on the order of tens of billions of dollars in revenue per year**. Using our estimated annual investment (~$550–600 B) and assuming an average of ~40% time reduction, we can approximate the unlocked revenue: many projects (solar, onshore wind, etc.) might start ~6 months earlier than normal, while larger ones (offshore wind, hydro) might start **1–2+ years** earlier. Taking a conservative average, this equates to roughly **0.5–1 year of accelerated operation per project** on average. If the portfolio yields ~10% of capex in yearly revenue, then regaining 0.5–1 year of operation corresponds to **~5–10% of the total investment value** in newly unlocked revenue. Five to ten percent of $550 B is **$27–55 B in additional revenue** worldwide in a year. For a more granular estimate, one can sum by sector: for instance, solar projects ($300 B/year) built ~40% faster might unlock on the order of $10 B in extra revenue; wind projects ($175 B/year) might unlock $12–15 B; hydro ($50 B) perhaps ~$10+ B (since their schedules are long), etc. Indeed, a rough calculation yields on the order of **$35–40 B** in total **annual “unlocked” revenue** if

all projects globally were accelerated by ~40%. This scale of revenue gain is consistent with the notion that **most megaprojects are 1–2 years delayed** (hence losing 1–2 years of output) . Allocc's solution essentially recaptures that lost production time.

In sum, by enabling earlier completion, Allocc can **bring forward a large stream of clean energy generation**. This not only improves societal returns (energy produced sooner helps meet demand and climate goals) but directly translates into **higher revenues for project owners**. These figures – on the order of **$30–50 B+ per year of additional revenue across the renewables industry** – represent the "value pool" from time optimization that Allocc can tap into with its pricing model.

Allocc's Value-Based Pricing and TAM Calculation

Allocc employs a **value-based pricing model**, charging **30% of the unlocked revenue** as its fee for clients. In other words, Allocc shares in the upside it creates: if a project earns extra income by finishing early, Allocc's software/service takes roughly one-third of that gain, while the project owner keeps the other two-thirds (plus all the cost savings). This pricing approach aligns incentives and pegs Allocc's earnings to the tangible benefits delivered.

Given the analysis above, we can now estimate the **Total Addressable Market (TAM)** for Allocc – essentially the maximum annual revenue Allocc could earn if its solution were adopted for all relevant renewable megaprojects globally. We do this by summing the 30% fee on the unlocked revenue across each sector. The **summary table** below provides a sector-by-sector breakdown of spending, potential savings, and Allocc's revenue opportunity:

Sector	Annual Project Spending (≥$100 M)	Cost Savings from 30–50% Faster Execution	Additional Revenue Unlocked (Earlier Operation)	Allocc 30% Fee on Unlocked Revenue
Solar PV	~$300 B	~$9 B	~$10 B	~$3 B
Wind (On/Offshore)	~$175 B	~$10 B	~$12–15 B	~$4 B
Hydropower	~$50 B	~$9 B	~$10–12 B	~$3–4 B
Geothermal	~$2 B	~$0.2 B	~$0.3 B	~$0.1 B
Biomass/Biofuels	~$5–10 B	~$0.6 B	~$0.8 B	~$0.2 B
Green Hydrogen	~$3–5 B	~$0.4 B	~$0.5–0.6 B	~$0.2 B
Total	~$550–600 B	~$30 B	~$35–40 B	~$10–12 B

Sources: Spending data from cited sources above; savings and revenue estimates by analysis (assuming ~40% time reduction; cost saving ~5–15% and

revenue gain ~5–10% of project cost, varying by sector as shown). The “Allocc 30% Fee” is one-third of the unlocked revenue column for each sector.

Key Takeaways from the Table

- **Massive Base of Spend:** The TAM is anchored in the **$0.5–0.6 trillion** annual expenditure on renewables megaprojects globally. Solar and wind are by far the largest segments (over 80% of total investment), and thus contribute the most to Allocc’s opportunity.

- **Significant Savings Potential:** We estimate on the order of **$30 B/year** could be saved in costs if all projects used Allocc to compress schedules (this ranges from a few percent of project cost for fast-build solar farms up to nearly 20% for multi-year hydro projects). While Allocc does not directly charge a share of cost savings (its fee is based on revenue gain), these savings illustrate the *incremental value* created for project owners (and improve the likelihood that owners will adopt such a solution).

- **Unlocked Revenue:** Across sectors, roughly **$35–40 B/year** of additional revenue could be unlocked by earlier project completion (our mid-range estimate, given 30–50% time reduction). Notably, wind and hydro projects yield especially large revenue upsides when accelerated (because of their higher value output and longer baseline schedules). For example, accelerating a large hydro dam by ~2 years might generate an extra ~$1 B in electricity sales (which is why hydro shows a high unlocked revenue relative to spend). Overall, this unlocked revenue is the pool from which Allocc’s fees are drawn.

- **Allocc's Revenue Opportunity:** Taking **30% of the unlocked revenue**, Allocc's **TAM is on the order of ~$10–12 B per year**. In other words, if *every* eligible renewable project worldwide used Allocc's software to expedite execution, Allocc could earn roughly 10+ billion dollars annually in fees. This TAM is distributed mostly in the solar, wind, and hydro sectors (about $3–4 B each, as these dominate investment and have high time-value). Smaller sectors contribute only a few hundred million collectively. It's worth noting that as the green hydrogen sector scales up (potentially tens of billions in future spend), its contribution to TAM would grow – for instance, the **IEA projects** that annual hydrogen investment needs to reach $50 B later this decade to meet climate goals , which could eventually add ~$5 B in unlocked revenue (and ~$1.5 B to Allocc's TAM) in that sector alone.

Conclusion: Comprehensive TAM Estimate

Bringing all pieces together, **Allocc's Total Addressable Market in the global renewables megaproject space is on the order of $10 billion+ per year**. This figure is derived from the enormous annual spend on renewable infrastructure (hundreds of billions of USD) and the substantial value that can be realized by completing these projects 30–50% faster. Specifically, Allocc can unlock roughly **$35–40 B** in additional annual revenue for clean energy projects (plus ~$30 B in cost savings), and with a 30% share of that upside, Allocc's take would be about **$11–12 B**.

It's important to emphasize that this TAM assumes 100% adoption across all qualifying projects worldwide – a theoretical upper bound. Nonetheless, it demonstrates that the **value-based opportunity is very large**, driven by: (1) the **massive scale of renewable investments** needed each year (which is only growing, as global clean energy investment hit record levels), and (2) the **inefficiencies of traditional project execution** (where delays and overruns are pervasive). Allocc's proposition of a 30–50% time reduction squarely targets these inefficiencies. By tapping into a fraction of the **billions in annual benefits** (earlier energy production enabling early revenue), Allocc stands to capture a multi-billion dollar revenue stream for itself.

Finally, authoritative analyses by industry experts reinforce the plausibility of these estimates. The Project Management Institute and consultants like McKinsey, Bain, etc., have highlighted the huge cost of delays in megaprojects . Concurrently, organizations such as the **U.S. Energy Information Administration (EIA)** and **International Energy Agency (IEA)** note that accelerating project timelines can significantly **increase the pace of clean energy deployment**, indirectly implying major economic benefits (more energy online sooner) . In summary, Allocc's TAM in the renewables

sector is both **sizable and well-founded**: on the order of **$10 B per year**, supported by a ~$40 B annual unlocked value pool, across the global portfolio of solar, wind, hydro, geothermal, biomass, and green hydrogen megaprojects.

Resources

- Project investment figures from BloombergNEF/REN2, IEA, Wood Mackenzie
    - https://www.ren21.net/gsr-2023/modules/energy_supply/01_energy_supply/03_investment/
    - https://www.iea.org/energy-system/renewables/hydroelectricity
    - https://www.woodmac.com/blogs/the-edge/five-themes-shaping-energy-in-2025/
- Project overrun statistics from McKinsey, PMI/Oxford research, Bain & Co.
    - https://www.mckinsey.com/capabilities/operations/our-insights/imagining-constructions-digital-future
    - https://www.pmi.org/learning/library/importance-stake-megaprojects-9647
    - https://www.utilitydive.com/news/bain-energy-project-gas-solar-cost-overrun-stage-gate/718265/
- Hydrogen investment from IEA
    - https://www.iea.org/reports/global-hydrogen-review-2024/investment-finance-and-innovation