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Financing the Backbone of the Energy Transition

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Position Paper

EGI's Investment Advisory & Project Finance Solution

Power systems everywhere are hitting the same constraint: **grids are not keeping pace** with electrification, renewables growth, and cross-border trade ambitions. The IEA warns that without fast grid expansion and modernization, clean-energy transitions stall; it estimates that **~80 million km** of grids must be added or replaced within two decades and calls for grid investment to double by 2030 to avoid a bottleneck that raises costs and emissions.

At the same time, actual grid spending—although improving—**barely reached ~$375–400 billion in 2023–2024**, led by advanced economies and China, with emerging regions still dependent on concessional finance and public budgets.

Transmission interconnectors—onshore and offshore—are the highest-leverage assets to l**ower system costs, share reserves, integrate renewables, and boost energy security**, as Europe's market-coupling experience shows (maximizing social welfare via implicit capacity allocation), and as regional programs in **ASEAN, Africa**, and the **GCC** demonstrated. However, they are **capital-intensive**, **multi-jurisdictional** undertakings with intricate **permitting**, **ESG**, **and cost allocation challenges**.

This is precisely why **EGI's Investment Advisory & Project Finance (IA&PF)** capabilities—spanning **bankability, structuring, and capital raising**—are decisive to move projects from studies to steel. This solution provides end-to-end support in investment strategy, project financing, and risk management for large-scale energy infrastructure projects. It ensures financial viability, investment attractiveness, and sustainable delivery of projects critical to the energy transition.

Why Investment Advisory & Project Finance Are Mission-Critical

1. **Scale & speed mismatch**: With electrification of transport/heat and surging variable renewables, delayed grid action prolongs fossil reliance and raises societal costs. IA&PF translate long term system needs into financeable projects with credible benefits cases, staged delivery, and risk adjusted returns.

2. **Cross border complexity**: Interconnectors and offshore grids traverse jurisdictions, tariffs, and regulations. Dedicated advisory services are needed to harmonize commercial frameworks (capacity rights, settlement), align cost allocation with benefits, and structure SPVs and governance that withstand multi-state scrutiny. Europe's market coupling demonstrates how common platforms and transparent rules enhance welfare and liquidity—principles that can be applied globally.

3. **Capital intensity & risk layering**: Transmission has long asset lives and front-loaded capex. Blending public finance (DFIs, ECAs, regional funds), grant/tariff support, and private capital lowers WACC. The EU's Connecting Europe Facility (CEF) is a template for cross border funding of Projects of Common Interest.

4. **Supply chain & deliverability**: Coordinated tendering, HVDC standardization, and port/installation capacity are now bankability issues for offshore networks; North Seas countries are formalizing supply chain and grid build-out coordination to de-risk delivery.

What is Blocking Delivery and How IA&PF Unblocks It

High CAPEX and Long Payback Horizons -

Transmission and interconnector projects require multi-billion-dollar upfront investments with payback periods spanning decades. This creates a financing gap, especially for offshore HVDC systems and emerging markets where capital costs and risk premiums are high.

How IA&PF Helps:

- Build **robust financial models** capturing multi-benefit streams (curtailment reduction, congestion relief, reserve sharing).
- Structure **phased investment plans** to align capital deployment with revenue milestones.
- Optimize **capital stack** by blending concessional finance, commercial debt, and equity to reduce WACC.

De-risking Through the Right Business Models

Investors and lenders demand predictable revenue frameworks. Pure merchant models expose projects to volatile congestion rents, while fully regulated models may not be feasible across jurisdictions.

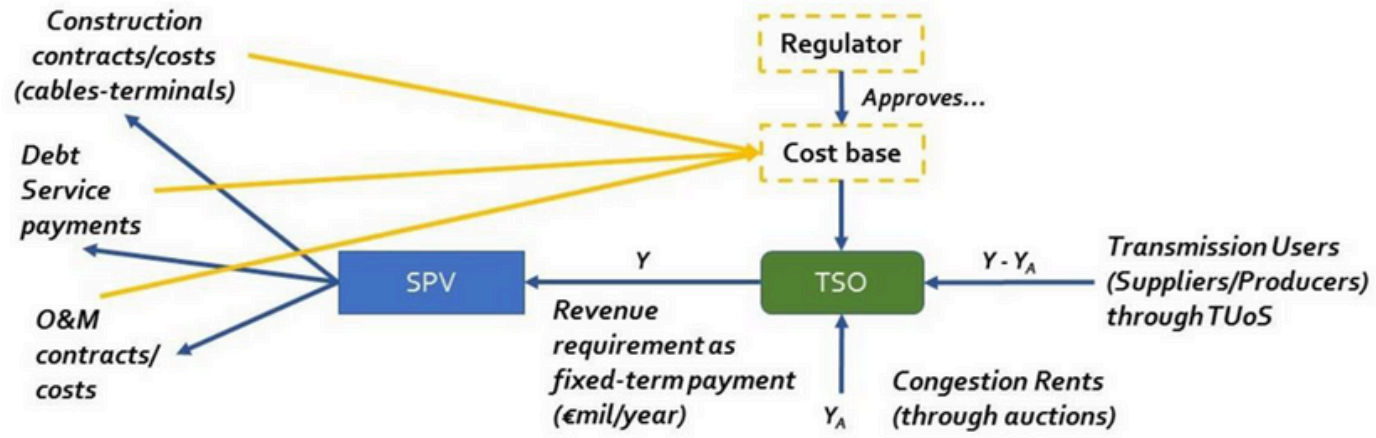
How IA&PF Helps:

- Design hybrid frameworks (e.g., Cap and Floor, as in Nemo Link) balancing downside protection with upside sharing.
- Implement **availability-based remuneration** for offshore assets to mitigate volume risk.
- Align cost allocation with benefit metrics for cross-border projects, ensuring regulatory acceptance and fairness.
- Secure anchor contracts (capacity rights, CfDs) and leverage public guarantees or grant programs to enhance bankability.

Bankable Business Models

Model 1 — Regulated Transmission (RAB/Tariff)

- **Revenue**: Cost-of-service with approved ROE, indexed O&M; cross-border cost allocation via bilateral or regional agreements.
- ***Capital***: Utility/TransCo equity + investment-grade debt; eligibility for CEF Energy on EU cross-border projects.



O	+	D	+	RAB	x	r	=	Required Revenue

O: Annual OPEX for operation and maintenance
D: Annual RAB depreciation
RAB: RAB value (average non-depreciated value of fixed assets and potentially WIP, excluding grants/contributions)
r: Regulated Rate of Return on average RAB (WACC pre-tax nominal)

Figure 1. Regulated model scheme example

Bankable Business Models

Model 2 — Merchant / Quasi-Merchant HVDC Interconnector

- **Revenue**: Capacity rights (long-term auctions/OTC), congestion rent exposure; potentially complemented by contracts for difference or state support.
- **Capital**: Project-finance debt with ECA/IFI wraps; phased equity during development/construction. (Precedents in Europe with interconnectors and offshore links; financing anchored by clear access and settlement rules).

Model 3 — Hybrid "Cap and Floor" Regime (Example: Nemo Link)

- **Concept**: Provides revenue certainty by setting a minimum revenue floor (protecting downside) and a cap (sharing upside with consumers). This balances investor confidence with consumer protection, making it attractive for cross-border HVDC projects.
- **Case Study — Nemo Link:**
  - **Ownership**: Joint venture between Elia Group (Belgium) and National Grid (UK).
  - **Asset**: 1,000 MW HVDC interconnector between Belgium and the UK.
  - **Regulatory Framework**: UK and Belgian regulators approved a 25-year cap-and-floor regime, enabling bankable financing while incentivizing efficient operation.

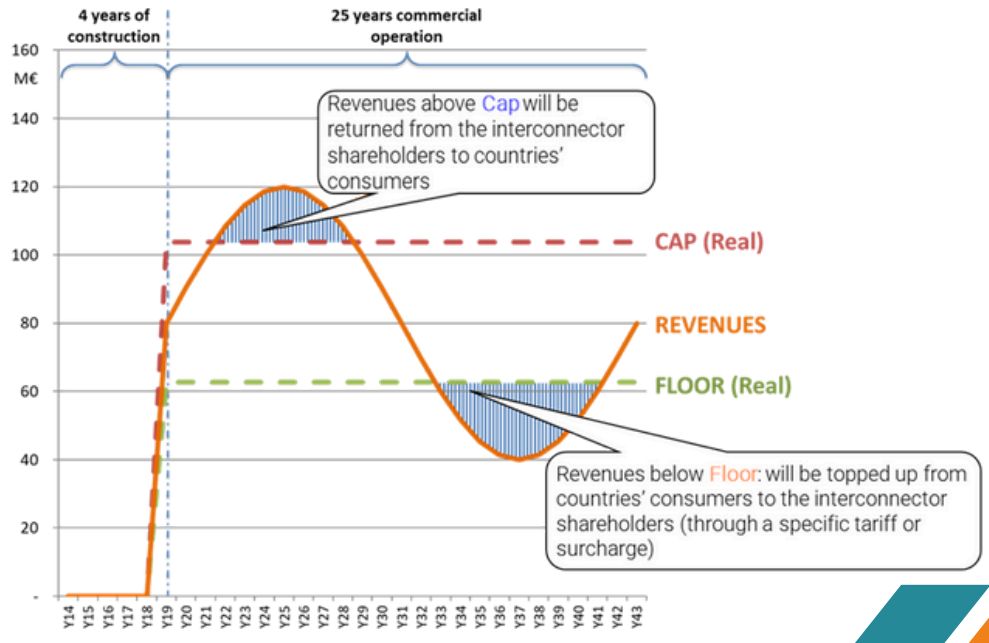


Figure 1. Regulated model scheme example

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How EGI's IA&PF Team Creates Value

Value Proposition

EGI's Investment Advisory & Project Finance team is uniquely positioned to help clients turn complex transmission and interconnector concepts into bankable, financeable projects. We combine financial acumen with deep technical expertise in electricity transmission—an advantage few advisory firms can match.

What Sets Us Apart

- **Transmission DNA**: Backed by Elia Group TSOs in Belgium and Germany, EGI brings first-hand experience in planning, building, and operating some of Europe's most advanced transmission systems, including HVDC interconnectors and offshore grid integration.
- **Proven Track Record**: Our experts have supported strategic interconnector projects (e.g., Nemo Link, a 1,000 MW HVDC link between Belgium and the UK under a Cap-and-Floor regime) and offshore transmission frameworks in Europe—models now inspiring global best practices.
- **End-to-End Expertise**: From financial modelling and valuation to SPV structuring, bankability assessments, and capital raising, we deliver full-lifecycle advisory tailored to regulatory, technical, and market realities.
- **Risk Mitigation**: We design business models that de-risk investments (e.g., hybrid revenue frameworks, availability-based remuneration) and align with regulatory expectations, ensuring predictable cash flows and investor confidence.
- **Global Perspective, Local Insight**: Leveraging EU integration experience (market coupling, cost allocation, offshore meshing) and adapting it to regional contexts in North America, Asia, Africa, and the Middle East.

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ABOUT ELIA GRID INTERNATIONAL

The earlier we join your project, the greater the impact. From concept to boardroom and policy discussions, our multidisciplinary experts help you navigate complex power system challenges, anticipate risks, and turn uncertainties into confident decisions.

With successful projects in 20+ countries and 7 offices worldwide, EGI combines hands-on experience with innovative thinking. As part of Elia Group, a European leader in transmission and renewable energy integration, we bring proven expertise to de-risk your project from the start.

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