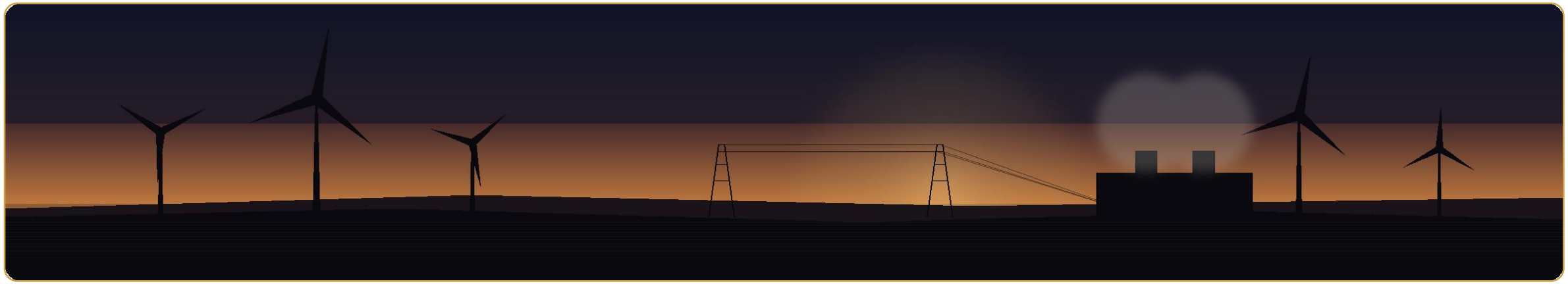
Vietnam's Energy Transition & the Rise of Biomass

Turning Net Zero 2050 into bankable projects

*Vietnam's biomass opportunity is real — but only projects that solve feedstock, grid, PPA and financing **together** will reach financial close.*



DR. OLIVER MASSMANN · PARTNER, DUANE MORRIS

WHERE IS THE OPPORTUNITY?

Vietnam has the fuel base — and the demand

1,523–2,699 MW

biomass target by 2030

4,829–6,960 MW

biomass target by 2050

24/7

dispatchable renewable + CHP

THE FEEDSTOCK BASE

Rice · Sugar cane · Coffee · Cassava · Coconut · Forestry · Wood processing · Livestock · Industrial organic waste

Vietnam has both the fuel base and the electricity demand. ***The challenge is execution and bankability.***

HOW SHOULD I APPROACH THIS?

Forget the old question: "What is the FIT?"

Build the project around commercial bankability — not around one published tariff.

OLD APPROACH	*FIT* → *licence* → *build project*
NEW APPROACH	***Feedstock + grid + offtake + tariff case + PPA + financing + permits*** → *investment decision*

START WITH BANKABILITY — AND WORK BACKWARDS.

WHEN CAN I COMMIT CAPITAL?

Apply a strict investment gate first

Don't move past early-stage development until these are substantially validated.

VALIDATE BEFORE YOU SPEND

- ✓ Planning / PDP8 compatibility
- ✓ Land availability & legal tenure
- ✓ Feedstock volume & price
- ✓ Grid connection
- ✓ Electricity-pricing route
- ✓ Credible PPA route
- ✓ Possible DPPA route
- ✓ Counterparties
- ✓ Financing assumptions
- ✓ Project economics

First: full legal, financial, technical & integrity DD on every local partner. ***A weak partner can destroy a good project.***

WHICH PROJECTS ARE ACTUALLY ATTRACTIVE?

Pick integrated feedstock + demand clusters

Feedstock source → Biomass plant → Electricity + heat / steam → Grid / industrial customer

Sugar mill
+ bagasse

Rice processing
+ rice husk

Wood cluster
+ wood residues

Pulp / paper
+ CHP

Agri processing
+ waste

Industrial park
electricity + steam

Integrated projects cut feedstock risk, transport cost and offtake risk.

HOW DO WE SECURE FEEDSTOCK?

No secure feedstock = no bankable project

Feedstock is the unique risk that separates biomass from wind and solar.

VERIFY (DUE DILIGENCE)

- Annual quantity & collection radius
- Seasonality & competing uses
- Moisture & calorific value
- Transport cost & storage
- Price escalation & alternative fuels
- Climate / agricultural risk

FEEDSTOCK SUPPLY AGREEMENT

- ✓ Minimum quantity · quality · price
- ✓ Escalation · delivery · penalties
- ✓ Security · substitution
- ✓ Force majeure · termination
- ✓ Lender assignment / step-in

A 20-year PPA is useless if the plant runs out of fuel after five years.

HOW DO WE OBTAIN GRID ACCESS?

Confirm grid access before you finalise the project

Site selection without grid analysis is dangerous.

CHECK EARLY

- ✓ Nearest connection point
- ✓ Capacity availability
- ✓ Connection voltage
- ✓ Reinforcement requirements
- ✓ Interconnection cost responsibility
- ✓ Commissioning timing
- ✓ Dispatch risk
- ✓ Curtailment exposure

Grid feasibility must come BEFORE ***major land acquisition, EPC commitment or financial close.***

CONVENTIONAL PPA OR DPPA?

Two principal offtake routes

OPTION A — CONVENTIONAL GRID PPA

Advantages

- ✓ Established sector counterparties
- ✓ Established settlement system
- ✓ National grid integration

Watch-outs

- — Tariff economics & PPA bankability
- — Curtailment · termination · FX
- — Lender protection

OPTION B — CORPORATE DPPA

Advantages

- ✓ Corporate renewable / ESG demand
- ✓ Long-term customer & synergies
- ✓ Potentially stronger economics

Watch-outs

- — Offtaker credit · market exposure
- — Basis risk · settlement · grid charges
- — Replacement-offtaker & regulatory risk

Which route produces the strongest risk-adjusted project economics?

Circular 12 changes the game

Don't just accept the standard PPA — come with a bankability package, not a redline.

WHAT CIRCULAR 12 GIVES YOU

- ✓ An express legal basis to negotiate and supplement the PPA
- ✓ Freedom to add provisions — provided they comply with Vietnamese law
- ✓ A shift from "form contract" to "bankability dialogue"

FOR EACH AMENDMENT, EXPLAIN

- ✓ The risk it addresses
- ✓ Why lenders require it
- ✓ The legal basis
- ✓ The financial impact
- ✓ Your proposed solution
- ✓ An alternative if it is rejected

The 8 PPA issues that can decide financing

1

Payment security

Will revenues safely service the debt?

2

Curtailment / deemed generation

Who pays if we're available but can't dispatch?

3

Change in law

Are we protected over 20–30 years?

4

Termination compensation

Will lenders be repaid if the PPA ends early?

5

Lender step-in rights

Can lenders cure defaults before contracts are lost?

6

Foreign-exchange risk

Is VND revenue vs USD/EUR debt covered?

7

Force majeure

Are relief, mitigation & termination clear?

8

Dispatch / commissioning / COD

Does COD align with EPC, grid & financing?

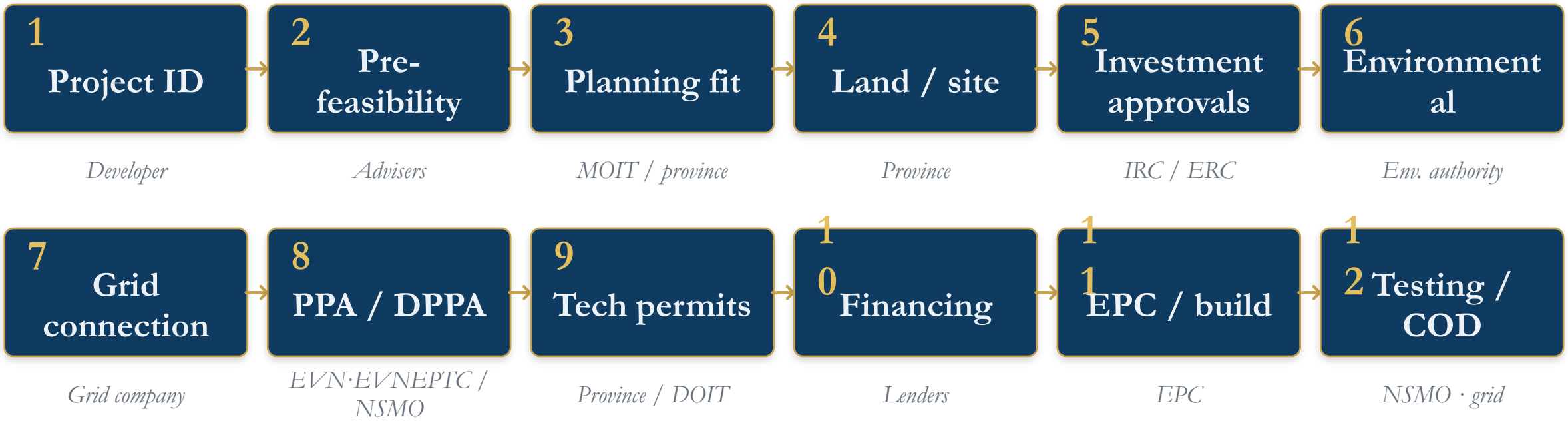
WHICH INSTITUTIONS MATTER?

Don't "negotiate with the Government" — map the decision-makers

MOIT	Electricity policy · pricing · regulatory framework
EVN	System stakeholder · commercial interface
EVNEPTC	PPA & electricity trading
NSMO	Dispatch · market · settlement · DPPA
Grid company	Connection · metering · energisation
Provincial authorities	Land · investment · construction · local coordination
Environmental authorities	Environmental approvals

Different institutions control different risks — approach the wrong one and you lose months.

The project approval roadmap



Run workstreams in parallel — the path rarely happens strictly in sequence.

WHAT MAKES A PROJECT HANG TOGETHER?

The PPA cannot be negotiated in isolation

THEY MUST INTERLOCK

- COD date ↔ EPC schedule
- Land term ↔ loan maturity
- Feedstock ↔ generation assumptions
- Termination comp ↔ outstanding debt
- Grid availability ↔ financial model

One weak contract can undermine the entire financing structure.

Build to lender standards from Day One

LENDERS WILL WANT

- ✓ Predictable revenues
- ✓ Secure feedstock
- ✓ Construction certainty
- ✓ Adequate security package
- ✓ Lender step-in
- ✓ Termination compensation
- ✓ Enforceable project contracts
- ✓ Sufficient land term
- ✓ Grid certainty
- ✓ Insurance
- ✓ Acceptable currency risk
- ✓ Sponsor support

Don't ask if it's bankable after development — build it to lender standards from Day One.

HOW DO WE IMPROVE ECONOMICS?

Stack the revenues — don't rely on electricity alone

Electricity + **Steam / thermal** + **Waste treatment** + **Biochar** + **Ash / by-products** + **Carbon attributes**

EXAMPLES

Wood residues → *CHP plant* → *electricity + steam* → *industrial customer*

Rice husk → *biomass plant* → *electricity + biochar*

The strongest biomass projects may not depend on electricity revenue alone.

WHO DO WE PARTNER WITH?

Choose the local partner before the partner chooses you

DUE DILIGENCE ON THE PARTNER

- Ownership & financial capacity
- Political / regulatory exposure
- Litigation history
- Land rights held
- Project-development track record
- Permits already obtained

- Related-party arrangements
- Reputation
- Feedstock claims
- Government relationships
- Hidden liabilities

Never sign an MOU, JV or exclusivity just because a partner claims to "have the project."

HOW DO WE PROTECT THE INVESTMENT?

Structure protection before a dispute exists

You cannot restructure after a dispute merely to manufacture treaty protection.

Treaty coverage

Consider BIT / CPTPP / other treaty protection for your nationality.

Holding structure

Choose the holding-company jurisdiction early — not after problems arise.

Dispute resolution

Review arbitration & protection against arbitrary state action.

Timing is everything — structure protection before a dispute is foreseeable.

CPTPP in force; EU–Vietnam Investment Protection Agreement (EVIPA) pending ratification by all EU member states.

A five-stage PPA strategy

1

Bankability gap analysis

Compare the PPA against lender requirements

2

Stakeholder mapping

Identify who controls each issue

3

Prioritisation

Spend capital only on financing-critical clauses

4

Negotiation

Present legal, financial & commercial justification

5

Financing alignment

Make all project agreements work together

Turn Circular 12's legal opening into financeable, real-world protection.

The 10-question go / no-go test

1	Planning compatible?
2	Land secure?
3	Feedstock secure?
4	Grid available?
5	Revenue model clear?
6	PPA bankable?
7	PPA or DPPA decided?
8	Authorities mapped?
9	Treaty protection available?
10	Financing achievable?

8–10 YES
PROCEED

5–7 YES
KEEP DEVELOPING

Below 5
STOP / RESTRUCTURE

HOW LONG DOES IT TAKE?

From opportunity to financial close

Parallel workstreams — not a straight line.

MONTHS 0–3	Screen project · partner DD · feedstock · grid · planning
MONTHS 3–6	Land · investment structure · authority engagement · financial model
MONTHS 6–12	PPA / DPPA · permits · grid · feedstock contracts · EPC procurement
MONTHS 12–18+	PPA completion · financing · CP satisfaction · financial close

Indicative only — actual timing depends heavily on project status and authority process.

The 7 reasons good biomass projects fail

1. Feedstock assumptions are unrealistic
2. Grid connection is addressed too late
3. The PPA is not financeable
4. Local-partner due diligence is inadequate
5. Land rights are incomplete
6. Permits & project documents don't align
7. Too much is spent before validating bankability

Avoid these seven and you are already ahead of most developers.

How to enter Vietnam biomass — the practical route

1	Identify the right industrial / feedstock cluster
2	Perform strict partner & project due diligence
3	Secure feedstock & grid feasibility
4	Decide conventional PPA vs DPPA
5	Prepare the bankability case before negotiating
6	Map authorities & counterparties
7	Negotiate the PPA & project contracts as one package
8	Bring lenders in early
9	Preserve investment protection
10	**Commit major capital only after critical risks are solved**

This is the answer investors came to hear: ***solve the critical risks first, then commit.***

Key department EVN – Commercial Business and Power Trading Department

- Officials from Ban Kinh Doanh va Mua Ban Dien (Commercial Business and Power Trading Department) are responsible for managing Power Purchase Agreements.

- Responsible persons (Last updated August 2026):

  - Mr. Nguyen Quoc Dung: Head of the Department

  - Mr. Tran Thanh Binh, Mr. Tran Viet Nguyen, Mr. Nguyen Manh Quang: Deputy Heads of the Department

Vietnam's biomass opportunity is real — but ***bankability, not technology, will decide the winners.***

Secure feedstock	Secure land	Grid access	Bankable PPA / DPPA	Strong contracts	Financing	= FINANCIAL CLOSE

The objective is not simply to obtain a licence. It is to build a project that can be financed, constructed and operated successfully for 20–30 years.

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