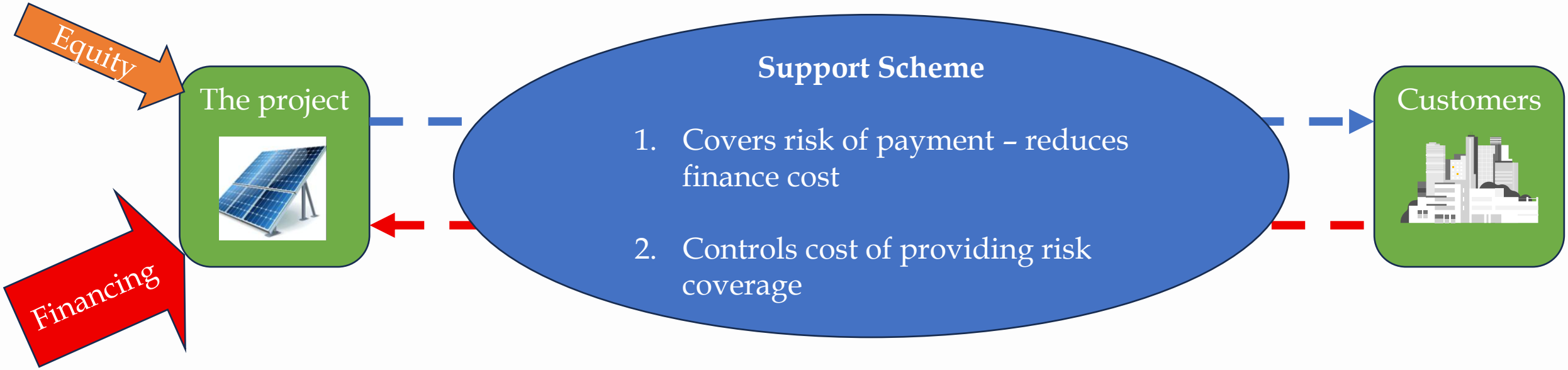
TASK 2 : STAKEHOLDER CONSULTATION WORKSHOP

On

Proposed BCS Framework for India

Session 2: International CfD experience informs India's financing choices

Bankable support lowers payment risk and financing cost



Today's flow links CfD design to India's BCS choices

1. Why CfDs? Revenue certainty, risk allocation and investment mobilisation
2. How payment obligations are funded and ensured
3. Settlement architecture and financial flows
4. Benefits for RES project financing and investor participation
5. Application to India: BCS design choices, payment security and implementation priorities

CfDs mobilise renewables by making revenue bankable

1. Evolution of CfD mechanisms as market-based instruments
2. Link between revenue certainty, risk allocation, and investment mobilisation
3. Importance of financing and settlement architecture for CfD sustainability

Europe adopted CfDs to control costs and sharpen incentives

Germany:
Early development of Feed-in tariffs

- Administered price guarantee to developer
- Originally levy on customers to cover cost but then changed to government-funded
- No cost control (except based on administered price calculation)
- Very successful bringing on investments

Great Britain:
Renewable Obligation Certificates

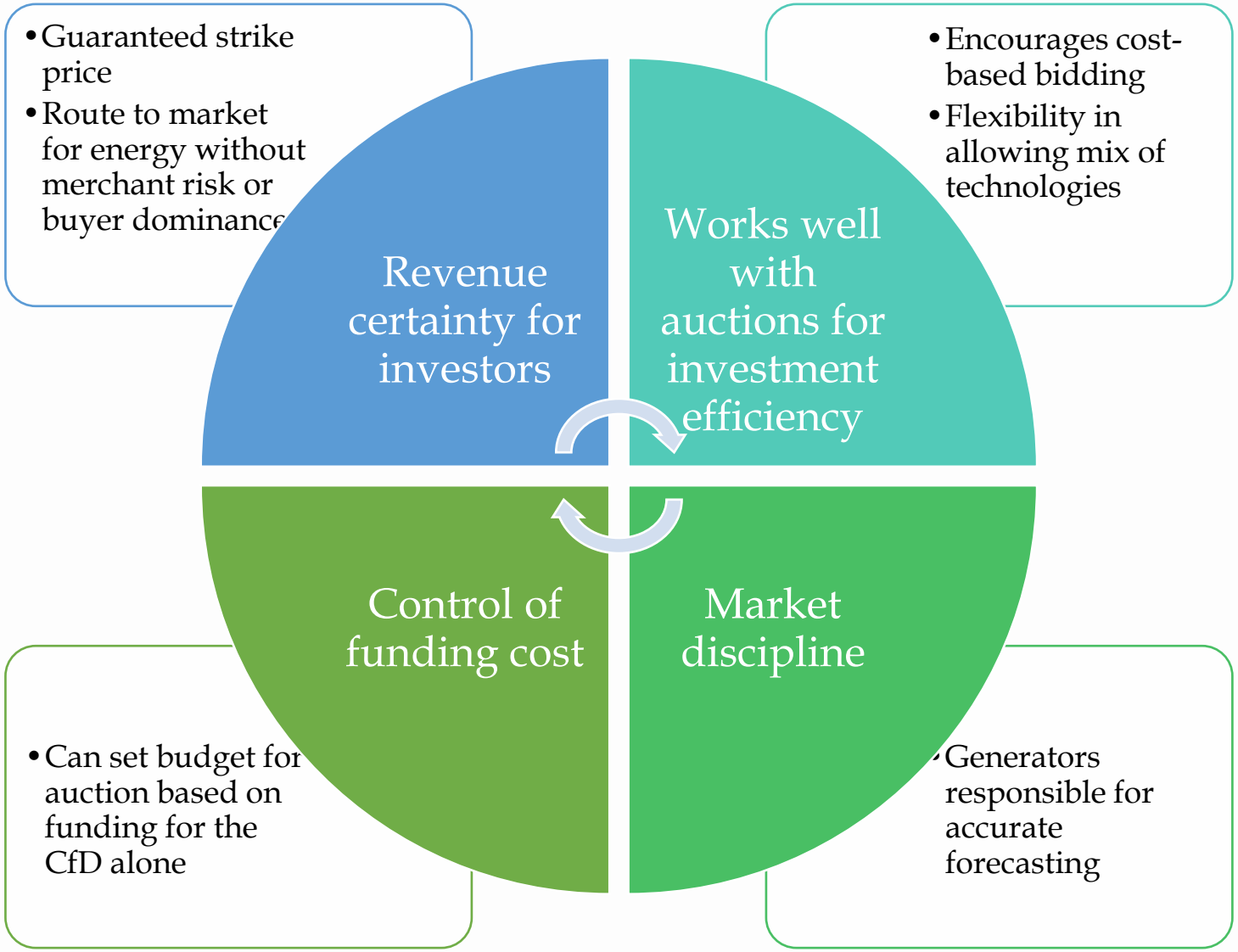
- Pure market mechanisms
- Separated energy sales from benefit sales (value held in certificates)
- Reliant on expanding supplier obligation level to ensure certificate value maintained
- Originally technology-neutral but then differential certificate awards to different technologies
- Successful but lacked cost control

Other schemes are variants of these

Issues were arising:

- Lack of cost control
- Lack of incentives to generation efficiency
- Balancing costs
- For other European countries, the issue of not being able to match Germany's ability to finance

CfDs provide revenue certainty while preserving market signals



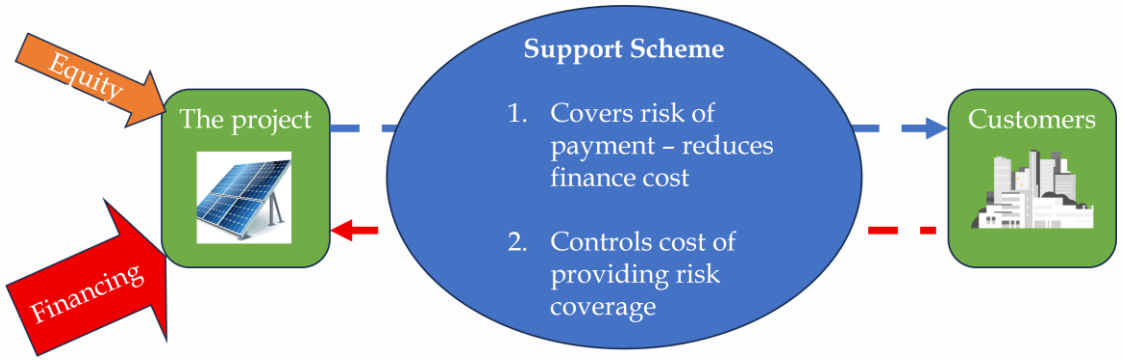
CfDs work only when residual risks are credibly managed

Auction price risk	• Generator manages exposure through its bid price • Government manages overall cost exposure
Long-term price risk	• CfD or FiT passes exposure to buyer relative to merchant trading – no generator exposure • Stranded cost risk remains for consumers
Short-term price risk	• Market price exposure passed to CfD counterparty • Counterparty passes exposure to suppliers or government
Balancing risk	• Left with generator (unlike with FiTs) – mitigated through improved forecasting (or onsite storage)
Buyer exposure	• CfD Counterparty not exposed to energy purchase
Counter-party risk	• Exposure remains, but counterparty is government backed • Counterparty risk in energy sales controlled by exchanges • Splitting exposure strengthens risk coverage

Risk is split with CfDs

For bankability of generation projects:

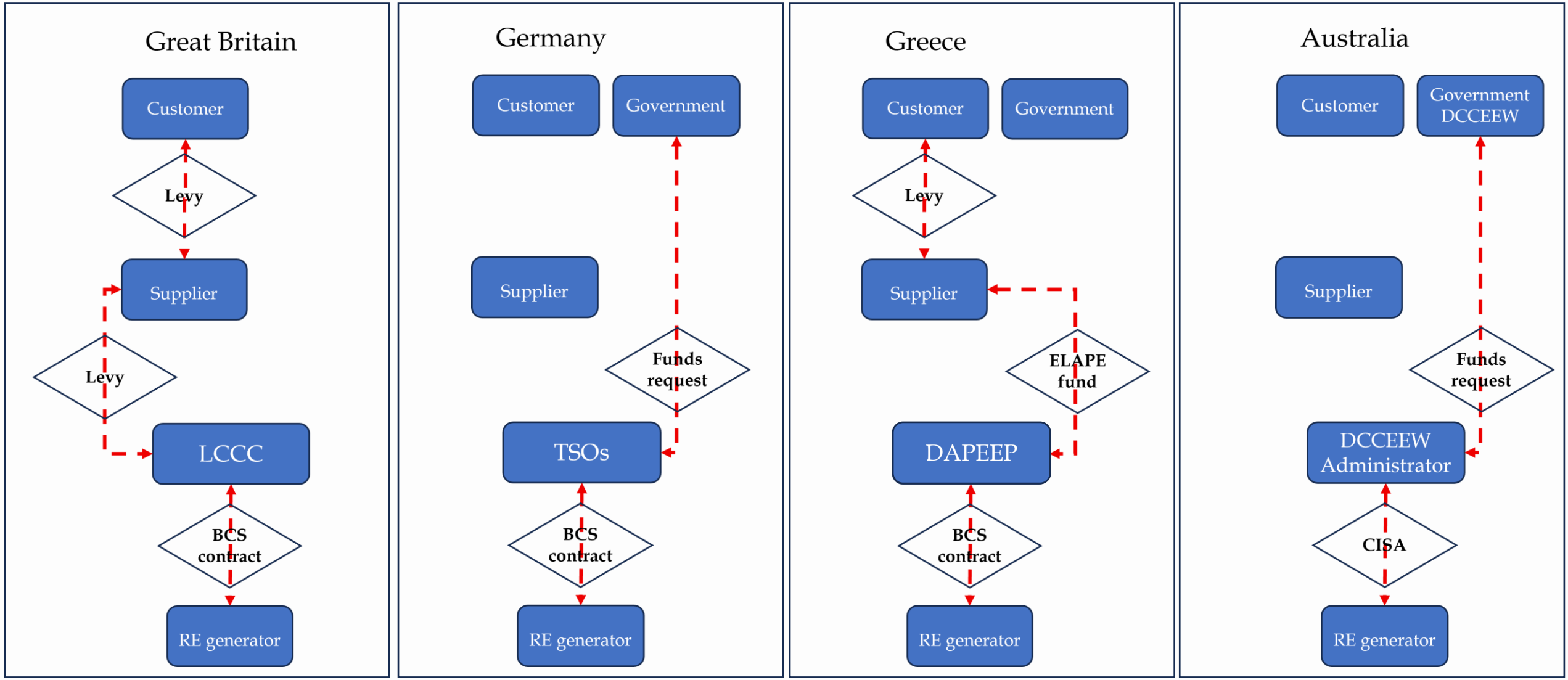
- Are spot markets liquid enough to support new investments?
- Does the CfD counterparty have funds to honour CfD commitments?



Credible funding makes CfD obligations bankable

1. Sources of funding
2. CfD pool fund payment flow

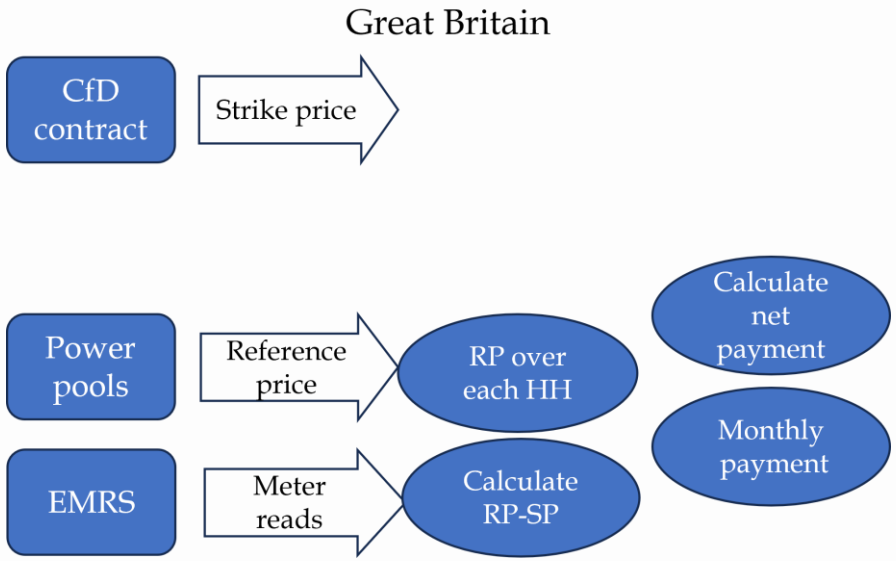
International funding models strengthen payment security

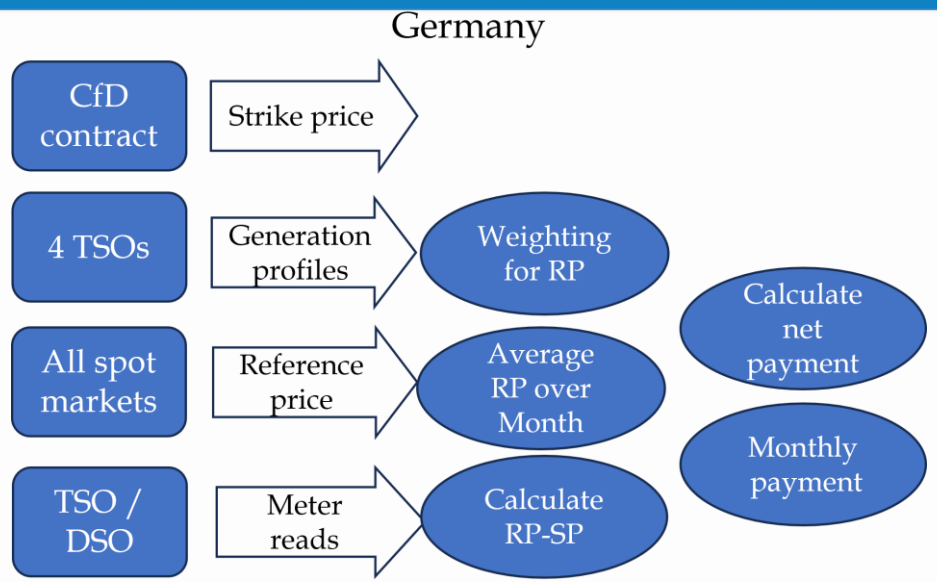


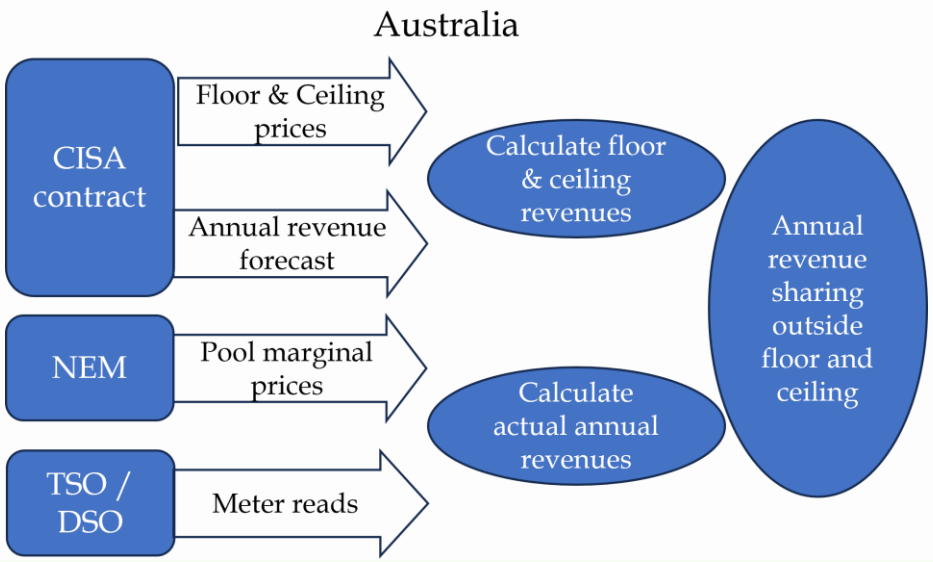
Settlement design converts obligations into reliable cash flows

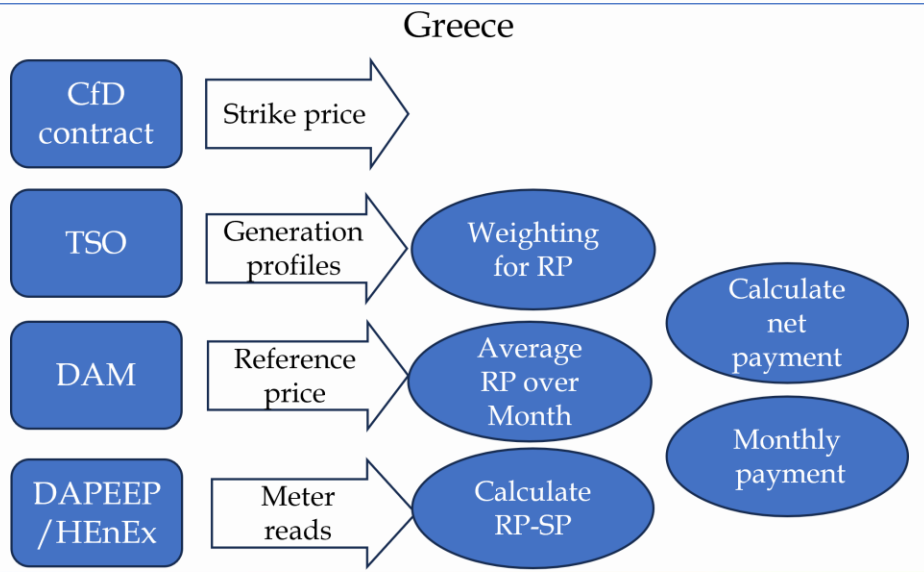
1. CfD settlement mechanism and payment flow
2. Role of settlement counterparties and payment security arrangements

A central counterparty anchors settlement and payment assurance









CfDs improve financing by stabilising project revenue

1. Revenue certainty and reduction of market risk
2. Impact on: Project bankability, Financing terms, Cost of capital, Risk premiums, Lender confidence
3. Role of institutional investors: Infrastructure funds, Pension funds, Sovereign investors, Global asset managers

Revenue certainty reduces merchant-price risk

CfD / BCS settlement converts volatile merchant-price exposure into a predictable strike-minus-reference payment path.

Without CfD / BCS

Merchant price volatility
Low-price / cannibalisation risk
Harder downside cases for lenders

Settlement mechanism

Strike price less reference price
Top-up / pay-back calculation
Eligible volume and metering rules

With CfD / BCS

Stabilised price component
Modelable cash-flow scenarios
Clearer DSCR and risk sensitivities

Market signal is preserved: projects still face dispatch, imbalance, and operational performance incentives.

Financing signal improves: the price component of revenue becomes easier to forecast, stress-test, and lend against.

Key point: revenue certainty does not remove all project risk - it makes the market-price component bankable and measurable.

Bankability improves when price and payment risks are secured

CfD / BCS revenue certainty improves bankability when paired with credible counterparty and liquidity arrangements.

Market risk management

Reference price + strike price reduce merchant-price volatility and support lender downside cases.

Counterparty risk management

Ring-fenced funds, reserves and settlement rules protect the timing and certainty of cash flow.

Bankable cash-flow profile

Project bankability

Stable revenue base for debt sizing.

Financing terms

Supports tenor and leverage discussions.

Cost of capital / risk premium

Reduces merchant exposure in return assumptions.

Lender confidence

Clear rules improve credit committee comfort.

Bankability principle: stabilise price revenue, secure settlement cash flow and leave operational risks explicitly allocated.

Institutional investors follow credible cash-flow rules

Stable, rule-based revenue support broadens the investor base beyond strategic developers to long-term capital providers.

1

Infrastructure funds

Seek contracted cash flows and scale; CfDs support leveraged project structures.

2

Pension funds

Prefer predictable, long-duration yield; lower merchant exposure supports allocation.

3

Sovereign investors

Need policy credibility, counterparty strength and durable payment rules.

4

Global asset managers

Compare markets on bankability, liquidity, exit options and regulatory stability.

Investor implication: credible settlement architecture can convert RES / FDRE / BESS projects into investable infrastructure assets.

Key point: institutional capital follows credible cash-flow rules, not only high nominal returns.

India's BCS design must adapt international lessons

1. **Application to India**
   - What must be adapted from international CfDs
   - Funding and settlement architecture choices
   - Implementation priorities for a bankable BCS

India should adapt CfD logic to its DISCOM-exposed market

International experience identifies the core financing logic; India needs to adapt the settlement architecture to a bilateral, DISCOM-exposed market.

International CfD lesson	India BCS implication
Revenue certainty is a financing tool	Stabilise price revenue for RES / FDRE / BESS projects.
Credible funding source underpins bankability	Use central settlement; avoid replicating weak buyer credit.
Market participation preserves efficiency	Separate dispatch from settlement; retain scheduling and imbalance incentives.
Auctions and pots control support costs	Use auctions, budget caps and technology pots where needed.

Key point: design payment security and market discipline together.

A bankable BCS needs ring-fenced funding and timely settlement

A bankable BCS needs a visible route from funding source to settlement counterparty to project cash flow.

Funding inflows

– Pool / consumer levy

– Budget or quasi-sovereign support

– Periodic true-up

RES projects

– Top-up when reference price is below strike

– Pay-back when reference price is above strike

BCS settlement counterparty + ring-fenced fund

Market reference price

– Observable DAM / RTM index

– Stress-test liquidity and basis risk

Payment security tools

– Liquidity buffer / reserve

– Credit support for payers

– Reconciliation and dispute rules

Bankability test: enforceable, solvent, and timely payment path.

Countries secure CfD payments through credible funding routes

Different jurisdictions solve the same bankability problem with different combinations of counterparty strength, funding source and reserve design.

Consumer / market funded

Great Britain

LCCC as central CfD counterparty; statutory Supplier Obligation Levy; quarterly forecasting, reserve amount and reconciliation.

Greece

DAPEEP special account; funded by electricity consumption levy, lignite levy and CO_2 auction revenues; technology-specific reference prices.

Budget / public counterparty funded

Germany

EEG account shifted from consumer surcharge to federal budget funding; low bad-debt risk, but more complex settlement through network operators.

Australia CIS

Commonwealth Government counterparty; taxpayer funding; revenue floor / ceiling design gives strong counterparty but lumpy annual settlement.

India takeaway: bankability depends less on the label "levy" or "budget" and more on whether the counterparty, funding source, reserve and legal collection powers are credible to lenders.

GB shows why reserves and true-ups protect working capital

The GB model illustrates why a CfD fund needs forecast levies, liquidity reserves and end-period true-up - not just a pass-through payment calculation.

1 Forecast

LCCC forecasts prices and eligible generation before each quarter.

2 Collect

Suppliers pay the statutory levy; they manage timing gaps with customer receipts.

3 Reserve

Total Reserve Amount covers mis-forecasting and keeps LCCC solvent in-quarter.

4 Settle

LCCC pays generators or receives repayments when market prices exceed strike.

5 Reconcile

Actual requirements are reconciled and reflected in future levy setting.

Supplier credit support

Required to cover seasonality of customer payments and cash-flow delays before levy payment reaches LCCC.

LCCC liquidity buffer

Reserve protects against forecast error because levy income is fixed in-quarter while CfD outflows vary with prices.

Generator cash position

Two-way CfDs can require generator pay-back; day-ahead market receipts provide a natural hedge but timing still matters.

India design check: identify where working capital is needed - not only in the central fund, but also by levy payers and any generators with pay-back obligations.

Settlement rules must align timing, credit support, and disputes

Payment certainty is created by aligning settlement frequency, collection timing, credit support and dispute rules.

Market revenue cycle

Generator sells energy

Market / bilateral revenue received on short cycle; basis risk remains if realised revenue differs from reference price.

BCS settlement cycle

CfD / BCS calculation

Reference price, strike price and eligible volume determine top-up or pay-back obligation.

Credit / reserve cycle

Fund liquidity

Reserve, collateral and payment dates bridge mismatch between inflows and settlement obligations.

Timing risks to specify in contract rules

- payment due dates and interest on delayed or corrected payments
- who posts collateral when two-way settlement creates pay-back obligations
- how disputes are handled without disrupting scheduled settlement
- how levy / fund true-up is triggered if market prices diverge from forecast

India implication: settlement rules should be simple enough to administer early, but robust enough for DAM / RTM volatility and delayed buyer collections.

BCS should stabilise price risk, not guarantee every project risk

CfDs improve bankability by stabilising the price component of revenue; they do not remove all project or market risks.

Reduced / transferred by BCS	Retained or explicitly allocated	India design question
Wholesale price downside	Volume / resource risk	Eligible volume and metering basis?
Some revenue volatility	Forecasting and imbalance exposure	Keep scheduling incentives?
Counterparty risk if backed	Basis / reference price risk	Which DAM / RTM index is credible?
Lender uncertainty on price	Curtailment and transmission constraints	Compensated, shared or priced in bids?
Financing risk premiums	Construction, inflation and bid error	Cap, index or leave with bidder?

Bankability principle: allocate risks clearly; do not use BCS as a broad guarantee against all project risks.

Auctions and cost controls keep bankability support affordable

International experience shows that bankability support needs competitive allocation and budget discipline to avoid uncontrolled costs.

Budget envelope

Limit total central exposure before auction rounds are launched.

Strike price cap

Administrative cap prevents bids exceeding policy affordability limits.

Eligibility rules

Restrict participation to technologies and projects that meet policy criteria.

Technology pots

Avoid mature low-cost technologies crowding out emerging options.

Auction format

Pay-as-bid or pay-as-clear choice affects rents, incentives and transparency.

Delivery discipline

Milestones, penalties and monitoring discourage speculative bids.

Country signals from the notes

- GB emphasises budget control, administrative strike prices, pots and predictable allocation rounds.
- Germany aligns auction volumes to capacity targets; cost control is less central and pay-as-bid has been used.
- Greece uses technology-specific flexibility and BESS support; Australia uses more complex floor / ceiling bids.

Technology-specific products can align support with policy goals

A single BCS product may be too blunt; technology-specific categories can align payment security with policy objectives.

Product category	Why separate?	BCS design choice
Mature solar / wind	Low-cost deployment; large volumes can dominate uniform auctions.	Standard two-way BCS; strong cost caps and competitive auctions.
FDRE / BESS hybrids	Higher CAPEX, dispatchability value and revenue uncertainty.	Separate pot; eligibility based on firm / dispatchable output obligations.
Storage / flexibility	May provide availability value rather than only MWh energy output.	Consider availability or revenue-band product rather than pure energy CfD.
Offshore / emerging	Needs learning support and may be crowded out by mature RES.	Dedicated pot, tailored milestones and longer development timelines.

India takeaway: use separate procurement categories where policy objectives differ, but keep initial bid structures simple enough for investors to price.

Reference prices must be observable and settlement financeable

Reference prices need to be observable and hard to manipulate, while settlement frequency needs to balance accuracy, liquidity and administrative burden.

Reference price design	Settlement frequency	India-specific checks
– DAM, RTM or blended exchange index	– daily: accurate but operationally heavy	– market liquidity and bilateral contracting depth
– technology-specific or market-wide average	– weekly / monthly: administratively simpler	– basis risk between actual revenue and reference price
– hourly vs monthly generation-weighted price	– annual: can be lumpy and harder to finance	– potential gaming or index manipulation risk
– treatment of negative / near-zero prices	– true-up rules reduce forecast error	– working-capital needs at each settlement interval

Design principle: start with transparent exchange-based references and settlement intervals that lenders can model; refine the formula as DAM / RTM liquidity deepens.

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