



ECONOLER

Resource Development for Renewable Project Negotiation and Closure

**Organisation of American States Sustainable Energy Capacity
Building and the Environment Department of Antigua and Barbuda**

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TEMPLATE DOCUMENTS FOR NEGOTIATION OF PROJECT CONTRACTS

- Financial Term Sheet
- Power Purchase Agreement
- Solar and Wind Land or Roof-top Lease Agreement
- Engineer Procure Construct - Purchaser Requirement (Solar and Wind)
- Operations and Maintenance
- Insurance - included in all Templates plus SIRF's assets once obtained

FINANCIAL TERM SHEET

- Identifies the key financial parameters of the project including
 - Location
 - Equipment proposed
 - Cost
 - Resource (Solar or Wind)
 - Production
 - Viability
- Not an engineering detail document

FINANCIAL TERM SHEET

SIRF Financiers perspectives

- preliminary feasibility for program development and attracting finance in house or consultants
- Financial term setting for finance approval

Examples RETScreen

- RO large wind or solar
- Hotel, or clinic

POWER PURCHASE AGREEMENT

- Sets out
 - Feed-in tariff or sale price
 - Expected Production
 - Period of the agreement
 - What happens in case of curtailment
 - Shows an income stream that allows finance to be obtained

POWER PURCHASE AGREEMENT

- Contains options that cover a variety of contexts so not always needed if streamlining is desirable
- Curtailment needs to be included if the off-taker or utility expects to not be able to take a significant amount of power.
- If the installations are grid connected and large ~1MW then the renewable facility may wish to add a production cut warning to the grid manager which would need to be greater than 15 minutes to allow starting a generator
- Could sell to a Hotel also connected to APUA grid

LAND OR ROOF-TOP LEASE

- Secures the space for the Solar and/or Wind equipment
- Rental rate and period
- Access
- Insurance by both parties

LAND OR ROOF-TOP LEASE

Preliminary Lease then final

- MoU on future intent maintaining option for use and providing for resource assessment
- Structural integrity
- May need to also buy “air” over adjacent property to avoid shading. Same agreement could be used except no access or insurance etc.

ENGINEER PROCURE CONSTRUCT

- Defines the construction period responsibilities
- Sets Pricing
- References the Purchaser's Requirement for tendering and the winning proposal
- Identifies the Purchaser's Engineer
 - Responsible for ensuring technical compliance
 - Verifying production
 - Oversees commissioning

ENGINEER PROCURE CONSTRUCT

EPrC template legal document

- Purchaser's requirement examples
 - RO large wind or solar
 - Hotel, clinic

OPERATIONS AND MAINTENANCE

- Responsibilities based on the Operations and Maintenance manual provided by the Engineer, Procure Construct contractor
- Day to day operations committee
- Performance indicators such as availability to generate
- Pricing and term

OPERATIONS AND MAINTENANCE

- If included in the EPrC and extended past the Warrantee period this gives good assurance in the initial period.
- Local and regional firms may be engaged by the suppliers and later become more competitive as independent O&M contractors.

INSURANCE

- All contracts reference or contain insurance requirements
- Once turned over to the purchaser, insurance should be obtained for the assets from the market place
- A reserve should be built up slowly to cover major repairs after warranty, if not needed the reserve could be used for additional production capacity

SEQUENCE OF NEGOTIATIONS

- Financial Term Sheet preliminary by SIRF
- Power Purchase Agreement in draft for agreement of intent with buyer
 - Lease / securing the space
 - DCA development permission in principle
 - Environmental and social impact assessment
- Engineer Procure Construct with Purchaser Requirements (Solar and Wind) tender

SEQUENCE OF NEGOTIATIONS (CONTINUED)

- Financial Term Sheet final based on info from EPrC bidders to be reviewed by SIRF
- Power Purchase Agreement with buyer
- Solar and Wind Land or Roof-top Lease Agreement finalized and encumbrance Registered
- Engineer Procure Construct Purchaser Requirements (Solar and Wind) contract executed

SEQUENCE OF NEGOTIATIONS

- Financial Term Sheet final adjusted for any variances in cost or equipment - as constructed
- Power Purchase Agreement final with any – as constructed - variations agreed with buyer
- Engineer Procure Construct - with commissioning, training and initial operations period
- Operations and Maintenance contract (may be part of EPrC)
- Insurance of Assets plus that included in other documents

SEQUENCE

| Phase Document | Preliminary Pre- feasibility | Tendering and EPrC awarded | As Constructed | Possibility to renegotiate after term |
|----------------------|------------------------------------|-----------------------------------|-------------------------------|---|
| Financial Term Sheet | X | X | | |
| Land Lease | X - resource assessment | X final -EIA, Land use and permit | | X (15 to 25 years) |
| PPA | X | X final | Adjusted final only if needed | X (~15 years or finance term) |
| O&M | | X possibly included | X | X (~5-10 years) |

SUGGESTED NEXT STEPS

- Integrate documents with the OECS procurement process
- Engage a Purchaser's Engineer based on a tendered Terms of Reference
- Revise the Purchaser's Requirements to suit projects
- Adjust the options in the templates and obtain legal review

THANK YOU