

# CONTRACTUAL DOCUMENTATION FOR RENEWABLE ENERGY PROJECTS



BOGOTA, SEPTEMBER 10, 2019

- Renewables have inherited a very complicated contractual framework, originally designed for large-scale conventional power generation → high legal transaction costs and prolonged timelines
- Small-to-medium scale projects suffer more (documentation requirements remain mostly the same)
- The contractual documentation may not always be “bankable” → resulting in projects that are not financed and hence not implemented
- Best-practices and effective solutions do exist; but they are not widely disseminated

# SOLUTION-1: OPEN SOLAR CONTRACTS

- A standardised and simplified contractual suite, available for free as a comprehensive legal documentation solution. Providing templates for solar power (intended to be replicated to other renewables)...

- Power Purchase Agreement
- Implementation Agreement
- Supply Agreement
- Installation Agreement
- Operations & Maintenance Agreement
- Financing Term Sheet

- Developed by IRENA & TWI



**OPEN SOLAR**  
CONTRACTS

in close collaboration with top-tier international law firms:





Over-complicated legal framework



**Standardized & simplified documentation solution**



Costly transactions & lengthy timelines



**Streamlined project development & finance**



Sub-optimal risk allocation



**Balanced risk allocation - lower cost of capital**



Bankable contractual documentation



**Higher project realization rates**

## STANDARDIZED

Pure  
standardization



Having everything  
as an option

- Capturing the existing degree of consensus in the market
- Promoting further market coalescence
- Universally-applicable, but not intended to be a one-size-fits-all solution (embedded options, key information table, schedules, user notes)

## SIMPLIFIED

- Contracts have a lean structure → only including the provisions that are absolutely necessary (e.g. no copy & paste boilerplate clauses)
- Based on very simple & clear assumptions
- Easy-to-understand & easy-to-use

# KEY DESIGN FEATURES (II)

## INNOVATIVE

- Applying a new thinking to bankable contractual documentation

## BALANCED

- Risks are allocated to the parties that are best able to manage them → lower cost of capital
- Within the confines of bankability, the best interests of Governments and utilities are protected

## INCLUSIVE

- Drafted by workstreams
- Available for review by both private and public stakeholders

# IMPLEMENTATION AGREEMENT

<b>Parties</b>	Government (represented by e.g. MoE), Project Company (SPV), Shareholder
<b>Purpose</b>	Setting the minimum legal framework necessary for project implementation
<b>Key features</b>	<b>Concession:</b> Government concedes project company the right to develop, build and operate the power plant (BOO – but can be amended for BOT & BOOT)
	<b>Government support:</b> the Project Company receives support from the Government in obtaining associated permits etc.
	<b>Early termination mechanism:</b> a put-call option structure – setting early termination events, parties’ respective rights to terminate and exercise their call/ put options along with the purchase price formulation (not a panacea for contingent liabilities, but a reasonable solution within confines of current standards of bankability)

# POWER PURCHASE AGREEMENT

<b>Parties</b>	Project Company, Off-taker (government owned or authorized)
<b>Purpose</b>	Defining the terms and conditions under which the electricity generated by the project company will be sold/purchased.
<b>Key features</b>	<b>On-grid.</b> Grid-connection and project site provided by the Government (variations are possible & can be amended for off-grid and mini-grid as long as there is a buyer)
	<b>Take-or-pay.</b> All generation to be purchased by the off-taker (Single Buyer) – backed by liquidity support
	PPA awarding can be done through a competitive or administrative process.
	<b>Deemed Energy:</b> <ul style="list-style-type: none"><li>○ Payable when the seller can generate, but the buyer cannot off-take.</li><li>○ An optional “Buyer Curtailment Allowance Periods”</li><li>○ no risk of non-sales (outside the contractually agreed curtailments) → lower off-take price</li></ul>



# SUPPLY & INSTALLATION AGREEMENTS

<b>Parties</b>	Project Company & Supplier / Project Company & Installation Contractor
<b>Purpose</b>	<b>Supply Agreement:</b> engineering, design, procurement, supply and delivery – ready to mount – (with minimum installed capacity and a minimum performance ratio) <b>Installation Agreement:</b> installation, balance of plant and commissioning
<b>Key features</b>	<b>Separate Contracts:</b> Solar PV projects do not need to incur the expense of a full turnkey EPC contract (i.e. avoiding margin-piling)
	<b>Lump sum price.</b> Both contracts lump sum price.
	<b>Interface Obligations:</b> Supplier and Installation Contractor have matching interface obligations

# O&M AGREEMENT

<b>Parties</b>	Project Company, O&M Contractor
<b>Purpose</b>	Ensuring the plant's operation with a high availability ratio
<b>Key features</b>	<b>Standard Obligations.</b> Operation, scheduled maintenance, corrective maintenance, monitoring services.
	<b>Additional Services.</b> Scope for Project Company to request additional services (for additional fee).
	<b>Optional term.</b> Short term (may be extended) or Long term (may match the loan maturity)
	<b>Guarantee.</b> Minimum technical availability

# FINANCING FACILITY TERM SHEET

<b>Parties</b>	Project Company, Lenders
<b>Purpose</b>	Defining terms and conditions for project financing
<b>Key features</b>	<b>Not a full-blown contract.</b> Recognises that in practice a detailed finance documentation drafting may not be dictated to lenders. Common elements have been captured and translated in to a term sheet
	<b>Limited recourse finance.</b> Project finance (limited recourse) or full equity finance (then no need for the facility agreement)
	<b>Not a complete financing documentation package.</b> The agreements that may need to be signed for a project finance transaction include: senior facility agreements, a common terms agreement, an intercreditor agreement, an accounts agreement, an equity support agreement, various security documents, senior hedging agreements (if applicable), direct agreements, with respect to project documents, fee letters and possibly others...

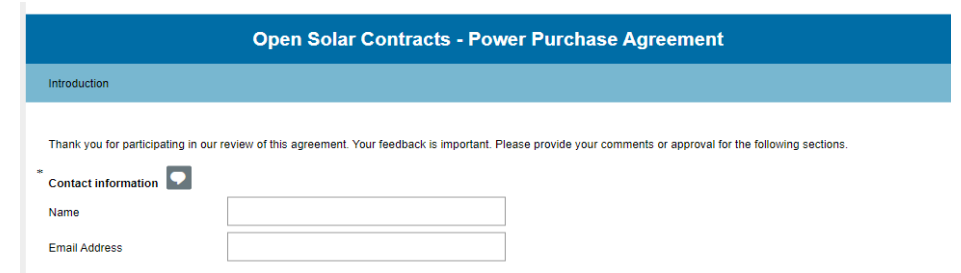
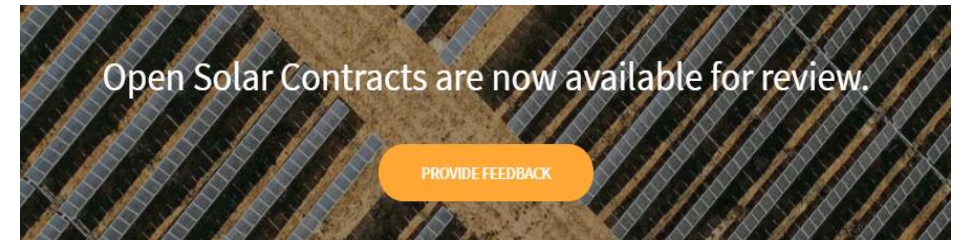
# EXTERNAL REVIEW & BEYOND

- The contracts will be available for review until 30.09.2019. The final versions will be made available online following the external review.

## To do the review:

- 1) Go to <http://opensolarcontracts.org>;
- 2) Click on the contract(s) that you would like to review;
- 3) You will be redirected to “survey monkey”;
- 4) There is a section under each provision, where you can post your comments.

\* Guidelines (explaining the main rationale, key assumptions, etc.) are also available online.



Open Solar Contracts - Power Purchase Agreement

Introduction

Thank you for participating in our review of this agreement. Your feedback is important. Please provide your comments or approval for the following sections.

Contact information

Name

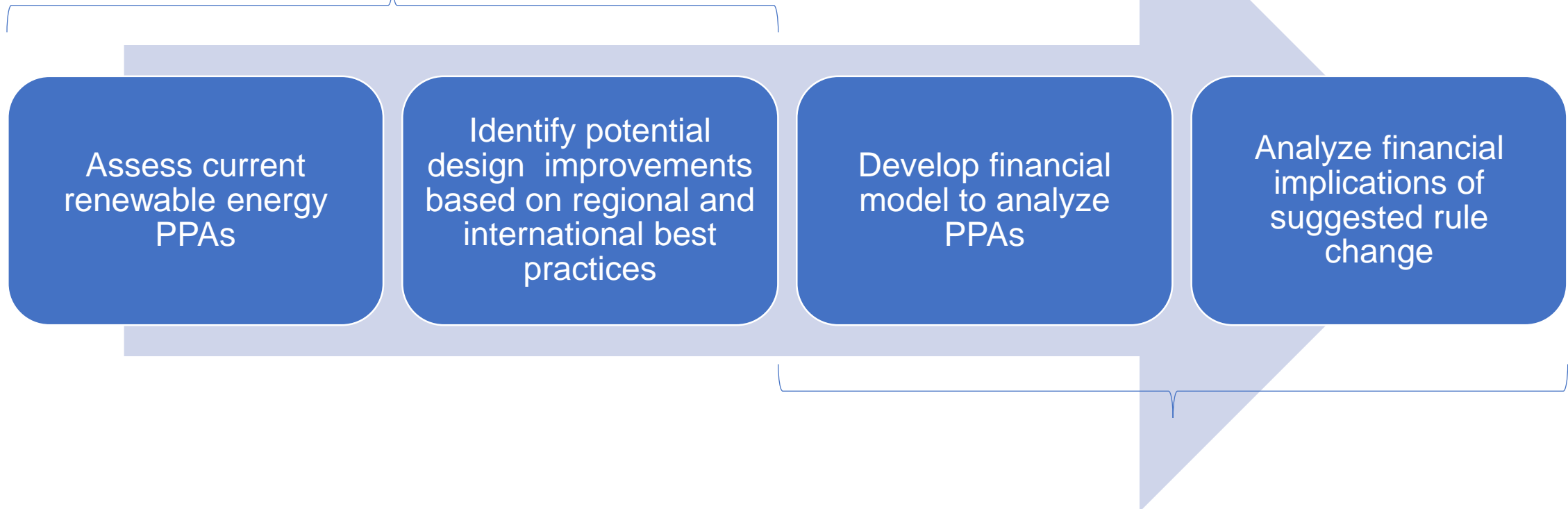
Email Address



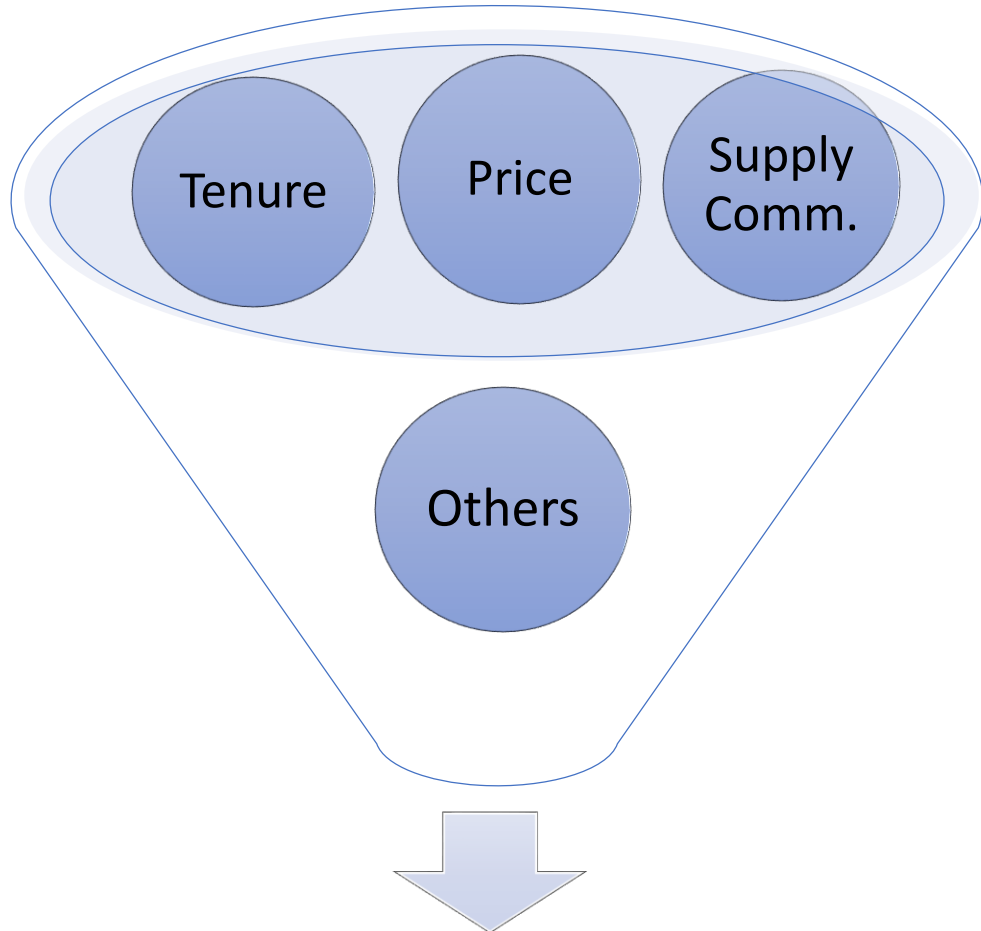
[opensolarcontracts@irena.org](mailto:opensolarcontracts@irena.org),  
[opensolarcontracts@twi.team](https://twitter.com/opensolarcontracts)

# SOLUTION-2: PPA ASSESSMENT TOOL

Analyze existing RE PPAs and identify design improvements



Develop financial analysis to assess the impacts of different rule changes



## Power Purchase Agreement

Others include price adjustment; currency risk; policy/regulatory risks; dispute settlement; ownership transfer

## PPA design details vary... (examples for wind projects)

### Price (USD/MWh)

- » Brazil: 53.9
- » Chile: 45.3
- » Mexico: 35.8
- » Panama: 90.6

### Tenure (years)

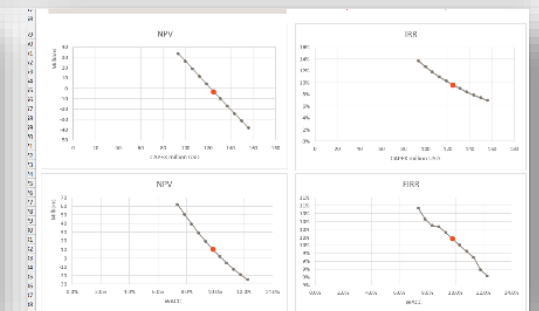
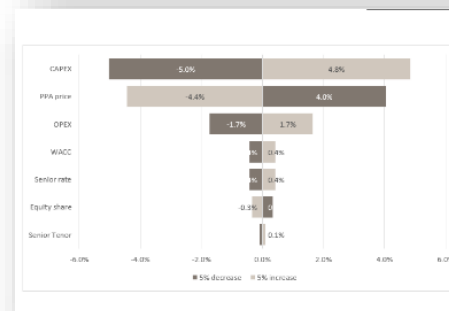
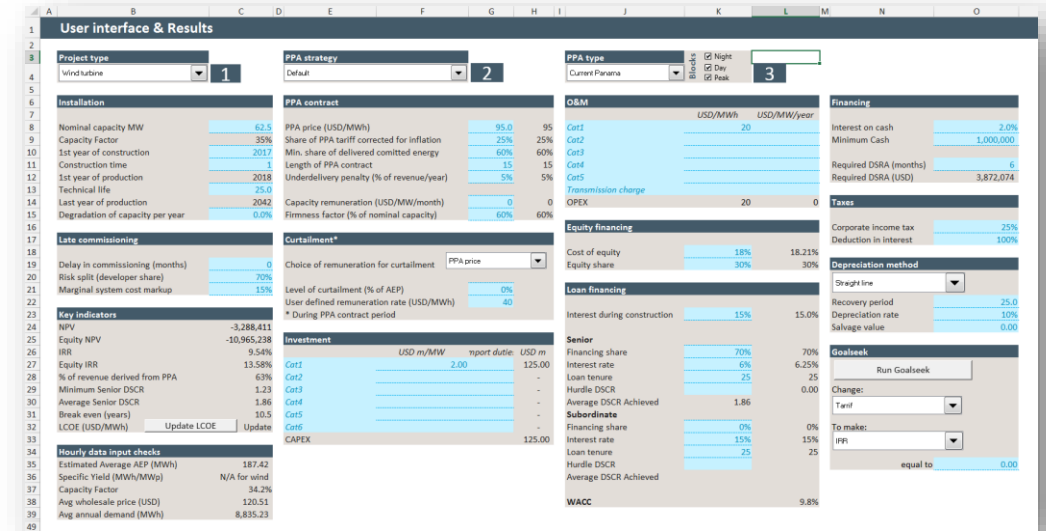
- » Brazil: 20
- » Chile: 20
- » Mexico: 15
- » Panama: 15

### Supply Commitment

- » Brazil: annual
- » Chile: 3 daily blocks
- » Mexico: annual
- » Panama: monthly, 24/7

# LINKING PPA DESIGN WITH BANKABILITY

- The assessment tool was developed to analyze the financial implications of design changes to PPAs
- Developed in Excel for greater flexibility and acceptance
- Designed from the ground up by IRENA with consultants COWI



# Thank you

