

Bankability of Solar Projects – A developers perspective

November 2015



Welspun Renewables

PAN INDIA RENEWABLES PLAYER

Welspun Renewables Energy (WREPL) has an operational renewable energy capacity of **~595 MW (449 MW solar and 146 MW wind)** and is present **across 10 states**

For **100%** of its current operating capacity, WREPL has got PPA for **25 years** with various state utilities

Operational capacity will cross 1 GW mark this year and **5 GW by FY20**

In addition to Sponsors investment, WREPL has raised funds from large marquee **global investors – ADB, DEG, GE**



WREPL HAS RAISED >USD 720 MILLION OF DEBT FROM MAJOR LENDING BANKS

Financing terms superior to industry norms

Favorable Debt terms
75:25 Debt Equity Ratio
Among lowest Interest Rate in the industry for comparable tenure
Ballooning structure
No Recourse to Parent

Financial Closure for MP 150 MW Solar Project: Received 30% over subscription –
A notable exception in the Indian Infrastructure debt market

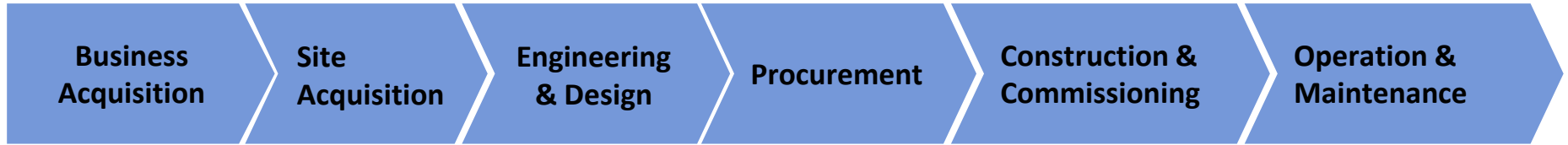
Strong Relationships with banks and financial institutions



Source: Company

KEY TO BANKABILITY OF SOLAR PROJECTS IS RISK MITIGATION ACROSS VALUE CHAIN

Value chain



Critical success factors/ risks

- Selective bidding, choice of projects to ensure profitability and margin of safety
- Land bank with clear title
- Efficient and effective EPC (cost, time and quality)
 - Design, procurement, execution
- Robust society engagement
- Effective governance and compliance framework
- Efficient O&M
- Resource capacity and capability
- System and process driven organization

RISK MITIGATING OPERATING PRACTICES IN EPC

Engineering

- ❑ O&M Centric Design
- ❑ Design Standardization
- ❑ Design Optimization
 - Cost efficiency
 - Innovation
- ❑ In-house “Center of Excellence”
- ❑ Effective utilization of Natural Resources
- ❑ Incorporation of Lessons Learnt Program

Contracts and commercial

- ❑ Continuous Vendor development
- ❑ Continuous review and focus on Quality
- ❑ Robust Vendor Management framework
 - Vendor capability enhancement
 - Short Tender Cycle
- ❑ Partner in progress
- ❑ Strategic sourcing
 - Long Term Partnership
 - Collaborative working

Construction

- ❑ Site Enabling Facilities
- ❑ Fast track execution
- ❑ Detailed Construction Schedule integrated with Eng. And Procurement
- ❑ Material Management System in place
- ❑ Third Party Quality Control
- ❑ Vendor / Contract Management

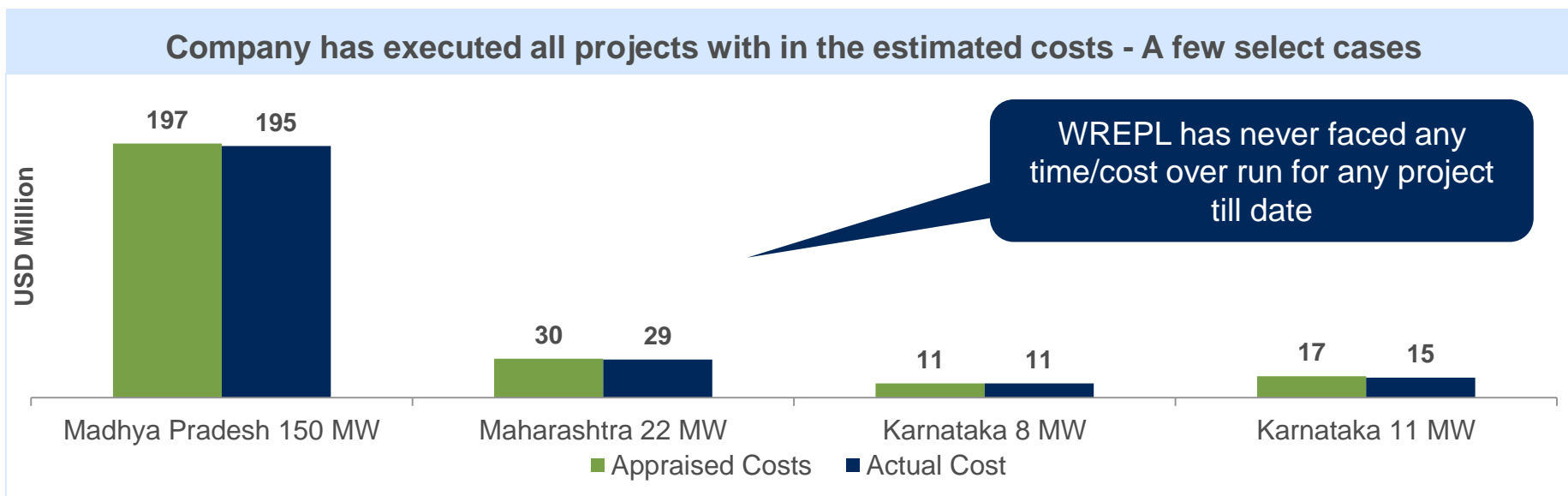
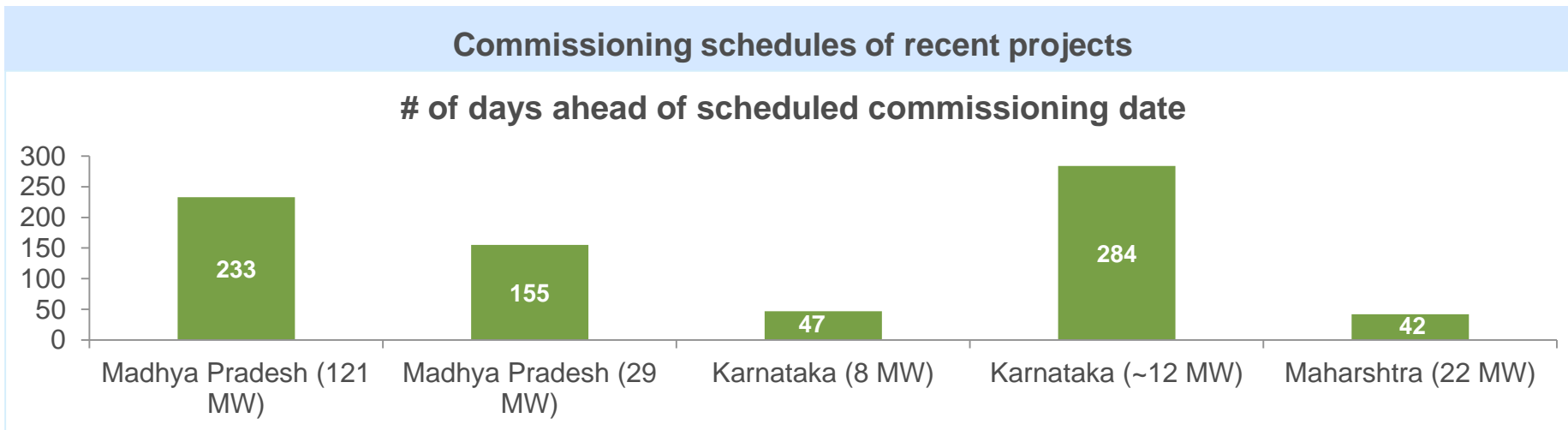
Project management and quality

- ❑ Documented processes aligned with global practices
- ❑ Trained and experienced certified professionals
- ❑ Detailed scheduling
- ❑ Multilevel monitoring and reporting (MIS)
- ❑ Reviews aligned with priority and criticality
- ❑ Continued SLA monitoring
- ❑ Independent 3rd party quality control

Support

- ❑ Cash flow planning and management
- ❑ Dynamic resource planning, sourcing an deployment
- ❑ Proactive and continuous social engagement

OUR PROCESS MATURITY HELPS COMMISSION PROJECTS AHEAD OF SCHEDULES & WITHIN ESTIMATED COSTS



Source: Company

PROCUREMENT RISK MANAGEMENT

Procurement life cycle and macro level risks



<p>Risk:</p> <ul style="list-style-type: none"> • Optimization of packages • Cost efficiency • Project management <p>Mitigation:</p> <ul style="list-style-type: none"> • Experience and expertise • Cost database • PMO and effective scheduling 	<p>Risk:</p> <ul style="list-style-type: none"> • Process lead time • Process adherence • Cost and quality <p>Mitigation:</p> <ul style="list-style-type: none"> • ISO Processes • Package specific selection criteria • Robust contracting • Evaluation, monitoring 	<p>Risk:</p> <ul style="list-style-type: none"> • Quality • Punctuality • Project management • Compliances <p>Mitigation:</p> <ul style="list-style-type: none"> • Dedicated SCM team • 3 layered PMO • Robust vendor management • Performance (milestone) linked payment 	<p>Risk:</p> <ul style="list-style-type: none"> • Adequacy of and deviation in quality standard, monitoring, remediation <p>Mitigation:</p> <ul style="list-style-type: none"> • In house standard setting • 3rd party and in house team verification • CFT for remediation 	<p>Risk:</p> <ul style="list-style-type: none"> • Adequacy in residual risk identification, documentation etc. with action plan. <p>Mitigation:</p> <ul style="list-style-type: none"> • Robust project documentation • CFT for issues, impacts and planning. • Contract settlement
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Asset transfer to O&M team with documentation, warranties, guarantees and performance bonds

Guiding factors

- Cost efficiency
- Project scheduling
- Quality focus
- Supply chain optimization
- Project execution efficiency
- Environment and social focus
- Compliance focus
- Project monitoring efficacy

ILLUSTRATIVE RISK MITIGATING PROCESS FOR VENDOR (MATERIALS AND SERVICES) SELECTION

Vendor selection criteria

Modules
Tier 1 as per Bloomberg or Forbes list
Provenance: at 2 sites min 2 years
Positive factory inspection results
Adequate India focus (located teams)
Positive power tolerance and PID free
Quality assurance: IEC/TUV certified, random testing at 3 rd party lab.

Civil works
Turnover
Experience in similar work (past and current)
Machineries available
Manpower Available
Compliance with local regulations
Contract adherence capability
Location advantage

Electrical works
Turnover
Experience in similar work (past and current)
Machineries available
Manpower Available
Compliance with local regulations
Contract adherence capability
Location advantage

Inverters
Life cycle (design to commissioning) experience : min 100MW
Provenance: at 2 sites min 6 months
Own manufacturing facility with capacity
Spares and service centers in India
Satisfactory references
Contract adherence capability

Structural material
Manufacturing capacity
Quality control capability
Financial capability
Experience
Contract adherence capability <ul style="list-style-type: none"> • Supply chain • Compliances

Electrical equipments & materials
Financial and technical adequacy
Provenance: at 3 sites min 2 years
Business continuity and adequate capacity for full life cycle (design to deployment)
Successful factory inspection visit
Compliance with and approval from local authorities and regulators

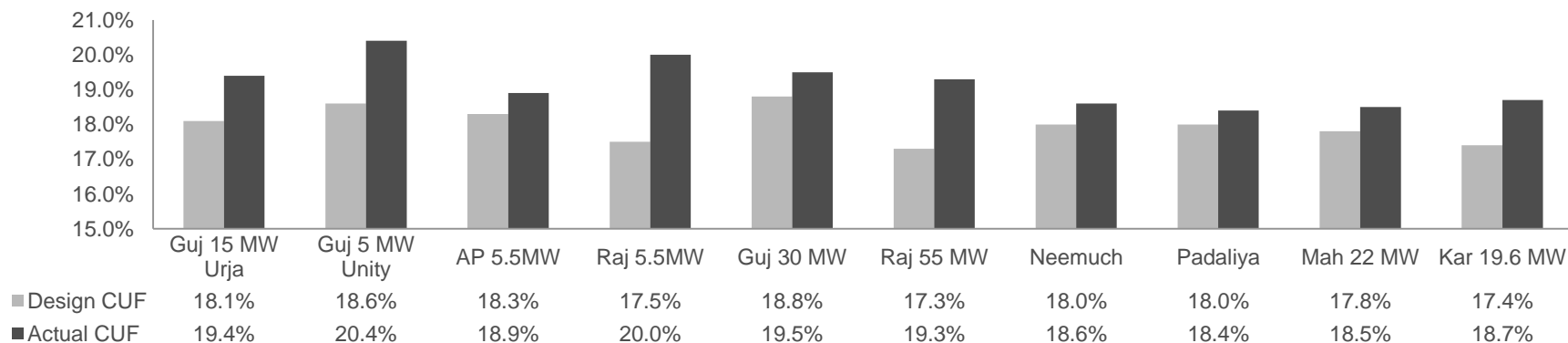
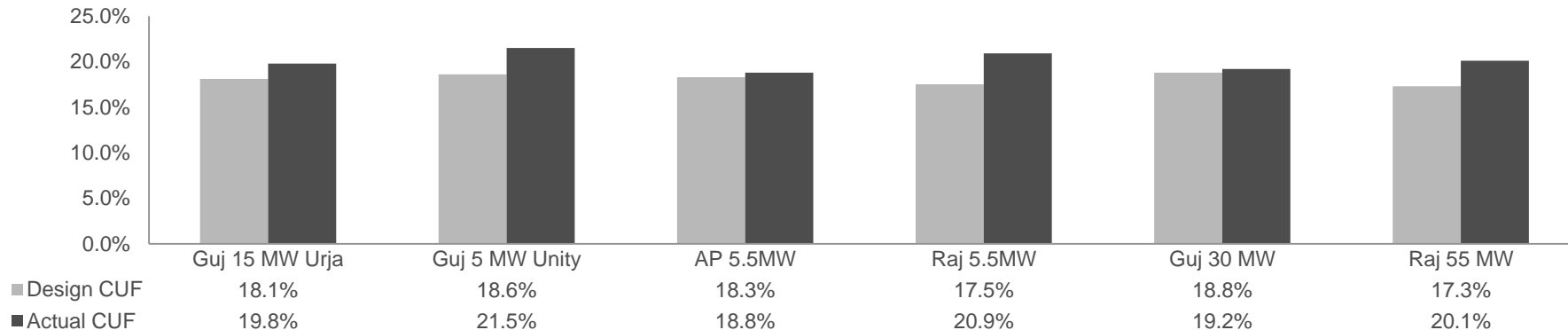
RISK MITIGATION IN O&M

O&M

- ❑ Documented risk mitigating operating process aligned with global best practices
- ❑ SCADA and remote monitoring
- ❑ Product warranties, performance guarantees, AMCs and insurances
- ❑ Spare parts management
- ❑ Ongoing social engagement
- ❑ Compliance focus
- ❑ Regular performance review
- ❑ Continuous key stakeholders engagement – faster revenue realization
- ❑ Continuous technical and process innovation for operational and revenue enhancement

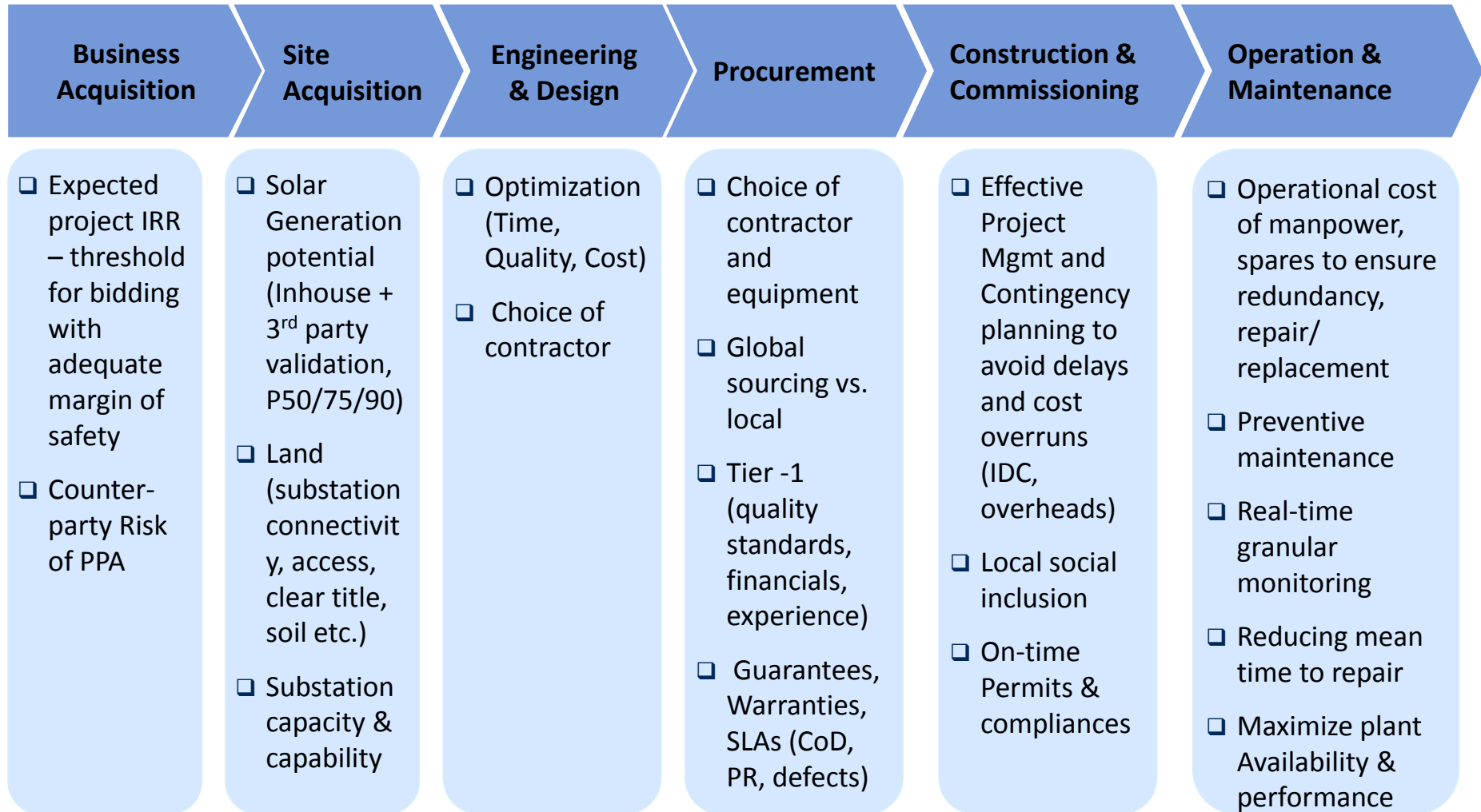
OUR O&M PRACTICES HELP ACHIEVE BETTER THAN PROJECTED PERFORMANCE

Sustained Operational Excellence – Actual PLF Better Than Design PLF



Source: Company
Note: Fiscal year ends March 31st.

SUMMARY OF KEY ASPECTS IN THE VALUE CHAIN THAT AFFECT BANKABILITY OF SOLAR PROJECT



... a good track record of operating Solar Plants installed and promoter's profile are the two most important factors to get fast financial closure

THANK YOU

