

Date: March 19, 2022

To

BSE Limited The National Stock Exchange of India Limited

P J Towers, "Exchange Plaza",

Dalal Street, Bandra – Kurla Complex,

Mumbai – 400 001 Bandra (E), Mumbai – 400 051

Scrip Code: 541450 Scrip Code: ADANIGREEN

Dear Sir,

Sub: Intimation of Analysts / Institutional Investors Meeting - Presentation

Dear Sir,

Pursuant to Regulation 30 of the SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015 and in furtherance to Company's intimation dated March 17, 2022, the presentation for the interaction with investors / external parties is enclosed herewith and also being uploaded on website of the Company <a href="https://www.adanigreenenergy.com">www.adanigreenenergy.com</a>.

You are requested to take the same on your records.

Thanking You

Yours Faithfully,

For, Adani Green Energy Limited

0-----

Company Secretary



# Adani Green Energy Limited

**Equity Presentation** 

March 2022



# Table of Contents



1	Adani Portfolio – Overview				
2	Adani Green Energy Limited – Company Profile				
3	Adani Green Energy Limited - Business Philosophy				
3	Strategic Sites & Evacuation				
31	Engineering, Procurement & Construction				
30	O&M Capabilities				
30	Capital Management Philosophy				
4	Adani Green Energy Limited – Investment Case				

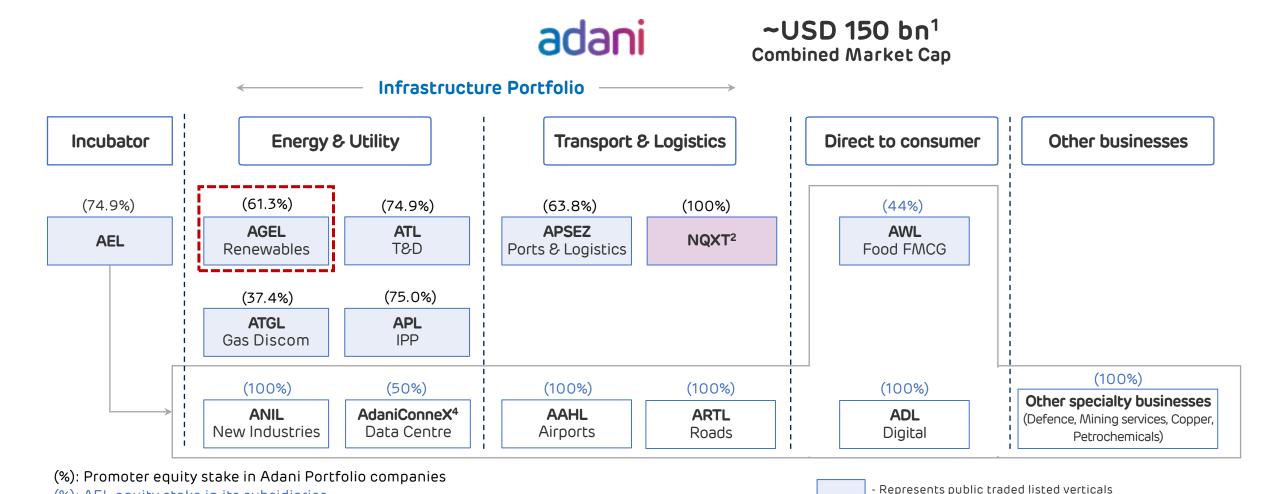


Adani Portfolio -Overview

# Adani: A World Class Infrastructure & Utility Portfolio

(%): AEL equity stake in its subsidiaries



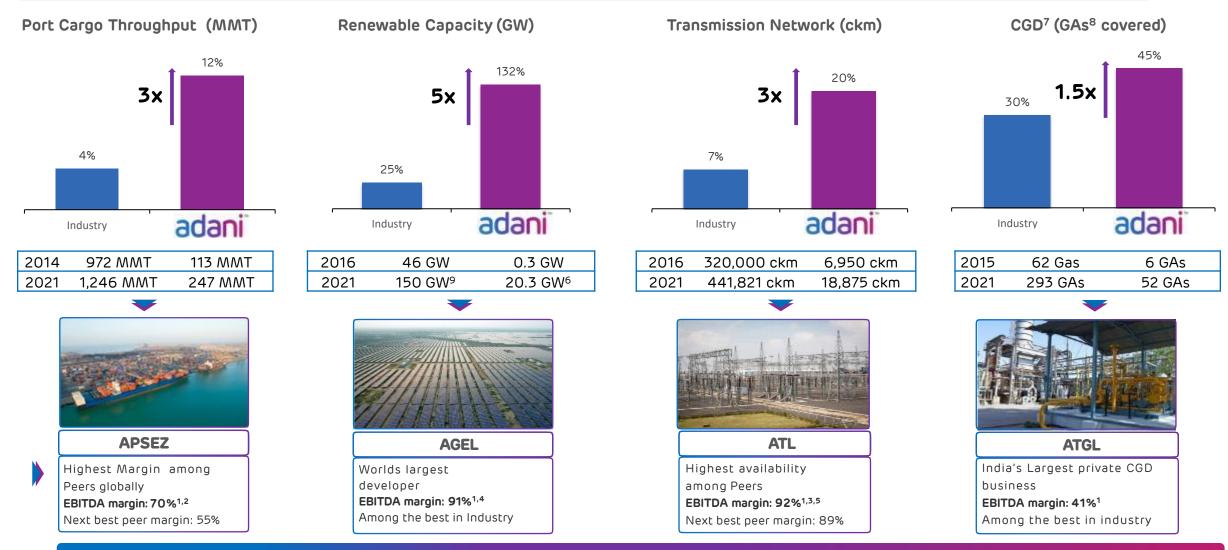


#### A multi-decade story of high growth and derisked cash flow generation

<sup>1.</sup> Combined market cap of all listed entities as on Feb 16, 2022, USD/INR – 75.0 | 2. NQXT: North Queensland Export Terminal | 3. ATGL: Adani Total Gas Ltd, JV with Total Energies | 4. Data center, JV with EdgeConnex, AEL: Adani Enterprises Limited; APSEZ: Adani Ports and Special Economic Zone Limited; ATL: Adani Transmission Limited; T&D: Transmission & Distribution; APL: Adani Power Limited; AGEL: Adani Green Energy Limited; AAHL: Adani Airport Holdings Limited; ARTL: Adani Roads Transport Limited; ANIL: Adani New Industries Limited; AVL: Adani Wilmar Limited; APSEZ: Adani Digital Limited; IPP: Independent Power Producer

# Adani: Decades long track record of industry best growth rates across sectors





Transformative model driving scale, growth and free cashflow

# Adani: Repeatable, robust & proven transformative model of investment



#### **Phase**

#### **Development**



#### **Operations**



#### **Post Operations**

# Activity

Performance

#### Site Development

#### Construction

#### Capital Mgmt

Analysis & market intelligence

Origination

- Viability analysis
- Strategic value
- Site acquisition
- Concessions & regulatory agreements
- Investment case development

- Engineering & design
- Sourcing & quality levels
- Equity & debt funding at project
- Life cycle O&M planning

Energy Network Operation

Center (ENOC)

• Technology enabled O&M

Operation

- Redesigning the capital structure of the asset
- Operational phase funding consistent with asset life

India's Largest Commercial Port (at Mundra)





Highest Margin amona Peers

Longest Private HVDC Line in Asia (Mundra - Mohindergarh)



Highest availability

648 MW Ultra Mega Solar Power Plant (at Kamuthi, TamilNadu)



Constructed and Commissioned in nine months

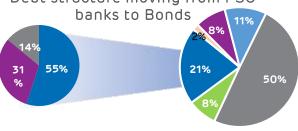


Centralized continuous monitoring of plants across India on a single cloud based platform



- First ever GMTN of USD 2Bn by an energy utility player in India - an SLB in line with COP26 goals - at AEML
- AGEL's tied up "Diversified Growth Capital" with revolving facility of USD 1.35 Bn - fully fund its entire project pipeline
- Issuance of 20 & 10 year dual tranche bond of USD 750 mn - APSEZ the only infrastructure company to do so
- Green bond issuance of USD 750 mn establishes AGEL as India's leading credit in the renewable sector

Debt structure moving from PSU









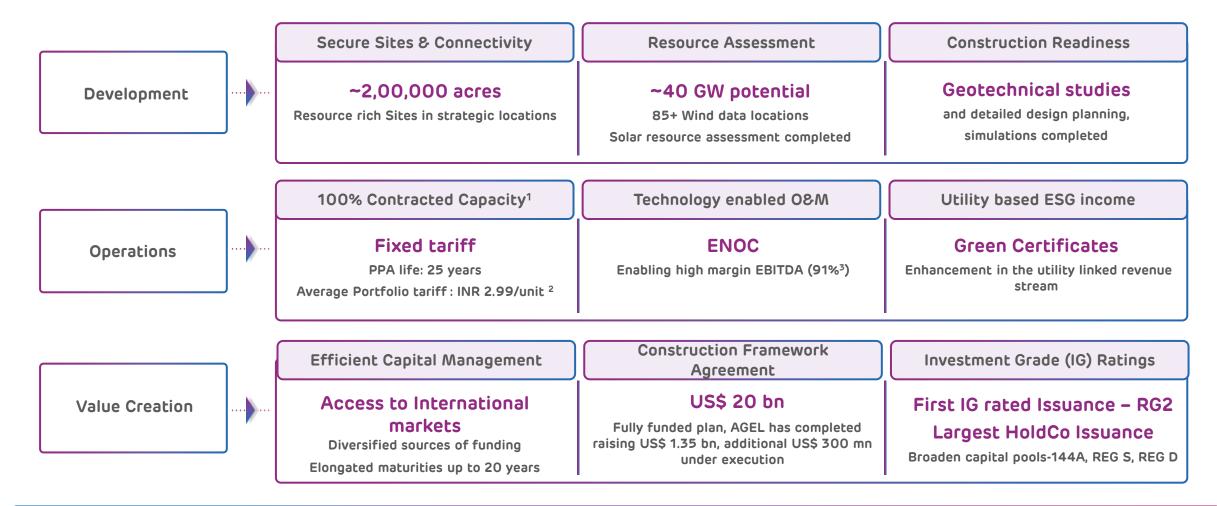
08M: Operations & Maintenance, HVDC: High voltage, direct current, PSU: Public Sector Undertaking (Public Banks in India), GMTN: Global Medium Term Notes SLB: Sustainability Linked Bonds, AEML: Adani Electricity Mumbai Ltd. IG: Investment Grade, LC: Letter of Credit, DII: Domestic Institutional Investors, COP26: 2021 United Nations Climate Change Conference; AGEL: Adani Green Energy Ltd.

March 2016 ●PSU ●Pvt. Banks ●Bonds ●DII •Global Int. Banks • PSU - Capex LC

March 2021

# AGEL: Replicating Group's Simple yet Transformational Business Model





### World's largest solar developer<sup>(4)</sup>, well positioned for industry leading growth

- . Excluding a small merchant solar capacity of 50 MW
- 2. Average tariff for locked-in growth of 20.3 GW
- 3. EBITDA margin from power supply in FY21
- 4. According to Mercom Capital Group report titled "Leading Global Large-Scale Solar PV Developers" dated August 2020

## Adani & TotalEnergies Renewable Partnership



Adani and TotalEnergies have a long-term partnership and commitment to expanding the renewable footprint through AGEL

# adani

- Amongst Largest infrastructure and real asset platform with deep expertise and experience in developing large scale infrastructure projects in India
- Fully integrated energy player in India
- Disciplined yet transformational capital management approach, applied across infrastructure sub sectors
- Strong supply chain integration
- Commenced renewable journey in India through AGEL in 2015 setting up the then largest solar power project in the world
- AGEL has signed UN Energy Compact committing to develop and operate Renewable Energy Generation Capacity of 25 GW by 2025 and 45 GW by 2030 and to keep average tariff below Average Power Purchase Cost at national level



- One of the largest energy players in the world with presence across
   130 countries & a leading liquefied natural gas player globally
- Net Zero ambition by 2050, Operating renewable projects all over the world and target to have 35 GW renewable capacity by 2025
- Deep focus on new renewable energy technology R&D to reduce cost of energy and assist in grid adoption
- Adani and TotalEnergies have formed a "strategic alliance" across renewables, city gas distribution, LNG terminals.
- TotalEnergies owns 20% stake <sup>1</sup> in AGEL and 50% Stake <sup>2</sup> in Adani Green Energy Twenty-Three Limited
- TotalEnergies has board representation in AGEL and is present on Audit Committee of AGEL

Embedded Teams in plant O&M and development for exchanging ideas and best practices

Adani and TotalEnergies jointly working to achieve global best practices of governance

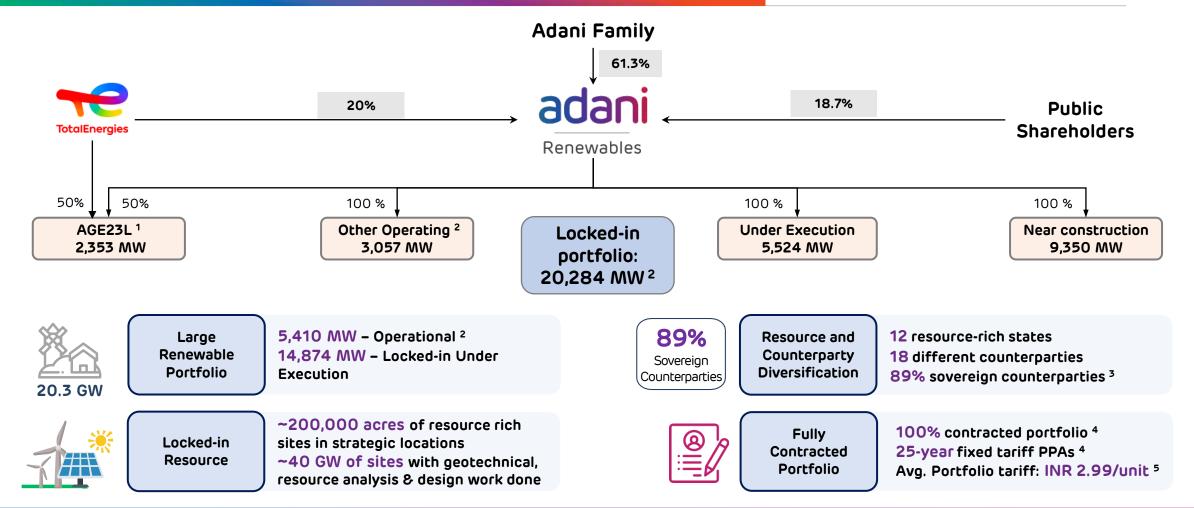


# 

Adani Green Energy Limited (AGEL): Company Profile

## AGEL at a glance





#### Renewable capacity of 20.3 GW is fully funded and confirmed

<sup>&</sup>lt;sup>1</sup>Includes RG 1 (Restricted Group Entity 1) and RG 2 (Restricted Group Entity 2) SPVs

<sup>&</sup>lt;sup>2</sup> Include acquired projects (i) Inox Wind's 150 MW operational wind assets; (ii) Essel 40 MW operational solar asset and (iii) exclude recently awared 150MW solar asset with Punjab State Power Corporation Limited (PSPCL)

<sup>&</sup>lt;sup>3</sup> Includes 6% sovereign equivalent rated counterparties - Gujarat Urja Vikas Nigam Limited (GUVNL) and Adani Electricity Mumbai Limited (AEML)

<sup>&</sup>lt;sup>4</sup> Excluding a small merchant solar capacity of 50 MW

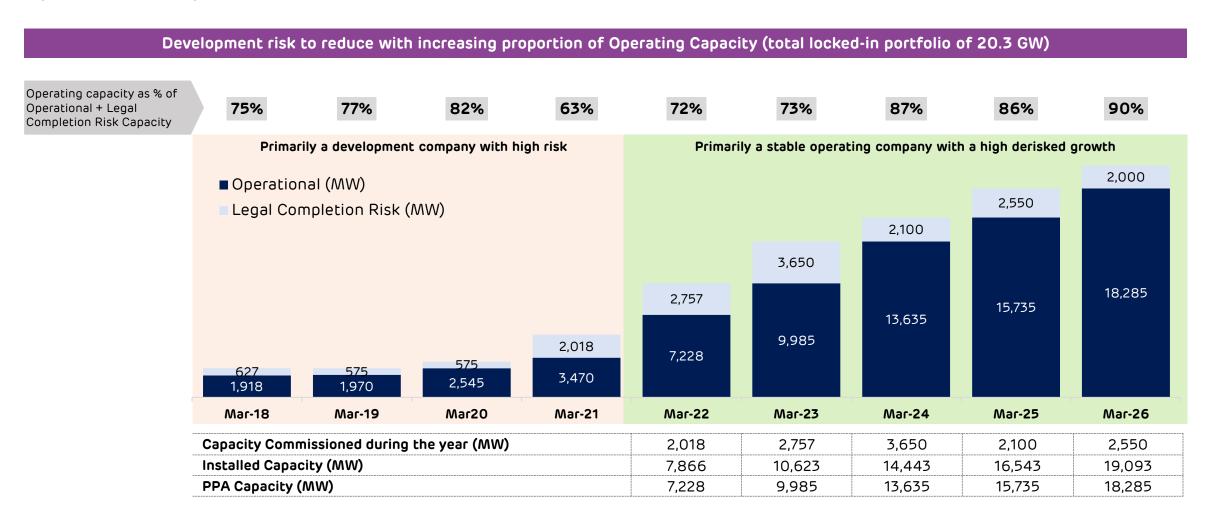
<sup>&</sup>lt;sup>5</sup> Average tariff for locked-in growth of 20.3 GW

 $<sup>^{6}</sup>$  According to Mercom Capital Group, LLC's report titled "Leading Global Large-Scale Solar PV Developers" dated August 2020

# Growth, Cash Flow and Distribution capability Derisked

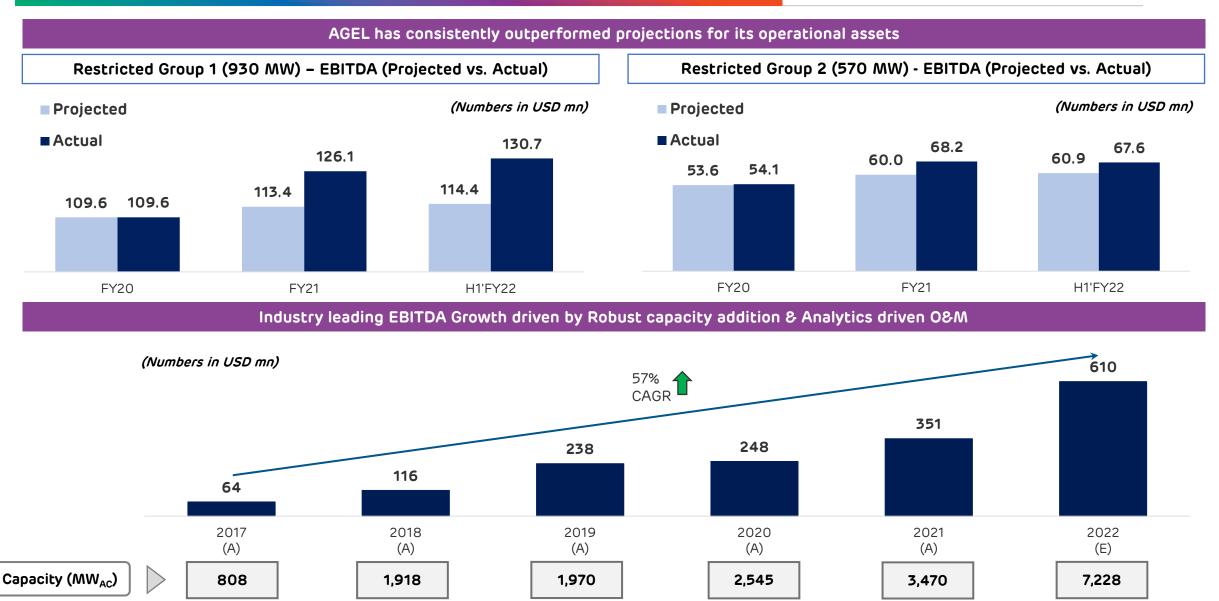


Assets contracted under 25 year PPA, **89% of contracted capacity on fully built basis is contracted to sovereign / sovereign equivalent counterparties** 



# Track record of high growth coupled with actual performance consistently higher than projections

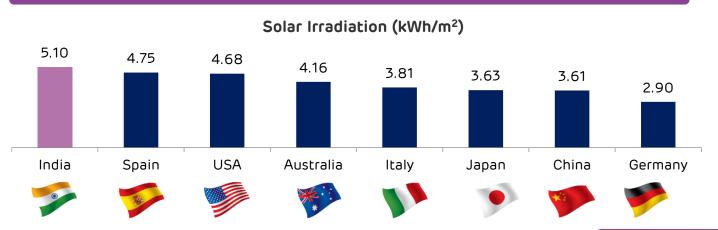




# India: A Resource Rich Country supported by Visionary Government Policy







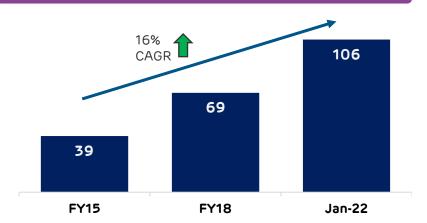
#### Solar Resource:

- 5,000 trillion KWh solar radiation is incident per year
- Rajasthan has the highest intensity of radiation (6.4-6.6 Kwh/m2/day):
- Few Distt. in Rajasthan have potential of ~120 GW

#### Wind Resource:

- Southern and western states majorly contribute to the wind potential in the country
- Potential sites are in the states of Andhra Pradesh,
   Gujarat, Karnataka, Maharashtra, and Tamil Nadu

#### Installed Renewable Capacity in India (GW)



Source: Central Electricity Authority (CEA) and Ministry of New & Renewable Energy

#### Hon'ble Prime Minister of India – Shri Narendra Modi's COP26 address





In the midst of this global brainstorming on climate change, on behalf of India, I would like to present five nectar elements, 'Panchamrit', to deal with this challenge.

- 1. India will take its non-fossil energy capacity to 500 GW by 2030.
- 2. India will meet **50% of its energy requirements** from renewable energy by 2030.
- 3. India will reduce the total projected carbon emissions by **one billion tonnes** from now till 2030.
- 4. By 2030, India will reduce the carbon intensity of its economy by more than 45%.
- 5. By the year 2070, India will achieve the target of **Net Zero**.

# Industry backed by stable and evolved Regulatory Framework



#### Government target of 500 GW renewable capacity by 2030

Ministry of Power (MOP)		Empowered Committee		CEA					
Participants/Statutory bodies under Electricity Act, 2003									
ERC	<ul> <li>To regulate and determine/adopt the tariff and to grant license</li> <li>CERC at national level and SERC at state level</li> </ul>								
СТU	<ul> <li>Undertake transmission at inter-state transmission systems</li> <li>Has an equivalent counterpart at state level (STU)</li> </ul>								
NLDC	<ul> <li>Optimum scheduling and despatching of electricity among the Regional Load Despatch Centres (RLDC) and State Load Despatch Centres (SLDC)</li> </ul>								

#### Tariff Determination Methodology

#### Section 63 (Competitive bidding)

- Tariff determined through transparent process of competitive bidding
- Standard bidding guidelines notified by Ministry of Power in line with the Electricity Act 2003 and the National Tariff Policy, 2016
- CERC or the state regulatory commission adopts tariffs determined through bidding
- Renewables PPA tenure of 25 years. No adjustment to tariff allowed aside from CIL adjustments

#### Tariff Determination Methodology for Renewable Projects

Section 63 of Electricity
Act



Tariff fixed for PPA life



Change in Law (CIL)
(if any)

Tariff is determined through a transparent reverse auction process

Bid tariff fixed over PPA tenure of 25 years. Provides revenue visibility

Any change in law that has an impact on Tariff is allowed



# 03

Adani Green Energy Limited: Business Philosophy

# **AGEL:** Business Philosophy focusing on De-risking at every stage of project lifecycle



#### **DE-RISKING AT EVERY STAGE**

#### Site and Evacuation

- ~40GW of strategic sites with geotechnical, resource analysis & design work done
- ~200,000 acres of land available
- Clear visibility on evacuation infrastructure

#### Strong In house Capabilities

- Execution experience over 320 sites across India
- 20,000 vendor network
- Inhouse R&D on new renewable technologies

#### Capital Management

- HoldCo. Sr. facility limits of USD 1.7 bn available to fully fund growth
- Takeout of construction debt post commissioning
- Maintain IG rating framework for future issuances



#### **Project Execution**

- PMAG Central team with deep experience
- Example: Execution of 648 MW Kamuthi Solar Project
- GW+ scale sites

#### **Construction Finance**

- Construction framework consistent with stage of project execution
- LC facility to finance equipment purchase
- Example: Framework Agreement of US\$ 1.35 bn with international banks fully funds pipeline

#### Tech Enabled Operations - ENOC

- Life cycle O&M planning
- Strong integration of technology with Energy Network Operations Center

#### **DE-RISKING AT EVERY STAGE**

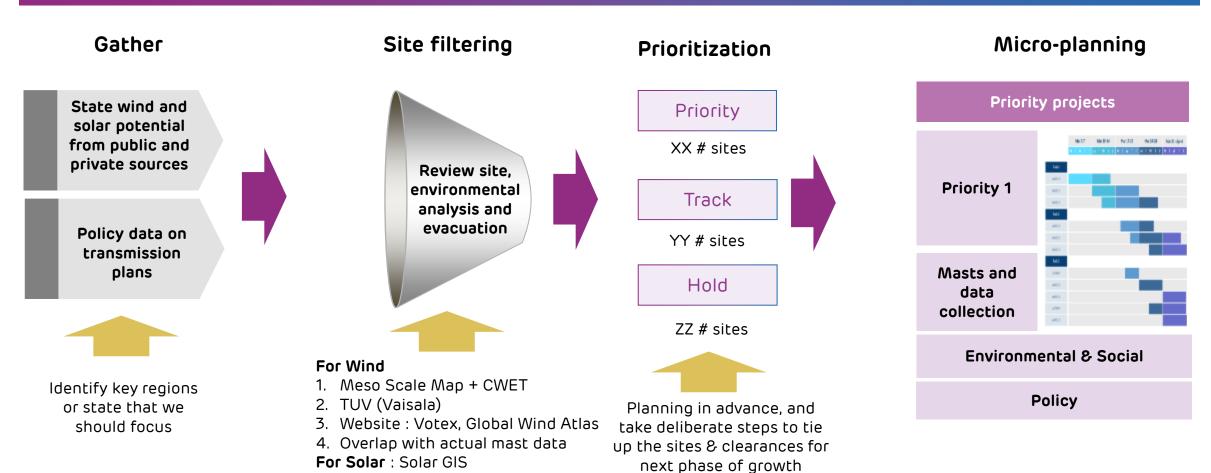


3a. Strategic Sites & Evacuation

# Approach to lock in strategic location by aggregating 5 year forward strategic sites



#### Systematic Approach to identify resource rich sites in order to de-risk projects



Site procurement done directly from owners reducing site acquisition costs

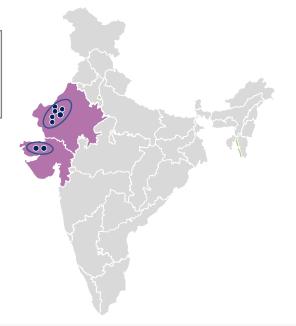
<sup>1.</sup> **CWET**: Centre for Wind Energy Technology; **GIS**: Geographic Information System

# Construction Ready Strategic Sites with High Resource



#### Identified high resource potential sites of ~2,00,000 acres in Rajasthan and Gujarat

Rajasthan and Gujarat Clusters ~2,00,000 acres (Several sites) 40 GW





~2,00,000 Acres Of Land Predominantly Owned By Government



Connectivity granted for entire portfolio.

For planned growth projects connectivity to be applied on receipt of LOAs<sup>3</sup>



Average Solar DC CUF ~24%+ Wind CUF ~40%+



Team consisting of 100+ professionals<sup>1</sup>

Above Sites Available to Deploy: Under Construction ~5.6 GW



Near Construction ~9.3 GW



De-Risked
Growth Capacity
~17 GW



Future Project
Potential

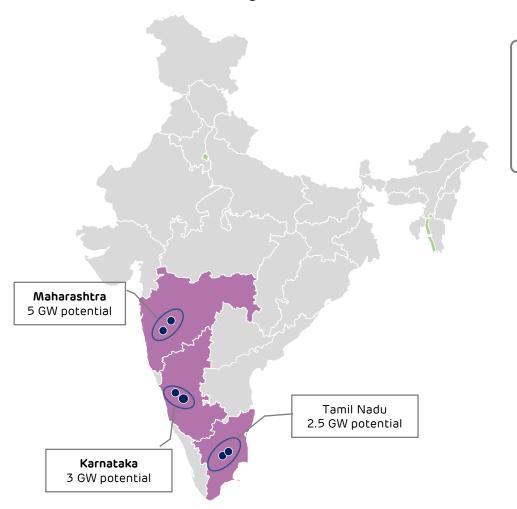
Executing projects at above sites would take AGEL portfolio to >40 GW (~20.3 GW of operational, under & near construction projects and 20 GW of future project potential)

- . Team hiring in progress
- 2. DC Direct Current; CUF Capacity Utilization Factor
- 3. LOA: Letter of award received from power purchaser on winning the bid

# Additional Sites under Development (10.5 GW)



#### Future Readiness with High Resource Potential sites in Maharashtra, Karnataka, Tamil Nadu





Strategy to acquire Barren Non-agricultural Waste land



Focus States Maharashtra, Karnataka Tamil Nadu



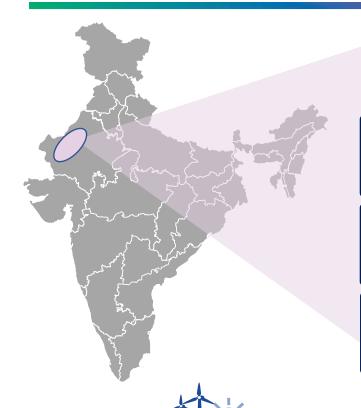
Average CUF Solar DC CUF ~19%-21% Wind CUF ~40%+

- ✓ Wind & Solar resource rich areas identified
- ✓ Engaged with stakeholders
- ✓ Project development feasibility underway

To enable site-availability for the next phase of Growth ~10.5 GW

# Case Study: Renewable cluster deployment of up to 15 GW in Rajasthan





#### 1.7 GW Hybrid projects

PPA already secured, expected commissioning by July 2022

#### 600 MW Hybrid projects

PPA already secured, expected commissioning by December 2023

# 7 GW manufacturing linked generation project

PPAs secured, to be commissioned in tranches starting from December 2023

6 GW future projects



~1,25,000 acres of land Non-agricultural barren land



Cluster based approach - All Projects in a Single Cluster around Jaisalmer Enabling significant scale efficiencies

#### Site Development mostly de-risked

Stakeholder Management Good relations established with local administration helping smooth execution

Statutory
Approvals for
Construction

All approvals in place

Approach Road & Route survey Completed well in advance to enable transport of materials and manpower

Site infrastructure

Common site infrastructure in place enabling significant scale efficiencies

Site team deployment

Standardized site team organization & deployment in place

Site Topographic & Geo-technical survey

Completed to enable long lasting foundation

Transmission
Line route survey

De-risked evacuation

# Ideal Wind speed of 6.7 mtrs/ second

Well planned Evacuation

Connected to Central Grid through High-capacity transmission lines

Solar irradiation of ~2,000 kWh/sqm -

top 5 in India



3b. Engineering, Procurement & Construction

# Engineering – Core Strengths



#### In-House Design & Value Engineering Capability to Ensure Long-Lasting World-Class Asset

#### In-house Engineering



Strong design & engineering team of more than 125 engineering professionals with cumulative experience of 2,500 man-years. Capable to handle all aspects in providing engineering solutions for solar, wind & hybrid projects. Optimized solution with high degree of accuracy



#### **Optimization in Layout**

- Effective module placement for full utilization of available sites.
   Shadow analysis, Module orientation study, Module load study for double, triple or multiple staking
- Consequentially leading to high level of optimization of land footprint and project cost.

#### **Resource Analysis**



- Solar: Systematic collection of site-specific meteorological data for annual energy production
- Wind: Identification of potential sites based on mesoscale wind maps and further analysing to assess the energy yield



#### Technology selection

 Selection of Modules, Inverters, trackers. Evaluation of plant system voltage & current. Design of PV string to meet required parameters

#### Use of best in Industry software



- For SRA PV Syst, Meteonorm
- For WRA WASP, Windfarmer, Openwind, Meteodyn
- Engineering Staad Pro, PLS Cad, Civil 3D Autocad



#### Design with Value Engineering

 Capability to carry out basic & detailed design for most of the plant facilities which includes system studies, civil & structural design and plant electrical & control system

#### Repowering



- Periodic repowering of DC capacity to make up for loss of generation due to solar degradation
- Site requirement and design parameters fully backed in at the planning stage to enable repowering
- Plug and play arrangement for installation of additional modules

# Supply Chain Management - Focused Strategic Sourcing & Process Excellence



#### Robust Sourcing Capabilities for On time Deliveries & Execution



#### Centralised Procurement

 Maximization of Common Opex & Services ARCs, Procurement of Bulk & Common Capex and non-ARC Services



#### **Procurement Strategy**

• Long term Strategic alliance with world top rank suppliers for Key Categories i.e. Modules, Inverter, Tracker, WTG etc.



#### Logistics and Supply chain management

- Leverage group strength in ports and logistics business and relationships with shipping lines for import of modules, inverters, MMS and trackers
- Established sourcing network in host countries for imported equipment



#### Procurement Risk Management

 Managing procurement risk i.e. Price risk, foreign exchange risk, Monopoly of Supplier risk, Suppliers specific geographic risk, logistics risk, taxation risk, legal risk, statutory risk, intellectual property risk etc.



#### **Process Excellence:**

- Data Analytics, SAP enablement & controls, Organization Building, Governance
- E-Auction and Standardization of Contract documents



#### Modern IT Tools

• The advent of modern P2P IT tools (ARIBA) and AI, ML & RPA will further reduce human intervention and bring more automation/efficiency

#### **Objectives**

- Improve efficiency/ productivity
- Uniform process and IT enabled SOPs for better Governance
- Cost reduction/ value prepositions
- Develop Category Leads/ SMEs and inculcate cross BU culture.
- Organization/Capability building
- Sustainability

# Project Management & Assurance Group (PMAG) - End to End Project Integration











#### Concept

### Integrated Project Management



Strength: Team of 90 professionals having hands-on experience of above 2,000 man-years of complete project management cycle of small, medium & large projects

#### **Bidding Stage**

- Integrating & providing cross
   functional support for Bidding Process
- Site / Site Location Assessment, coordinating for field visits
- Bid stage scope finalization & technology adoption with engineering
- Ibid Stage Cost Estimates
- In case of M&A's, collaborating and assessment of M&A assets

#### **Project Development**

- Collaborates for Technology finalization & Scope
- Preparing & release of Execution
   Strategy
- Finalize Contracting Strategy
- Detailed Project Report
- Coordinating for connectivity & evacuation
- Level 1 Project Schedule
- Capex Budgets and Estimates
- Risk Assessment & plan
- Procurement Planning
- Financial Closure Plans

#### Project Execution

- Integrated L3 Project Schedule
- Baselining Cost and Resource plans
- Issue & Risk Management
- Supply Chain Management
- Contract Administration
- Contractor & Vendor Management
- Change Management
- Monitoring Approvals , Permits & Licenses
- Managing Lenders & LIE interface
- Cash Flow Management
- Project Monitoring & Control
- Mid Course Corrections (Catch up)

#### **Project Close Out**

- Facilitating the Handover & punch list closure
- Contract Closures
- Close Out Report
- Material Reconciliation
- Spares Handover
- Closure of LIE and Lender Reports
- Stakeholder Recognition
- Finalizing the Final Costs
- Ensuring As built drawings



**Strong Project Controls** 



Collaborating & Convergence



**Effective Project Delivery** 

# Project Management & Assurance Group (PMAG) - Impact & Value Additions

**PMAG** 



Managing Priorities

# Effective Project Governance Structure

- Effective Project Management teams
- · Optimized Resources
- · Seamless Communication

# Stakeholder Management & Interface Management

- Interfacing with lenders/ LIE
- Contract Administration (Suppliers/ Contractors)
- Monitoring Project approvals, permits & licenses

## Process Implementation & Workflows turnarounds

- Establishing & adoption of process across all functions
- · Workflows for decisions/ deliverables

Establishing Synergies in teams

# Smooth Handover to Operations & Project Closeout

- · Convergence for early punch list closure
- Contract Closeouts & reconciliations

# Seamless Project Delivery on Time, Cost and returns

Support Decision Making

- Integrated Project Schedules (Primavera)
- Capex baselines and strong cost control (SAP)
- PPA objective tracking (IRR, LCOE etc.)

## Synergizing Efforts & Team Collaboration

- Cross-functional Interfacing for issue resolutions
- Organizing internal reviews

# Effective Reporting & Digitizing MIS

- · Portfolio Level Dashboard
- Regular MIS effective control & timely decisions
- Risk Management tools adopted (@risk)

Capturing Learnings & implementing in future projects

Higher Productivity

- Data repository Issues, learnings & implementation
- Analytics of project parameters for future reference



Schedule Adherence



**Ensuring Targeted Margins** 



Timely Issue Resolutions & Quick turnaround

# Case Study #1: Executed 33 Projects (1.4 GW) concurrently in 12 months across 7 states



#### Project Snapshot

- Portfolio of 33 projects with total capacity of 1.4 GW<sub>ac</sub>
- 100% capacity is contracted to sovereign / sub-sovereign counterparties for 25 years
- Overall portfolio constructed at total project cost of INR 8,788cr (USD 1.2 bn) and Project Cost <sup>3</sup>/ EBITDA of 6.5 x

830 MW forms part of RG1 portfolio 570 MW forms part of RG2 portfolio

# Execution Highlights

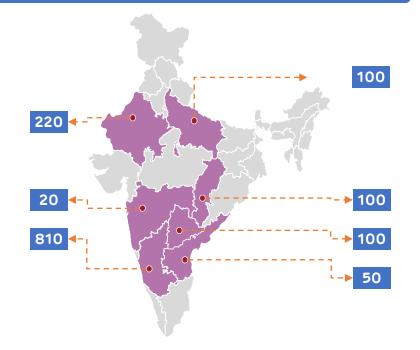


- GST (July 2017): Uncertainty in GST implementation led to delay in dispatch of equipment by vendors
- Demonetization (Nov 2016): Site acquisitions were on standstill because of uncertainty amongst sellers regarding transactions
- Despite above challenges, AGEL executed projects on time working relentlessly with multiple stakeholders including vendors and site acquisition dealers to help them overcome the issues
- Topographic, terrain and varying soil conditions at each site were also addressed effectively through our engineering and design capability

#### Project Quality

- High standards of construction and O&M practices leading to superior plant availability and generation
- Portfolio part of RG1 and RG2 Projects have been refinanced through financing from long term global investors
- Portfolio also forms part of the AGEL TOTAL JV
- 1. RG1: Stapled issuance by 3 SPVs of AGEL (930 MW) for US\$ 500 mn bond as restricted group
- 2. RG2: Stapled issuance by 3 SPVs of AGEL (570 MW) for US\$ 362.5 mn bond as restricted group
- 3. Project cost adjusted for Viability Gap Funding
- 4. RG1 Restricted Group 1; RG2 Restricted Group 2; GST Goods & Services Tax

#### **DIVERSIFIED GEOGRAPHICAL PRESENCE (MW)**



# Case Study #2: Kamuthi Solar Power 648 MW Ultra Mega Solar Power Plant



#### Kamuthi Solar Power Plant megastructure exemplifies AGEL's execution capabilities





- AGEL developed the **648 MW\_{\rm ac}** (778 MW $_{\rm dc}$ ), the world's then largest solar power plant at a single location spread over **2,340 acres** in Kamuthi, Tamil Nadu
- Mammoth execution undertaken in less than 9 months, of which 2 months featured the worst floods in recent history of Tamil Nadu
- Despite the natural calamity, the project was developed on time and hence featured on National Geographic special – Megastructures – India's Solar Power House [https://www.youtube.com/watch?v=qM-OlrlxCnE&t=1697s]







Acquired <u>2,340 acres</u> of private land, project executed over area of 15 sq. km



380,000 foundations constructed on site



2.5 mn solar modules



**8,500 personnel deployed** at site during peak hours



Handled <u>6,000</u> <u>containers</u> from 9 countries in 6 months



30,000 Tonnes of cement consumed, perimeter fencing of 62 km



550 inverters



Readiness of 216 MW switchyard from ground breaking to commissioning achieved in 49 days



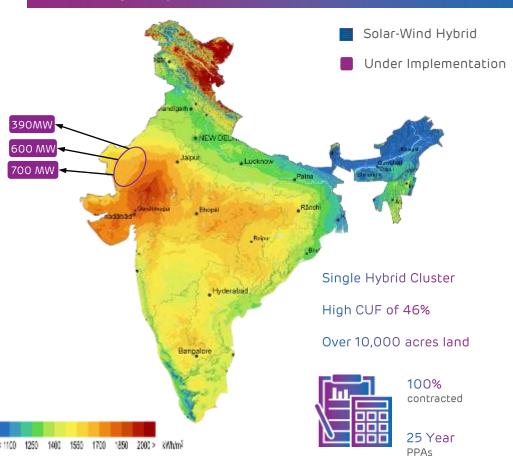


Case Study: India's largest Hybrid Cluster Development, Procurement & Construction

# 1,690 MW Hybrid Cluster Development



#### Strategically located near Jaisalmer, Rajasthan



#### **Project Snapshot**

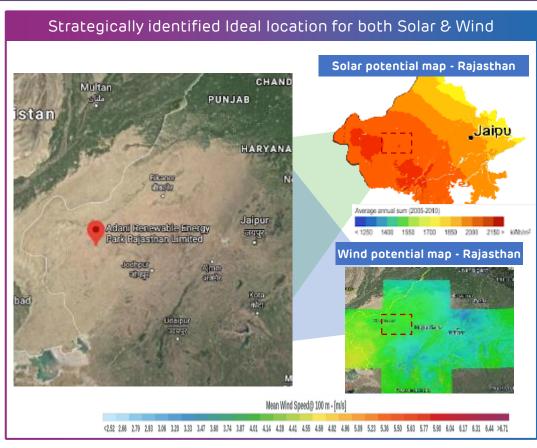
Particulars	Project 1	Project 2	Project 3	Total
PPA Capacity (MWac)	390	600	700	1,690
Solar (MWac)	360	600	600	1,560
Wind (MWac)	101	151	510	762
Counterparty	SECI	SECI	AEML	
Counterparty Type	Sovereign	Sovereign	Sovereign equivalent rated	
Solar Module make	Longi	Longi & Jinko	Jinko	
Wind Turbine Generator make	Siemens Gamesa & Suzlon	Siemens Gamesa & Suzlon	Siemens Gamesa & Suzlon	

#### Largest Hybrid Cluster in India spread over 10,000 acres of land

# 1,690 MW Hybrid Cluster Development - Site Origination



#### Stage 1: Site Origination fully de-risked well in advance



Source: Solar GIS, Global Wind Atlas

Perfect location for Hybrid Solar irradiation of 2000 kWh/ sqm - top 5 in India

Ideal Wind speed of 7 meters/ second

Ample availability of Non-agricultural Barren land

Cluster based approach

All projects in a Single Cluster around Fatehgarh

Enabling Significant scale efficiencies

Well planned Evacuation

#### Connected to Central Grid

Distributing Power across India through High-capacity transmission lines including 765kV

#### All site origination activities completed in advance

- ✓ Land Identified
- Stakeholders Identified
- ✓ Resource Assessment completed
- ✓ Evacuation Feasibility completed
- ✓ Site Accessibility in place
- ✓ Plant Design & Optimization completed

- ✓ Site Suitability Report in place
- ✓ Construction Resource Availability ascertained
- ✓ Logistic Feasibility & Route Survey Walkthrough in place
- ✓ Construction Material Source Identification completed

De-risked project development with 3 years of advance resource estimation

# 1,690 MW Hybrid Cluster Development - Site Development

place enabling significant scale

efficiencies

Site infrastructure



#### Stage 2: Site Development mostly de-risked

✓ Acquisition of 7,358 acres out ✓ Standardized site team. Site team Land Acquisition total 10,294 acres land organization & deployment in deployment completed place Good relations established with Stakeholder Site Topographic & ✓ Completed to enable long lasting. local administration helping Management Geo-tech survey foundation smooth execution Statutory Transmission Line Approvals for ✓ All approvals in place ✓ De-risked evacuation route survey Construction ✓ Completed well in advance to Construction Approach Road & enable transport of materials Material Source ✓ Completed Route survey identification and manpower Common site infrastructure in

Well-planned Site development enables Speedy & Error-free Execution

# 1,690 MW Hybrid Cluster Development - Site Development



#### Stage 3: Execution in progress



#### Detailed Engineering



Supply Chain Management



**Site Execution** 



**O&M** readiness

- Design Philosophy: Central Team of 117 experts to execute detailed engineering design
- Resource maximization: Deep understanding of resource estimation; AGEL factors higher uncertainty at design stage, leading to higher probability of achieving CUF targets
- Field engineering: Specialized project cell implements with minimal variation
- Technology adoption: Continuous upgradation on the latest technology of modules & WTGs

- **Strategic sourcing**: Long term tie-up for sourcing of equipment
- Ordering of critical supplies:
   Pricing discussions & all components ordering completed
- Manufacturing and dispatch readiness: Follow practices like Just-in-time to reduce IDC
- Quality assurance: In-house dedicated team for quality assurance; Quality control team also based at supplier's site

- Typical **Common infrastructure** planned for rapid project execution
- Workers' camp
- Centralised office
- Workshop
- Road works
- Approvals and Clearances obtained in line with commissioning schedule All approvals in place
- EHS practices to ensure Zero Harm policy
- Service Vendor mobilization complete
- Construction team fully deployed at site

- Learnings from past experiences
   exhaustive checklists to ensure max plant availability
- O&M team deployed at site ensuring adherence to SOPs ensuring 100% generation from Day 1
- Integration to ENOC immediately after commissioning

Tightly Woven & Interlinked Disciplines With Proven Strengths, Enabling delivery of Large Projects from Plan to Operational Readiness



3c. O&M Capabilities

# Technology Enabled Operational Excellence



- AGEL operating assets currently spread across 12 states and 60 locations. Portfolio managed by O&M team of 630 personnel
- Cluster based operating model enabling smooth governance and efficient utilization of manpower and spares: Personnel spread across Central office → Cluster teams
   (5 regional cluster teams) → Site personnel

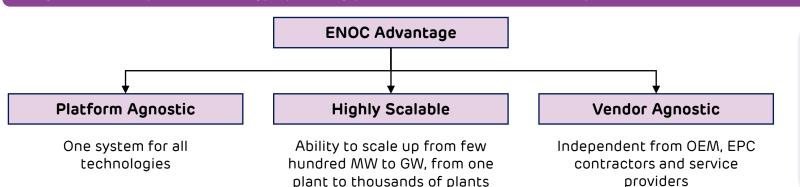
#### ENOC driven Predictive Analytics leading to cost efficient O&M and high performance



- Remote management of all sites from single location to help rapid scale-up of capacity
- Cutting-edge advanced analytics cloud-based platform
  - ✓ Provides **predictive maintenance** inputs reducing frequency of scheduled maintenance and reduced mean time between failure
  - ✓ Automatically recommends smart corrective actions in real time reducing mean time to repair
  - ✓ Detailed insights into plant and portfolio performance with access across multiple devices /locations
  - ✓ Backend machine learning and artificial Intelligence for continuously improving insights

#### Full Industrial Cloud under development

#### Integration of acquired SB Energy operating portfolio of 1.7 GW into ENOC platform

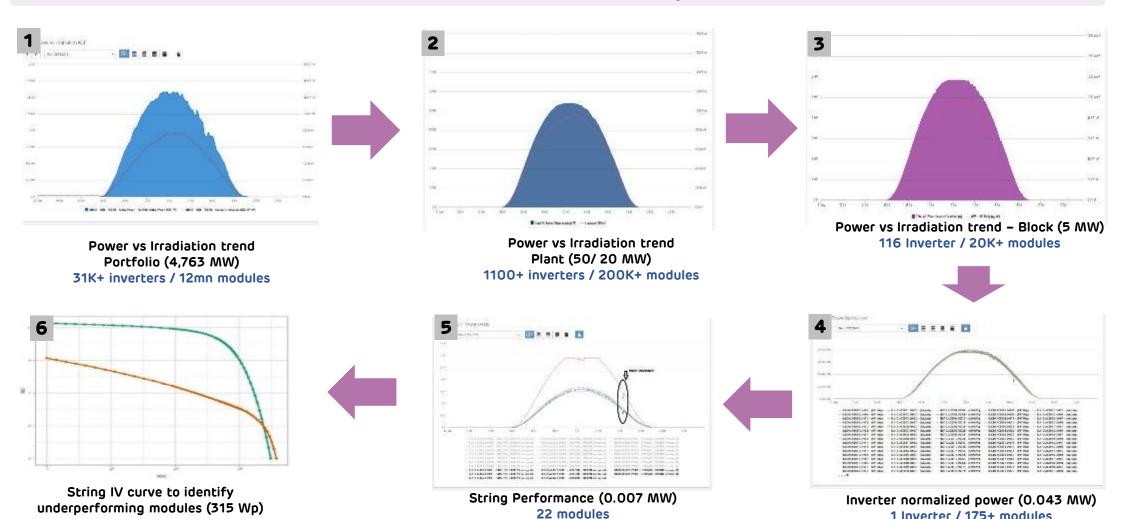


- ENOC is a plug-in play and scalable platform which can seamlessly integrate any new platform housing a third-party portfolio
- AGEL acquired SB Energy portfolio on 30th Sep. 2022. The target portfolio was integrated with Adani ENOC facility within 1 week of acquisition date

## Visibility from Portfolio Level to Module level



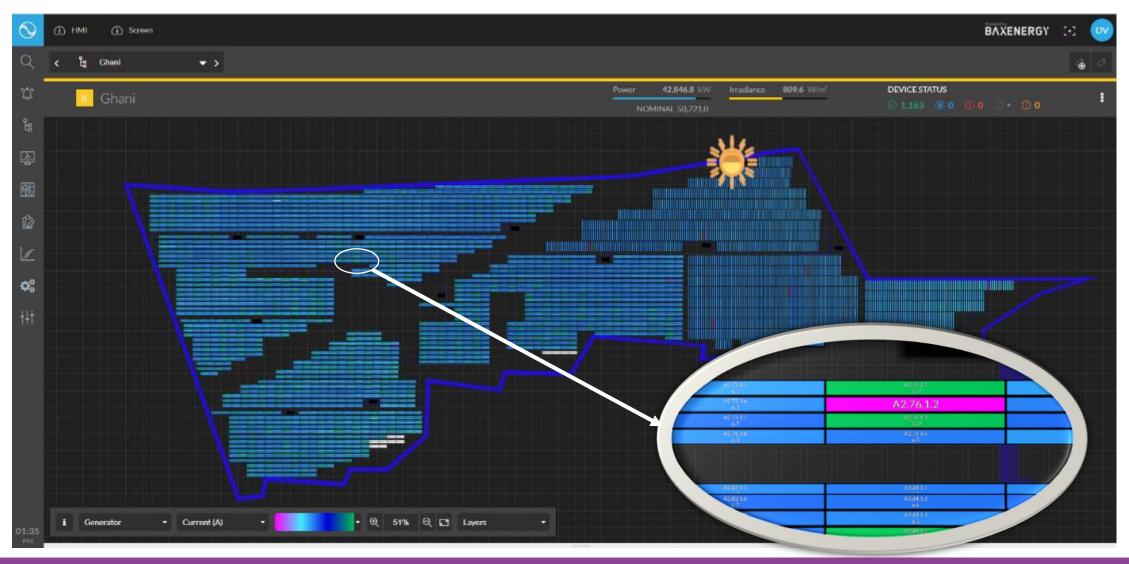
#### Solar Data Analytics - Full Solar Portfolio to one String / 22 module level visibility



1 Inverter / 175+ modules

## 2D Map Array Layout of Solar Plant with Identified Modules

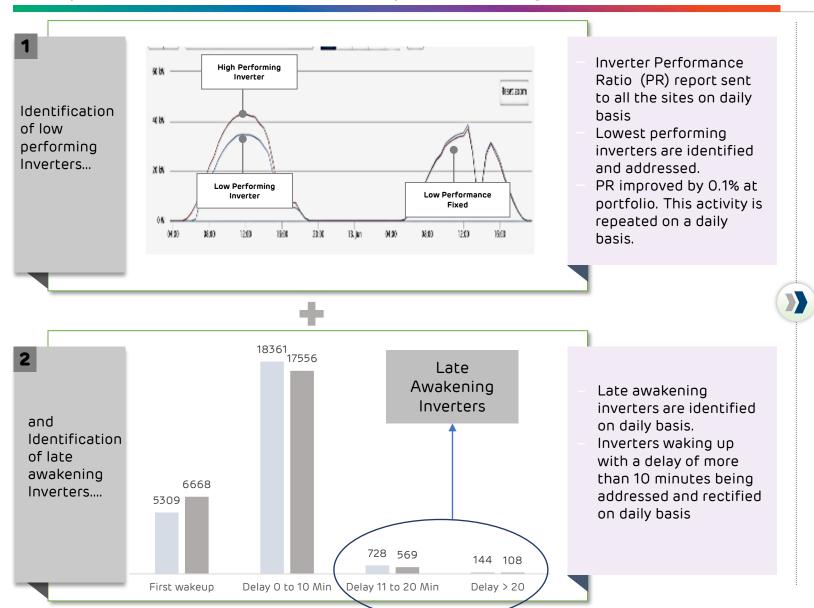


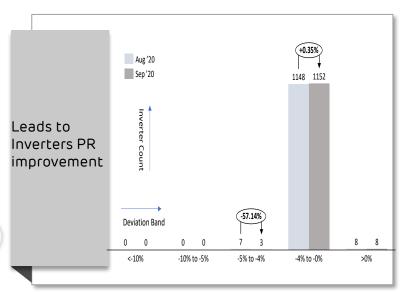


ENOC allows to pinpoint the modules with low performance resulting in actionable insights

## Early Identification of low performing inverters





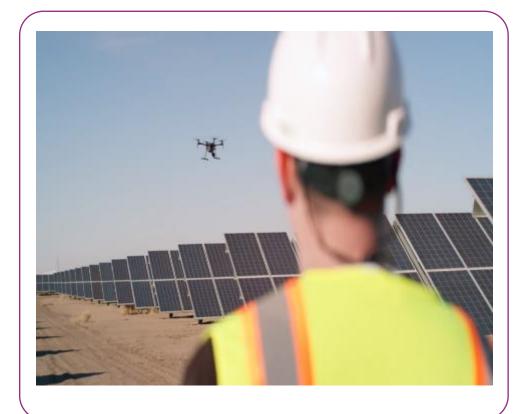


- Performance of all Inverters is compared with the average of best 10 Inverters
- Inverters with performance deviation of more than 4% are rectified
- A sample of a typical 50MW plant is shown in adjacent chart

# Drone-based Ariel Thermography - Early detection & Correction of Problem Areas

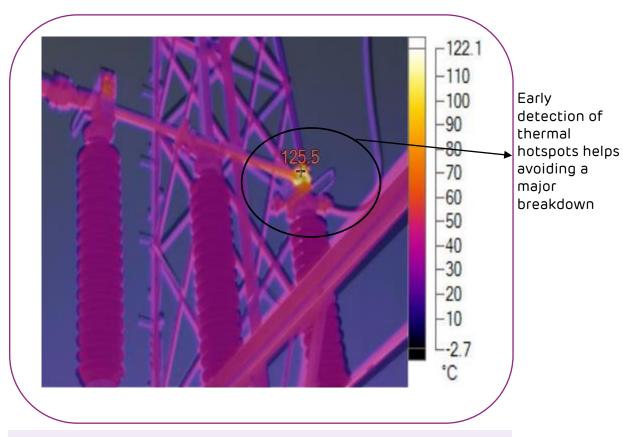


#### Drone-based Aerial Thermography



**Drone-based aerial thermography** to **detect significant temperature abnormalities** such as hot spots and hot areas
on the Solar modules
Replacing them early improves plant performance

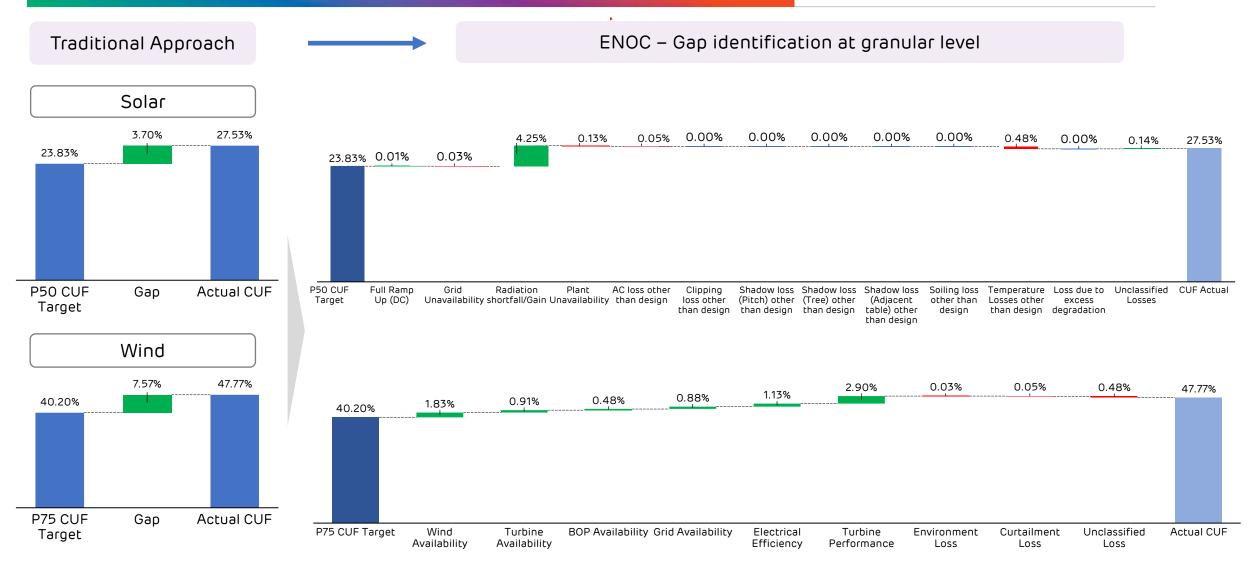
#### Equipment Thermography



**Equipment thermography** of all the equipment through drone or handheld thermal imaging camera. Identified hotspots are addressed during non-generation hours to prevent equipment failure

## Granular CUF Waterfall to identify Generation losses





ENOC enables actionable insights by allowing to do granular gap analysis between achieved & targeted CUF



3d. Capital Management Philosophy

# Replicating Adani Group Business Model: Capital Management Philosophy



#### De-risking of underling SPVs to generate and release surplus cashflows for AGEL De-risking integrated in Capital Mgmt. throughout Project lifecycle Project Financing Stabilization HoldCo. Financing Post-Stabilization Phase SPV level Phase LCs & short-term funds to Ensure senior debt availability Ensure availability of Debt Capital market refinancing at lower finance equipment for Project Construction working capital interest rate, longer tenure and terms akin to stable assets Fully-funded Growth De-risking of Liquidity Risk Development Phase Post-stabilization Phase Stabilization Demonstrated Raised INR PF facility HoldCo Sr. ~INR 5,498 TN: ~INR 3.100 crs (~\$443 mn) Cr (~\$750 mn) over USD 7 bn Existing WC facility RG1: ~INR 4,572 crs (~\$658 mn) INR 3.8 bn (\$51 mn) Go to Market Facility RG2: ~ INR 2.585 crs (~\$362.5 mn) NFB Lines USD 1.35 bn revolving INR 80 bn (~\$1.1 bn) facility Plans Hold.Co. Facility Regular Finance -Construction finance for Upto USD 1.7 bn Future USD bonds raise via. DCM other projects **Future** | Working Capital Broaden capital pools - 144A / RegS facility to continue and SEC Registered issuances NFB lines to continue Go to Market Facility to be upsized to fund at HoldCo. confirmed growth assets INR 100.0 bn (\$1.3 bn)

### Maximising Stakeholder Value & De-risking projects with Disciplined Capital Management

# HoldCo Financing: Maiden HoldCo Green Bond Issuance by AGEL



## Key features of the issue

- AGEL raised USD 750 mn through Holdco bond issuance under the 144A / Reg S format with flexibility to raise additional USD 950 mn to fund future growth.
- All round participation from Real Money Investors, comprising 48% from Asia, 28% from Europe, Middle East and Africa and 24% from North America.
- Vigeo Eiris provided a Second Party Opinion on AGEL's Green Financing framework. KPMG provided independent assurance for the same.
- Issuance was rated 'Ba3/Stable' by Moody's.

#### Rating Rationale

- Predictable cash flow backed by long-term power purchase agreements (PPAs)
- Operating projects had an average remaining life of around 20 years
- Supported by its large and diversified portfolio of solar and wind generation projects
- Demonstrated capacity to deliver on growth projects
- Experienced board members in the areas of corporate governance, business strategy, operational and financial capabilities
- Credit profile supported by its substantial shareholders Adani Group & TotalEnergies SE

### Unique covenants Structure

#### **Debt Sizing**

ListCo Senior Debt Sizing criteria linked to FCFE - Lower of (a) or (b) :

- a) Discounted FCFE: next 10 years Discounted FCFE with cover of 1.6x
- b) Forecasted FCFE: next 12 months FCFE with multiple of 5x Subject to Overall Cap of ListCo Senior Debt \$1.7 bn

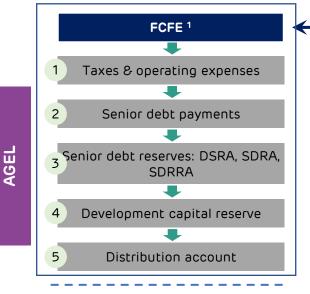
#### Cash Sweep

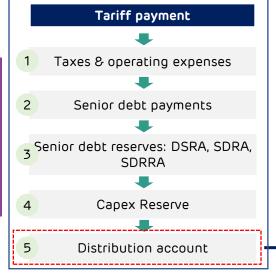
In case of breach of Debt Sizing covenant, it shall result into mandatory cash sweep into SDRA

#### Credit Protection Lock-up

 If consolidated Net Consolidated Debt to Run-rate EBITDA is above 7.5x, it shall result in lock-up of 50% surplus cash in SDRRA

#### Cash Waterfall





OPCOs

# Construction Financing: Fully Funded Growth through Construction Framework Agreement



- AGEL has signed up Construction Framework Agreement for under construction projects for US\$1.35 bn with 12 international banks
- Revolving capex facility: 1,690 MW hybrid projects funded as first set of projects, takeout within COD + 1 year (post stabilization)
- Facility available to fund new projects post takeout through the **framework**, fully finance the growth of AGEL

#### Key Features of Construction Facility

#### Access to large liquidity pool

- Participation from 12 leading international banks
- Diverse funding pool (UK, Asia, Europe)
- Current participation expanded to 16 banks through syndication

#### Participating Banks

Mizuho
DBS
Rabobank
Deutsche Bank
ING Bank
Intesa Sanpaolo
BIC
BPI

#### Framework Agreement

- Framework agreement for financing new projects
- Upfront agreement with lenders on
  - Project Parameters
  - Due Diligence protocols
  - Legal documents
  - Approved suppliers
- Pre agreed credit evaluation metrices → faster financial closure
- Go-to-Market construct built in documentation with upfront Scenario Rating from international rating agency
- Aligned with AGEL's capital management philosophy

#### Due Diligence (DD) readiness

- Internal processes aligned for DD of new projects
- Standardized EPC and O&M contracts based on global best practices
- Projects under this facility will be
   DD ready during takeout

# Diligence conducted by reputed global agencies

Diligence Study	Agency
EYA	UL
ESIA, CHA, Bird & Bat Monitoring	ERM
ESDD	ARCADIS
LIA	Marsh
Scenario Ratings	Fitch Ratings
Green Loan Advisor	KPMG

#### Conditions aligned with business

- Framework Agreement validates the overall infrastructure model with robust diligence parameters
- Non-recourse debt with only specific Completion support requirement from AGEL
- Flexibility for raising other project level debt WC debt
- Overall Compliance protocol akin to public market offering from construction stage

# Takeout Financing: Established template of financing from debt capital markets, replicable in future



#### Risk Mitigants in-built in RG 2

Robust Structural Protections

- Standard project finance features

- Clean first ranking security
- Unique covenants linked to EBITDA performance providing credit quality protection over project life
- Detailed reporting covenants

Refinance Risk

Counterparty Risk /

Quality of Earnings Risk

Liquidity Risk

Hedging Risk

20 years (Tenor)

65%

(EBITDA from Sovereign Parties)

100%

(Bond principal + interest from Sovereign Off-taker)

Amortizing Debt Structure with tenor in line with concession period

At every roll-over of the hedge, the cash inflow as a result of depreciation in currency MTM to be transferred to SDRA, not withstanding the PLCR test

# Summary cashflow waterfall of typical green bond

- 1 Taxes and operating expenses
- Senior debt payments (including hedging costs)
- **3** Senior debt service reserve
- 4 Senior debt redemption account
- **5** Senior debt restricted reserve
- **6** Capex reserve account
- 7 Distribution account

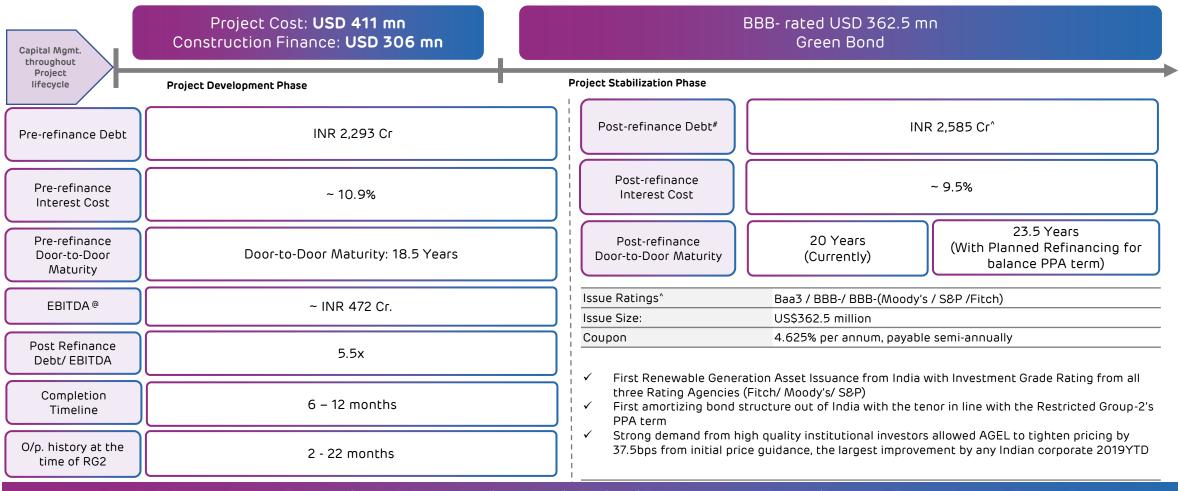
Efficient Risk Reduction Leading To Lower Costs & Extended Maturities

RG2: Restricted Group 2

# Elimination of Liquidity Risk through Capital Management Case Study - 570 MW RG2 Bond Issuance



Restricted Group-2 comprises three SPVs, having total operational capacity of **570MW**<sub>ac</sub> which was created for **USD 362.5 mn Green Bond** issuance in October 2019. This was **First Investment Grade USD Bond** deal out of the Indian Renewables Space



First IG rated Bond issuance in India with 20 years debt maturity

Note: @EBITDA on run rate basis@ P75 considered for all calculations; Includes treasury income

<sup>#</sup> Gross Debt on the date of Bond issue

<sup>^</sup> As of RG2 bond issue date. Moody's has recently revised its rating of RG2 to Ba1 pursuant of sovereign rating change of India IG – Investment Grade



04

Adani Green Energy Limited (AGEL): Investment Case

### **AGEL**: Key Investment Highlights



# Excellent execution track record

- World class project execution with equipment sourced from tier 1 suppliers through strategic alliances
- Central monitoring of all project execution by **Project Management & Assurance Group**
- Track record of **executing projects ahead of schedule** vis-a-vis execution timeline

# De-risked Project Development

- Locked in portfolio of 20.3 GW and Confirmed Growth capacity of >20 GW resulting in total capacity of 40+ GW
- Resource tie-up: Strategic sites with generation potential of ~40 GW with geotechnical, resource analysis & design work done
- 20,000+ vendor relationships ensuring effective and timely execution

# Predictable & Stable cash-flows of OpCo's

- 25-year long term PPA's; ~89% sovereign / sovereign equivalent rated counterparties significantly reducing counterparty risk
- Technology backed O&M: ENOC driven Predictive Analytics leading to cost efficient O&M and high performance
- Rapid transition from majority development risk to primary stable operating assets

# Capital Management Philosophy

- Fully funded growth ensured through Revolving Construction Framework Agreement of USD 1.35 bn
- Limits under HoldCo Financing of USD 1.7 bn additionally available to fund future projects
- Takeout of construction debt post commissioning templatizing the financing from debt capital markets

#### Strong Sponsorship

- Pedigree of Adani Group: leadership in infrastructure energy & utility and transport & logistics sectors
- Robust, reliable supply chain backed by strategic investments
- Strategic partnership with French Energy major TotalEnergies SE

### Disclaimer



Certain statements made in this presentation may not be based on historical information or facts and may be "forward-looking statements," including those relating to general business plans and strategy of Adani Green Energy Limited ("AGEL"), the future outlook and growth prospects, and future developments of the business and the competitive and regulatory environment, and statements which contain words or phrases such as 'will', 'expected to', etc., or similar expressions or variations of such expressions. Actual results may differ materially from these forward-looking statements due to a number of factors, including future changes or developments in their business, their competitive environment, their ability to implement their strategies and initiatives and respond to technological changes and political, economic, regulatory and social conditions in India. This presentation does not constitute a prospectus, offering circular or offering memorandum or an offer, or a solicitation of any offer, to purchase or sell, any shares and should not be considered as a recommendation that any investor should subscribe for or purchase any of AGEL's shares. Neither this presentation nor any other documentation or information (or any part thereof) delivered or supplied under or in relation to the shares shall be deemed to constitute an offer of or an invitation by or on behalf of AGEL.

AGEL, as such, makes no representation or warranty, express or implied, as to, and does not accept any responsibility or liability with respect to, the fairness, accuracy, completeness or correctness of any information or opinions contained herein. The information contained in this presentation, unless otherwise specified is only current as of the date of this presentation. AGEL assumes no responsibility to publicly amend, modify or revise any forward looking statements, on the basis of any subsequent development, information or events, or otherwise. Unless otherwise stated in this document, the information contained herein is based on management information and estimates. The information contained herein is subject to change without notice and past performance is not indicative of future results. AGEL may alter, modify or otherwise change in any manner the content of this presentation, without obligation to notify any person of such revision or changes.

No person is authorized to give any information or to make any representation not contained in and not consistent with this presentation and, if given or made, such information or representation must not be relied upon as having been authorized by or on behalf of AGEL.

This presentation does not constitute an offer or invitation to purchase or subscribe for any securities in any jurisdiction, including the United States. No part of its should form the basis of or be relied upon in connection with any investment decision or any contract or commitment to purchase or subscribe for any securities. None of our securities may be offered or sold in the United States, without registration under the U.S. Securities Act of 1933, as amended, or pursuant to an exemption from registration therefrom.

#### **Investor Relations**

**VIRAL RAVAL** 

AGM - Investor Relations viral.raval@adani.com



Thank You