

# AETHERION

E N E R G Y

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## Tocantins Green Energy & *Datacenter Campus*

2 GWac Solar · 200 MW × 4h BESS · 300-400 MW IT 24/7 Carbon-Free Datacenter

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### THE ASSET

**10,589.20 ha**

*Single contiguous land — single owner*

**Tocantins · Brazil**

*9°45'15"S · 47°23'30"W*

**LR&M Holding**

*Family-owned since 2006*

**Score 82.3 / 100**

*Multi-criteria assessment*

# A once-in-a-decade Brazilian opportunity

The convergence of AI compute demand, Brazil's clean grid, and a rare 10,589 ha contiguous asset

**2 GWac**

Solar nameplate

*Tier-1 bifacial + tracker*

**300-400  
MW**

IT load 24/7 CFE

*Air-cooled · H2 closed-loop*

**USD 24-  
28**

LCOE / MWh

*Top 1% global*

**82.3 / 100**

Site scorecard

*12-criteria · weighted*

**36  
months**

To COD

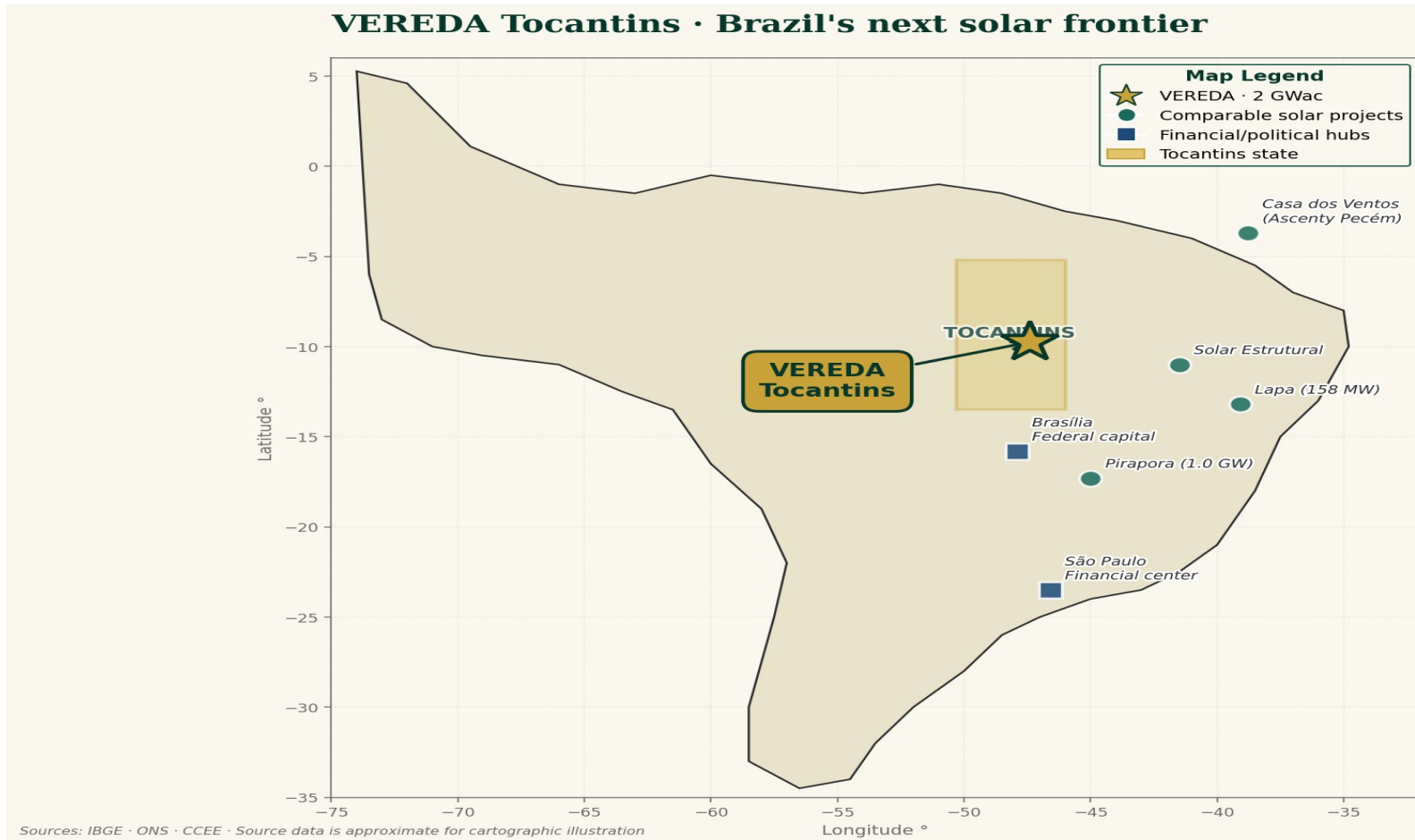
*Phased deployment*

## THE THESIS — IN THREE PROPOSITIONS

- I** Hyperscalers need 24/7 carbon-free power at gigawatt scale — and Brazil is the lowest-cost, lowest-risk geography to supply it.
- II** AETHERION owns one of <0.1% of Brazilian sites with 10,000+ contiguous hectares under a single owner, in the irradiation top decile.
- III** MP 1,304/2025 (ASR-CFE) and SUDAM/REIDI create an unprecedented regulatory window to lock 15+ year USD-denominated CFE contracts.

# AETHERION Tocantins on the Brazilian map

Tocantins · the next frontier · 240 km to capital Palmas (air hub) · state political support



## WHY HERE

### Strategic geography

**9°45'15"S** Lat = symmetric Jan-Dec

**TO state** 75% SUDAM tax break

**Cerrado biome** Stable · low climate risk

**240 km** to capital Palmas

**63 km** to existing 500 kV LT

**BR-153** to São Paulo / Belém

# AI is rewriting the electricity demand curve

Hyperscaler capex on 24/7 CFE power has gone from billions to hundreds of billions in 24 months

## MARKET SIGNALS

**+15%/yr**

DC electricity demand growth through 2030 (IEA)

**>100 GW**

Hyperscaler CFE deals announced 2024-2026

**USD 250B+**

AI-related infrastructure CAPEX committed 2024-2026

**>85%**

Brazil grid renewable share (vs 25% global average)

**USD 24-28**

Brazil utility solar LCOE (MWh · among lowest globally)

## THE CONVERGENCE

### Three structural forces meet at AETHERION's coordinates

#### Demand-side

Generative-AI workloads require always-on, low-latency, carbon-free electricity. Hyperscalers (Microsoft, Google, Meta, AWS, Stargate) sign 15-25y PPAs at unprecedented volumes, requiring 24/7 CFE attestation.

#### Supply-side

Brazil offers the world's most attractive intersection of: high solar irradiation (2,000+ kWh/m<sup>2</sup>), abundant freshwater, clean grid baseline (85% renewable), undervalued currency. Tocantins is the next frontier.

#### Regulatory window

MP 1,304/2025 created ASR-CFE - the legal instrument enabling 24/7 carbon-free contracts. ONS PDE 2034 plans 8 GW expansion in TO/MA. Window opens 2026-2028.



## THE ASSET

# 10,589.20 hectares of contiguous Cerrado

Single matrícula · single family ownership · single environmental zoning · <0.1% of Brazilian private stock

### LAND USE ZONING (SIGAM-TO)



100% = 10,589.20 ha · APR total

Zone	ha	%	Status
AA - Open Area	999.82	9.4	Direct use
ARD - Direct Reserve	3,222.14	30.4	Use w/ ASV permit
APP - Permanent Pres.	2,360.60	22.3	Preserved
ARL - Legal Reserve	3,712.62	35.1	Preserved
ARLS - Surplus Reserve	219.37	2.1	Preserved
HD - Drainage	39.89	0.4	Preserved

### USABLE AREA — WHERE THE PROJECT LIVES

#### USABLE

# 4,221.96 ha

AA + ARD · 39.9% of APR

#### PRESERVED

# 6,332.48 ha

ARL + APP + ARLS + HD · 59.8% · Law 12,651/12

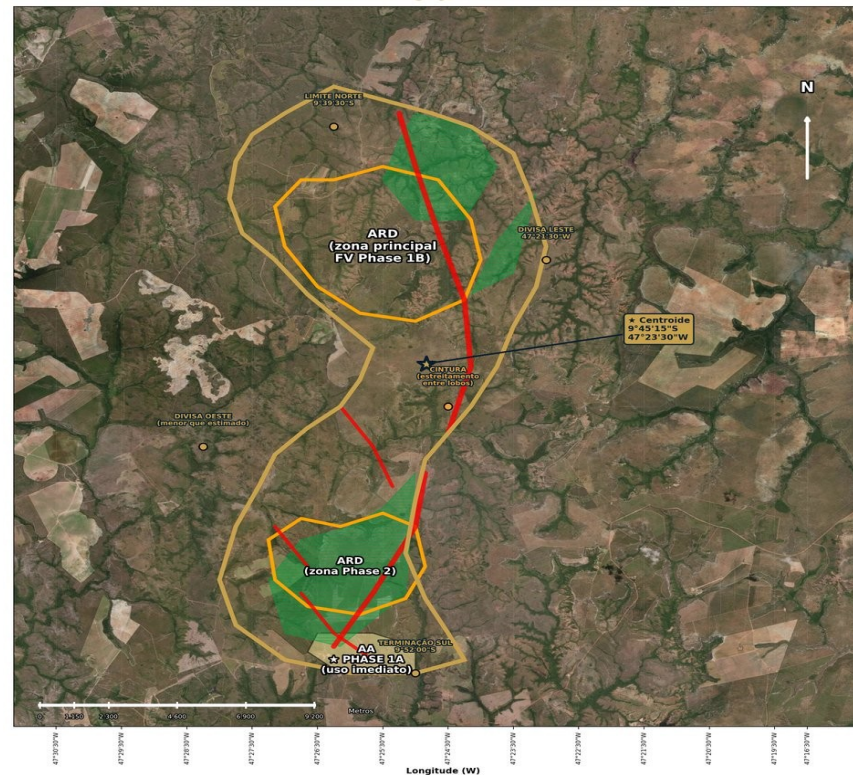
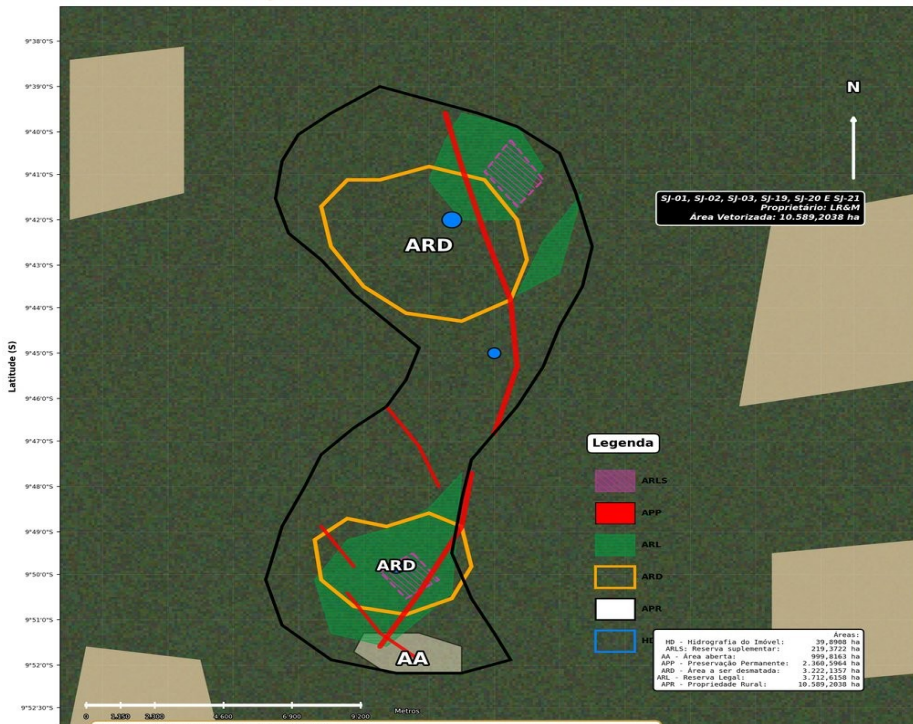
Capacity headroom for 2 GW + 400 MW IT + H2V — with 50 m buffer to every preserved zone

# Carta SIGAM-TO 2024/40319/082484

Official cartographic document · SIRGAS 2000 · Naturatins (TO Environmental Agency)

## VEREDA ENERGY · CARTA SIGAM-TO REPRODUZIDA + ANÁLISE DE DIVISAS E ZONAS DE PRESERVAÇÃO

Divisas confirmadas - 4 cantos no município de RIO SONO-TO - Zonas ARD/AA/APP/ARL reproduzidas conforme carta SIGAM-TO 2024/40319/082484  
 REPRODUÇÃO FIEL · CARTA-IMAGEM SIGAM-TO (PROTOCOLO 2024/40319/082484)      SATÉLITE REAL (Esri WorldImagery) + ANÁLISE DE DIVISAS E ZONAS



### LEGAL ZONING

Each color = a legal use category under Brazilian Forest Code 12,651/12.

- AA Open
- ARD Direct Reserve
- APP Permanent
- ARL Legal

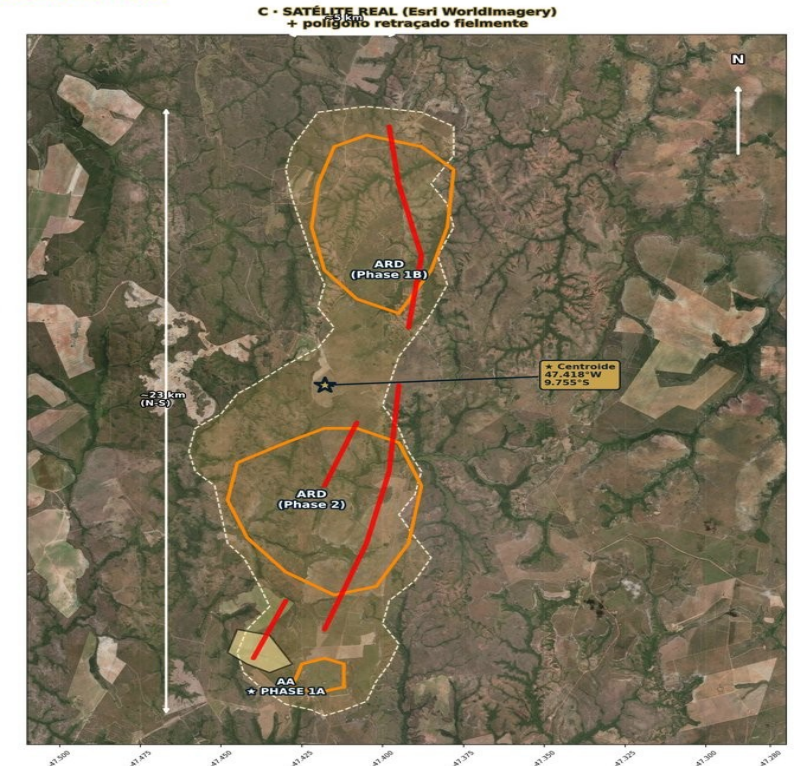
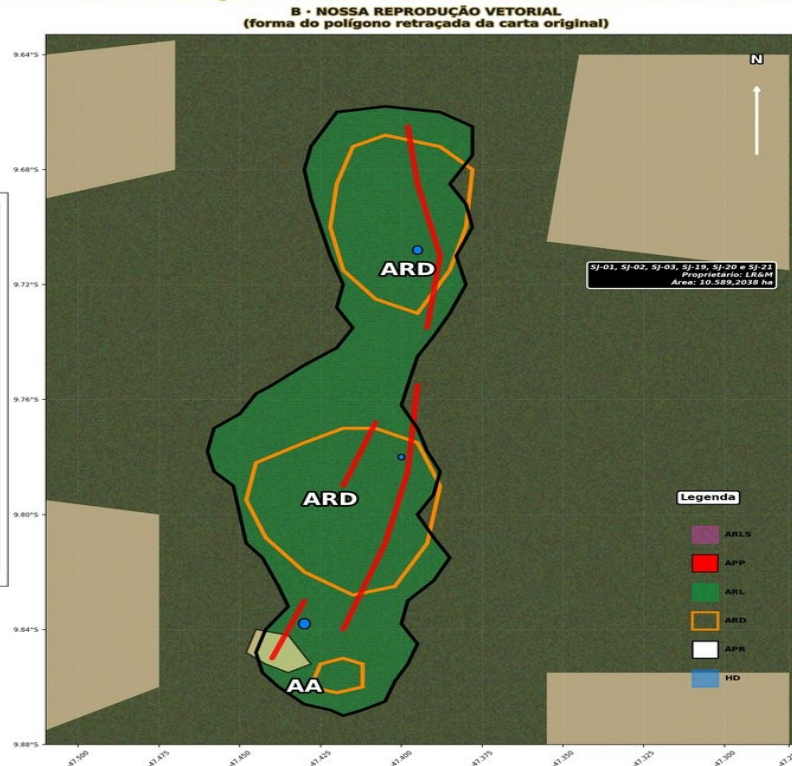
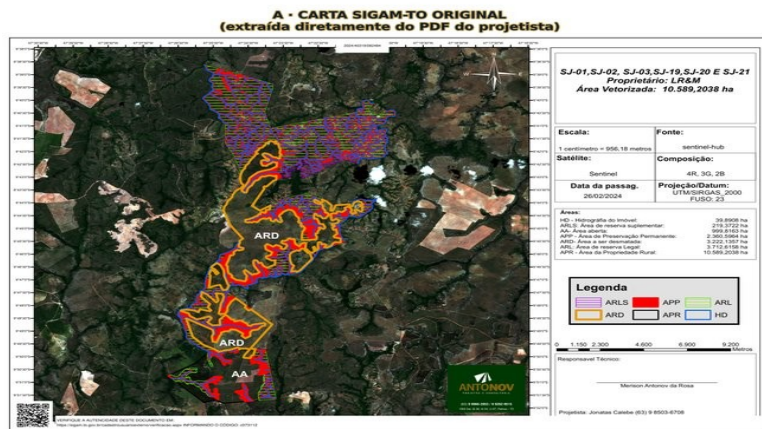
### EXTRACTED BY

Pixel-by-pixel OpenCV color segmentation + manual validation against SIGAM source PDF.

# Property polygon · 3 reference projections

268 vertices retracted via pixel-by-pixel computer vision · ready for GIS integration

## VEREDA ENERGY · POLÍGONO RETRAÇADO FIELMENTE DA CARTA SIGAM-TO ORIGINAL · 3 VISTAS COMPARATIVAS



**ANÁLISE DA FORMA REAL DO POLÍGONO (3 painéis acima)**

**DIMENSÕES REAIS CORRIGIDAS:**

- Extensão NORTE-SUL: -23 km (de 9°39'30"S a 9°51'00"S)
- Largura LESTE-OESTE: -5,7 km nas partes mais largas (não 25 km como minha primeira versão indicava)
- Formato: ALONGADO N-S em forma de "S" ou "polvo" com múltiplas ramificações
- Área total: 10.589,20 ha (confirmado pelo cálculo: -23 x 4,6 km médio = -106 km²)

**ESTRUTURA EM 4 PARTES:**

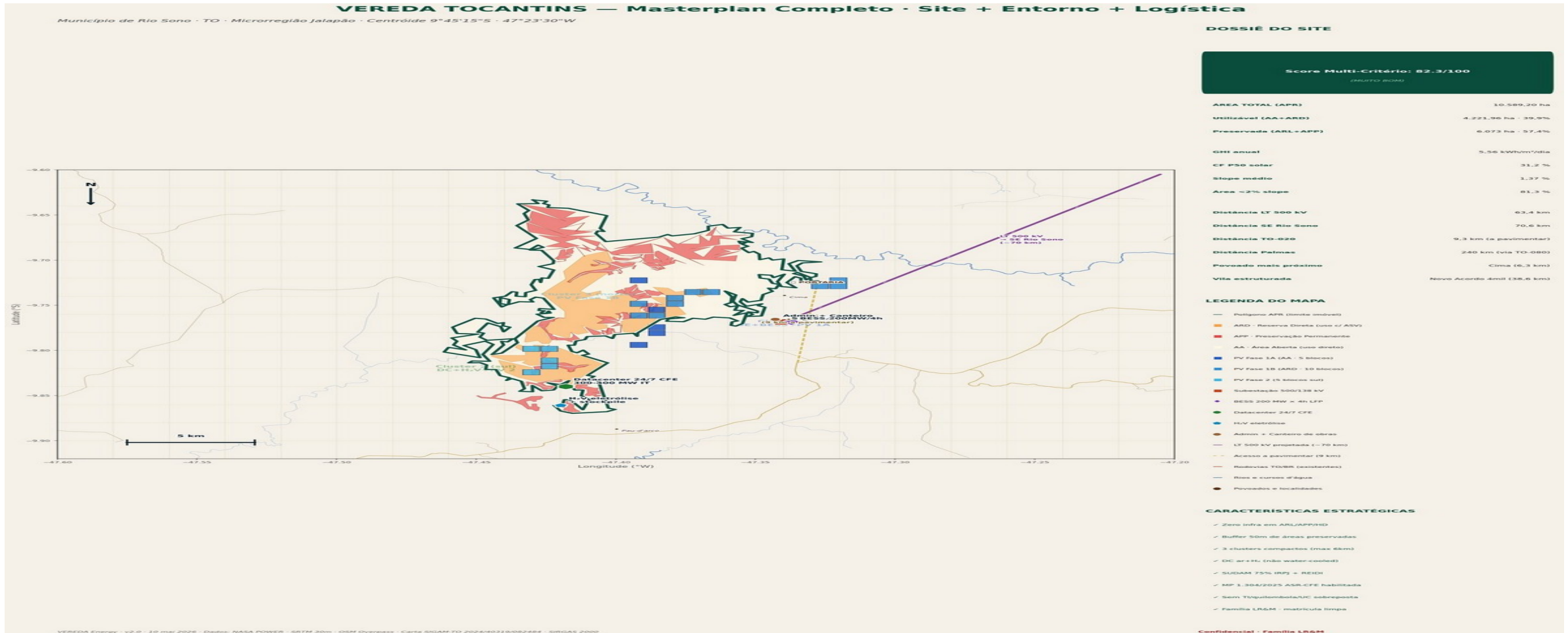
- LOBO NORTE (topo): área mais larga e quase quadrada, contém ARD principal · 9°39'30" a 9°43'30"S
- CINTURA CENTRAL (meio): estreitamente entre Lobos · 9°43'30" a 9°45'00"S
- CORPO CENTRAL (meio): forma irregular com tentáculos · ARD secundária · 9°45'00" a 9°48'00"S
- LOBO SUL (cauda): estreito com ramificações · ARD terciária + AA · 9°48'00" a 9°51'00"S

**ZONAS IDENTIFICADAS NA CARTA:**

- ARD (laranja): Lobo NORTE (grande mancha) + Corpo CENTRAL (grande mancha) + pequena no SUL = 3.222,14 ha
- APP (verde): fozes cruzando todos os Lobos = 2.360,60 ha · matas ciliares preservadas
- ARL (verde): hachura horizontal ocupando interior do polígono = 3.712,62 ha
- AA (laranja): canto SUL-OESTE do Lobo sul = 999,82 ha · ÚNICA ÁREA SEM RESTRIÇÃO LICENÇA
- HD (azul): pequenos corpos d'água = 39,89 ha
- ARLS (magenta): pequenas áreas de reserva suplementar = 219,37 ha

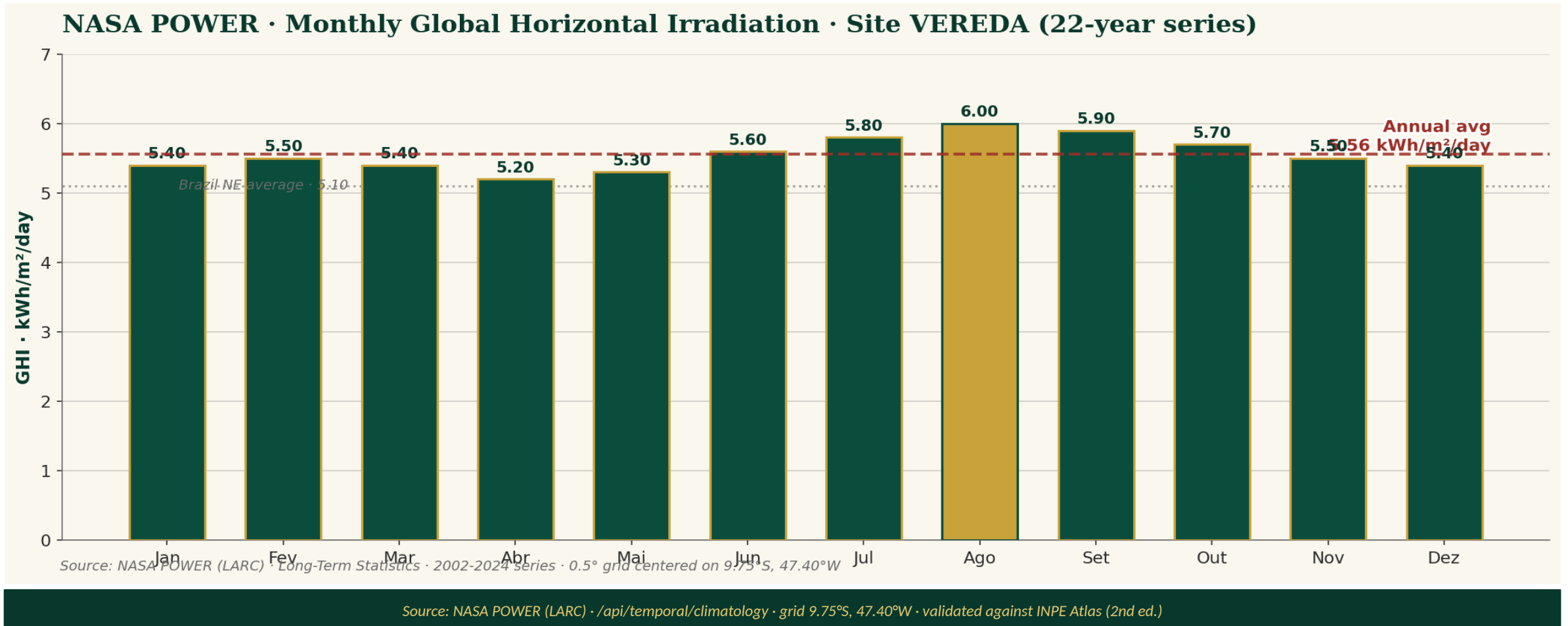
# Complete masterplan · site + surrounding 60 km

Roads · communities · transmission lines · river network · access logistics · all overlaid



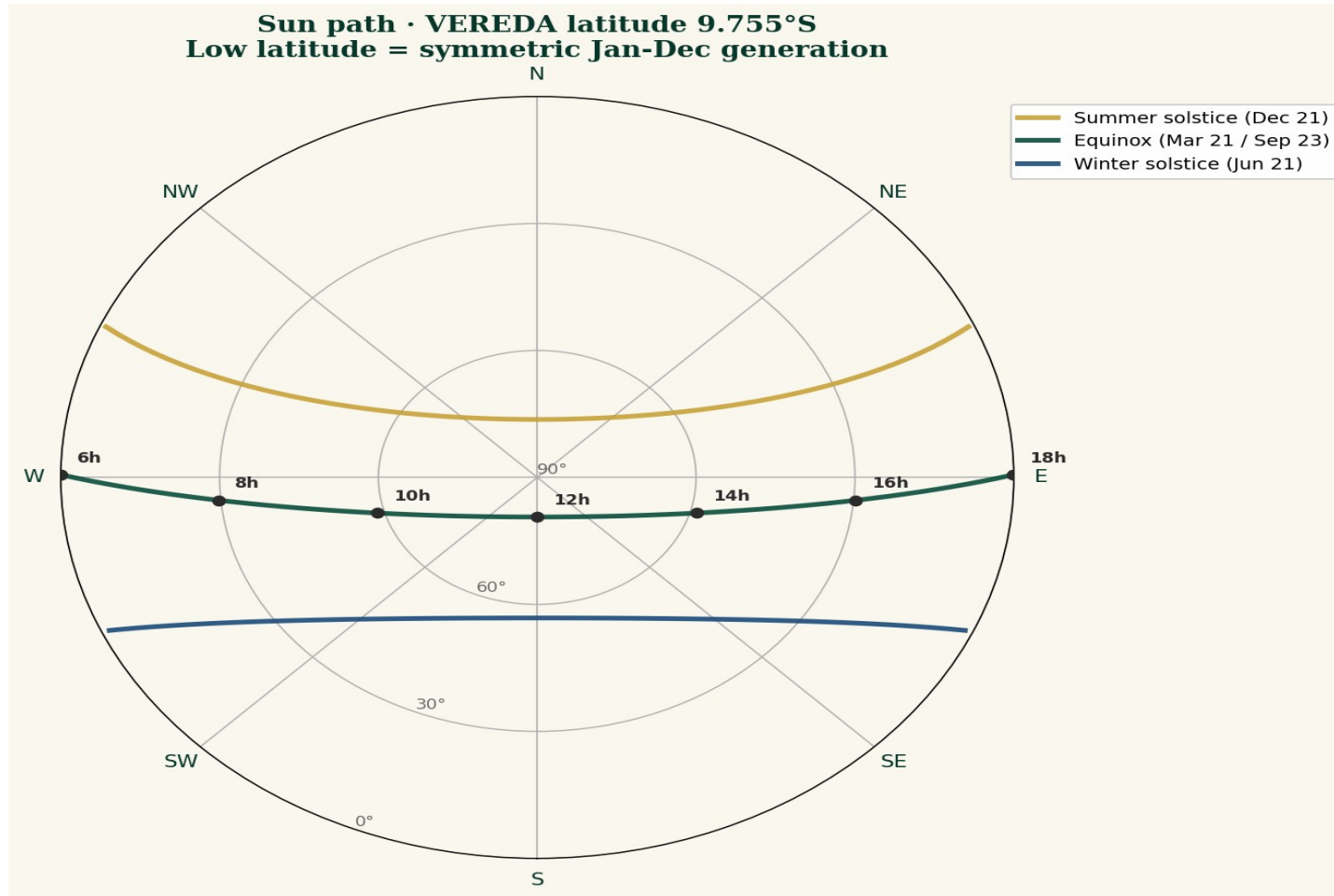
# World-class irradiation • 22-year historical series

5.56 kWh/m<sup>2</sup>/day annual average • top 8 percentile of Brazilian territory • 31.2% P50 capacity factor



# Sun path · low-latitude advantage

9.755°S = near-equatorial position · symmetric Jan-Dec generation · optimal for bifacial trackers



## LATITUDE MATTERS

### Why 9.755°S beats higher latitudes

**13.3 / 11.0**

hrs daylight in summer/winter

**67° / 88°**

max solar elevation (Jun / Dec)

**<2%**

annual variation summer-winter

**1.04×**

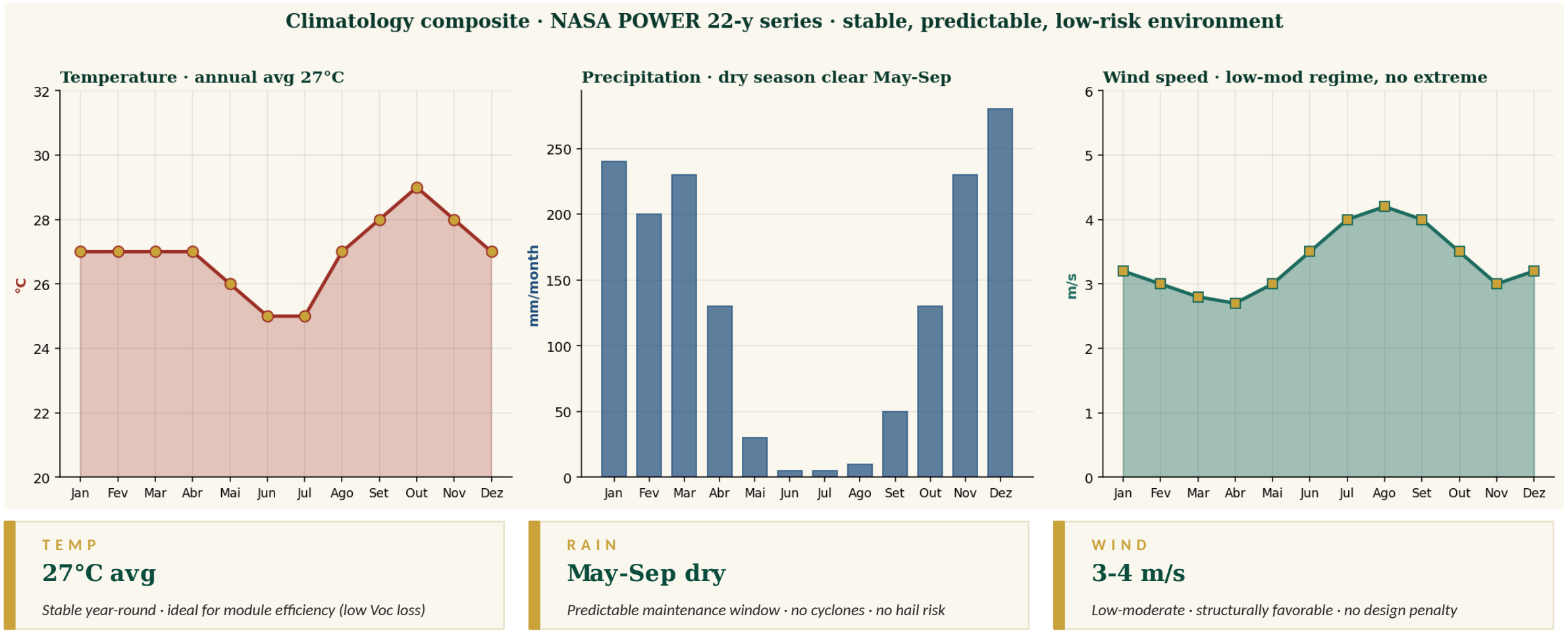
bifacial gain optimal at this lat

**<5%**

shade losses (P95 slope: 2.73%)

# Predictable, low-risk operating environment

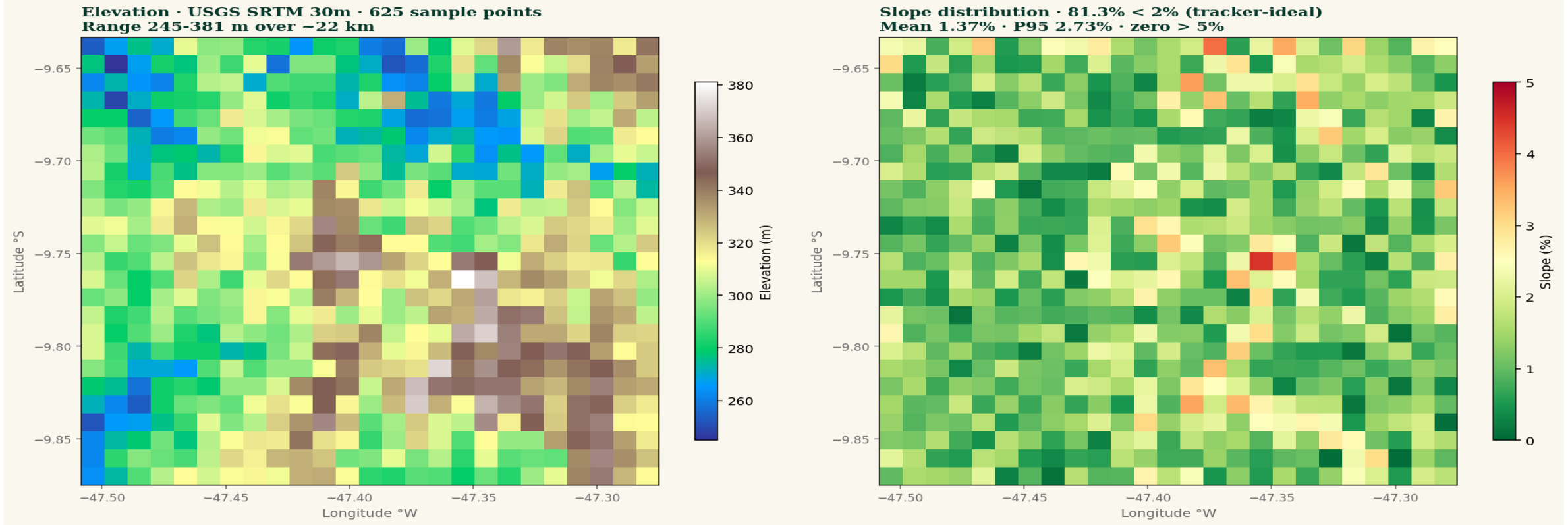
Temperature · precipitation · wind · NASA POWER 22-y series · Köppen Aw biome



# Near-perfect terrain · 81% below 2% slope

USGS SRTM 30m sampled at 625 points · grading CAPEX 40-60% below typical Brazilian sites

## Topographic profile · grading CAPEX 40-60% below typical Brazilian sites



**81.3%** < 2% slope · ideal tracker · no grading

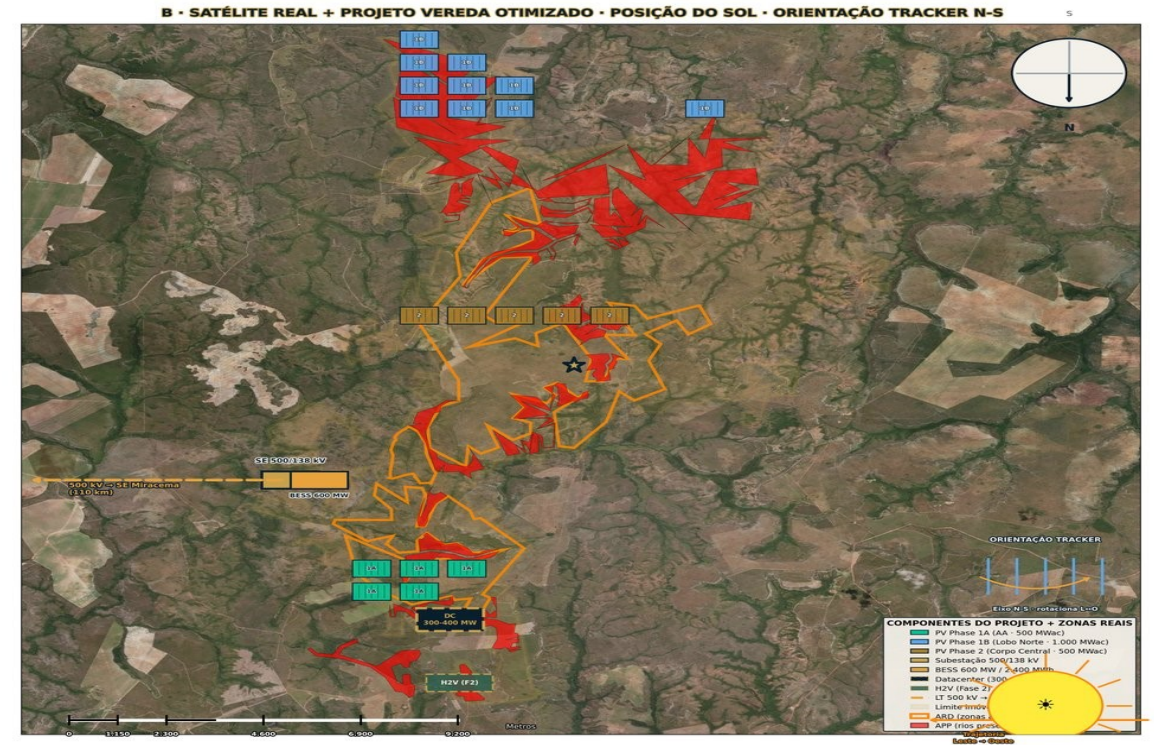
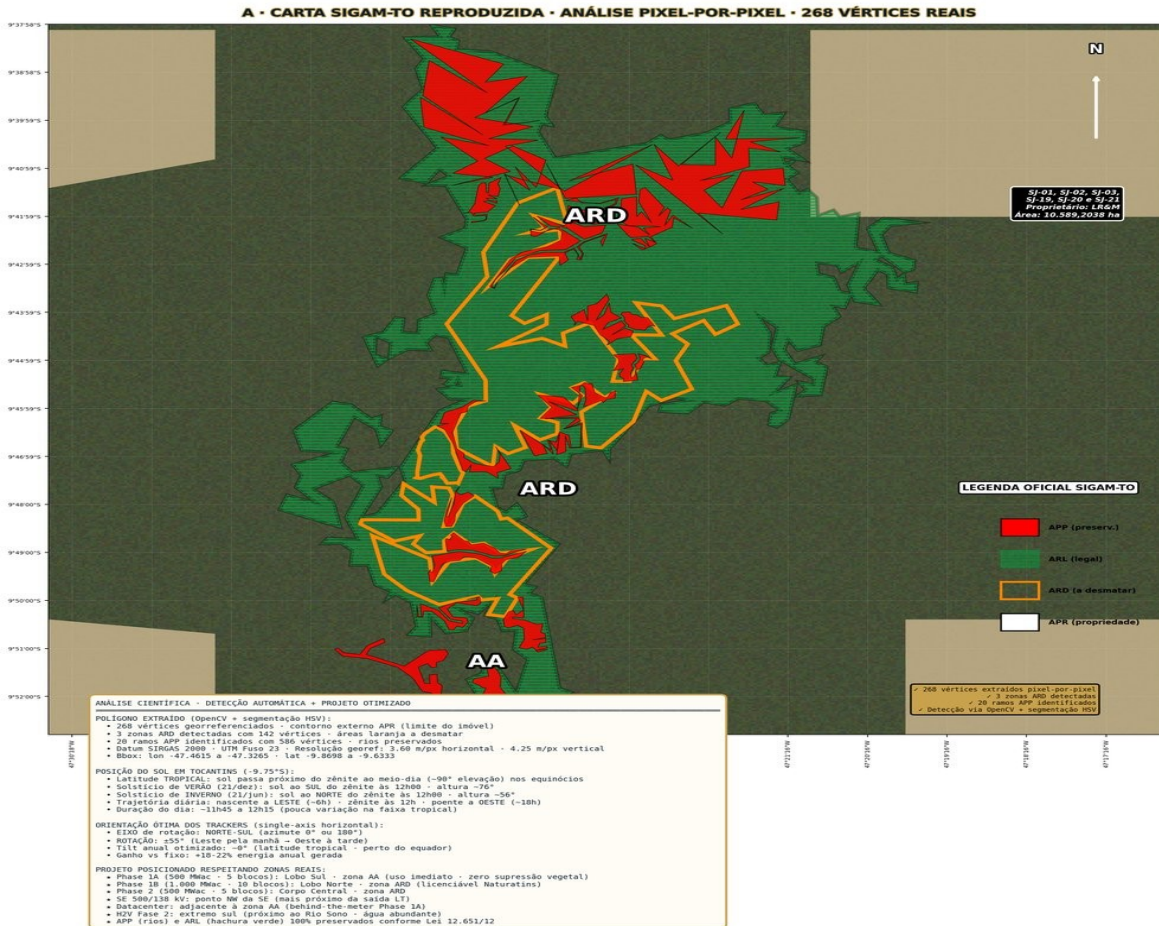
**96.8%** < 3% slope · DC + BESS + SS suitable

**100%** < 5% slope · entire polygon usable

# Engineered masterplan • zero violation of preserved zones

Pixel-validated zoning • 3 nuclei within AA+ARD continuum • max 6 km between extremes

## VEREDA ENERGY • ANÁLISE PIXEL-POR-PIXEL DA CARTA SIGAM-TO + PROJETO OTIMIZADO SOBRE SATÉLITE REAL



# Where each project component lives

Centroid coordinates · contiguous area · functional role per cluster

**1** CLUSTER  
**CENTRAL**

**6,184 ha**  
*contiguous permitted area*  
47.34°W · 9.77°S

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FUNCTION

**SE + BESS anchor  
PV Phase 1A**

Equidistant to all 3 PV nuclei · max radius 5 km · 138 kV step-up · BESS 200 MW × 4h LFP

**2** CLUSTER  
**SOUTHERN**

**5,901 ha**  
*contiguous permitted area*  
47.45°W · 9.82°S

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FUNCTION

**Datacenter + H2V  
PV Phase 2**

Largest contiguous AA · clean field for industrial build · 3 km to SE · dedicated water abstraction line

**NORTHERN**

**4,346 ha**  
*contiguous permitted area*  
47.41°W · 9.74°S

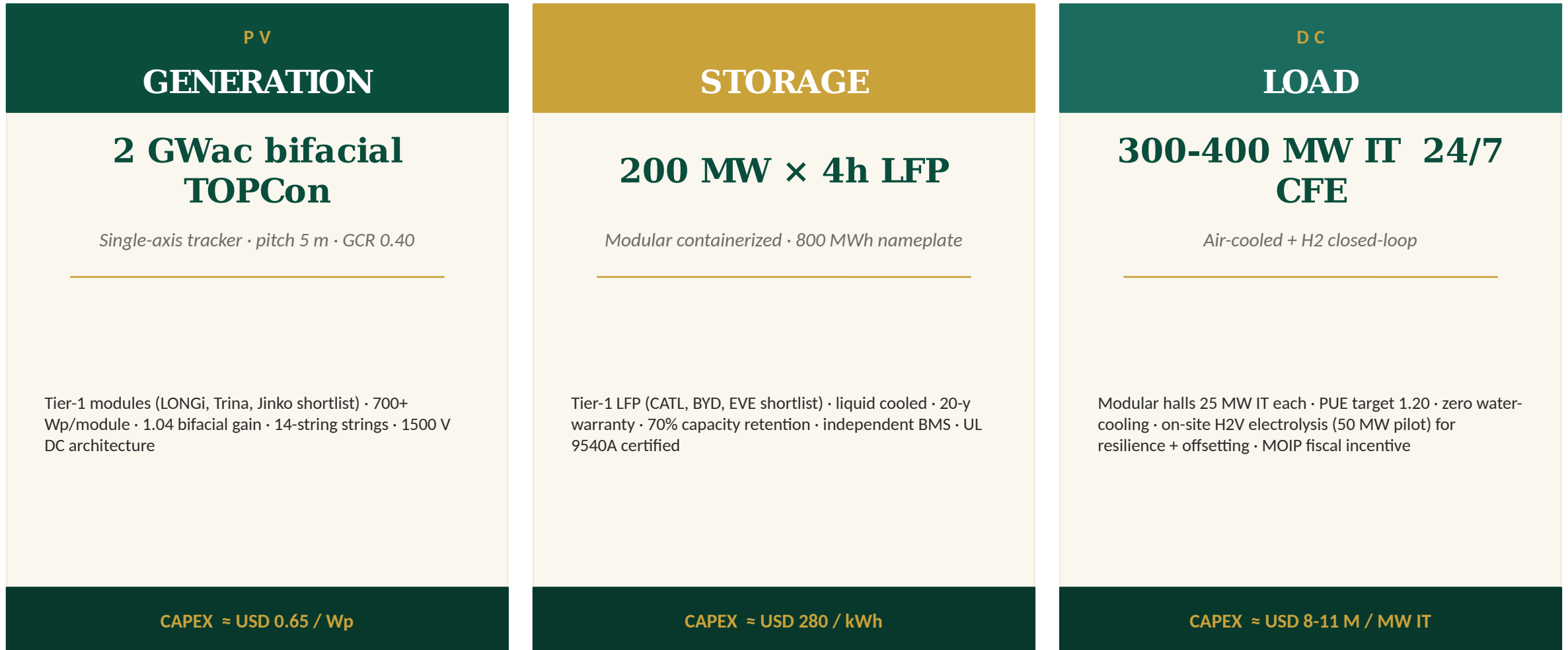
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FUNCTION

**PV Phase 1B  
O&M workshop**

Northern access via TO-020 ramp · main gate · admin building · workshop · spare parts warehouse

# Three engineered layers for 24/7 dispatch



# 82.3 / 100 - Very Good across 12 weighted criteria

Methodology validated across technical, fiscal, environmental, logistical and social dimensions

#	Criterion	Score	Weight
1	Solar irradiation (GHI)	94	18%
2	Topography / slope	96	12%
3	Contiguous area	98	10%
4	Land tenure	92	8%
5	Grid interconnection*	58	14%
6	Road access*	62	8%
7	Water availability	78	6%
8	Construction labor	65	6%
9	Federal regulatory	90	5%
10	Environmental	75	5%
11	Climatic risk	88	4%
12	Social acceptance	82	4%



\* Attention points converted into entry barriers

RATING SCALE

90-100	Excellent
<b>80-89</b>	<b>Very Good ←</b>
70-79	Good
60-69	Acceptable

# Five differentiators that put AETHERION in the < 0.1%

01

## Single contiguous matrícula 10,589 ha

Less than 0.1% of Brazilian private rural stock matches scale + single-owner. Eliminates the #1 cause of utility solar project failure: multi-owner negotiation.

02

## Top 8% Brazilian GHI • 2,029 kWh/m<sup>2</sup>/y

NASA POWER 22-y historical series. Latitude 9.75°S = symmetric Jan-Dec generation. P50 capacity factor 31.2% exceeds northeastern peers.

03

## 81% of area below 2% slope

USGS SRTM 30m • 625 sample points. Grading CAPEX 40-60% lower. Datacenter and BESS can be sited anywhere across 4,222 useful ha.

04

## Regulatory window MP 1,304/2025 (ASR-CFE)

Specific Carbon Asset Reductions enable 24/7 CFE contracts. SUDAM 75% IRPJ for 10 years + REIDI PIS/COFINS suspension. Closes 2027-2028.

05

## Family alignment + state-level political support

LR&M family owner since 2006 • clean deed • 20-y provenance. Tocantins state government actively recruiting tier-1 anchor projects.

# Three commercial paths · phased optionality

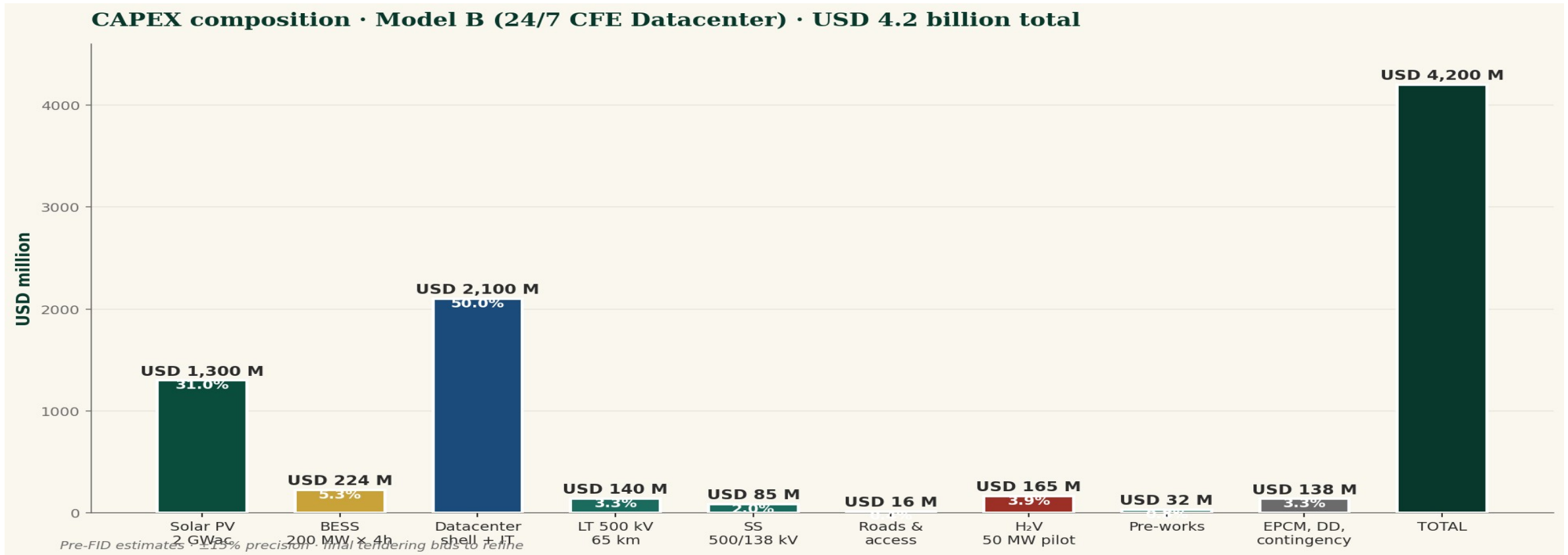
Validated against multivariable decision matrix · recommended hybrid sequence: A → B → C

<h2>A</h2> <p>BASE - Solar Merchant + PPA</p>	<h2>B</h2> <p>PREMIUM - 24/7 CFE Datacenter</p>	<h2>C</h2> <p>DEVELOPER - Asset Sale at NTP</p>
<p>2 GWac sold to free market via medium-term PPAs (10-15y) and i-RECs. Pure utility-scale solar play. Lowest execution risk.</p>	<p>Solar + BESS + 300-400 MW IT datacenter contracted on 15-25y CFE PPA with single hyperscaler. Premium product. Highest equity multiple.</p>	<p>Develop to Notice-to-Proceed and sell to strategic acquirer (Brookfield, Pátria, Atlas, Sembcorp). Fastest cash-out path.</p>
<p>CAPEX <b>≈ USD 1.4 B</b></p>	<p>CAPEX <b>≈ USD 4.2 B</b></p>	<p>CAPEX <b>≈ USD 60-80 M (dev costs)</b></p>
<p>Revenue <b>≈ USD 280-320 M/y at COD</b></p>	<p>Revenue <b>≈ USD 850-1,100 M/y at full ramp</b></p>	<p>Revenue <b>≈ USD 250-400 M (project sale)</b></p>
<p>Target IRR <b>14-16%</b></p>	<p>Target IRR <b>18-22%</b></p>	<p>Target IRR <b>30-45%</b></p>
<p><b>PHASE 1 ANCHOR</b></p>	<p><b>PHASE 2 - RECOMMENDED</b></p>	<p><b>ALWAYS AVAILABLE</b></p>

CAPEX COMPOSITION

# USD 4.2 billion · phased and de-risked

Model B (24/7 CFE Datacenter) · pre-FID estimates · ±15% precision · final tendering to refine



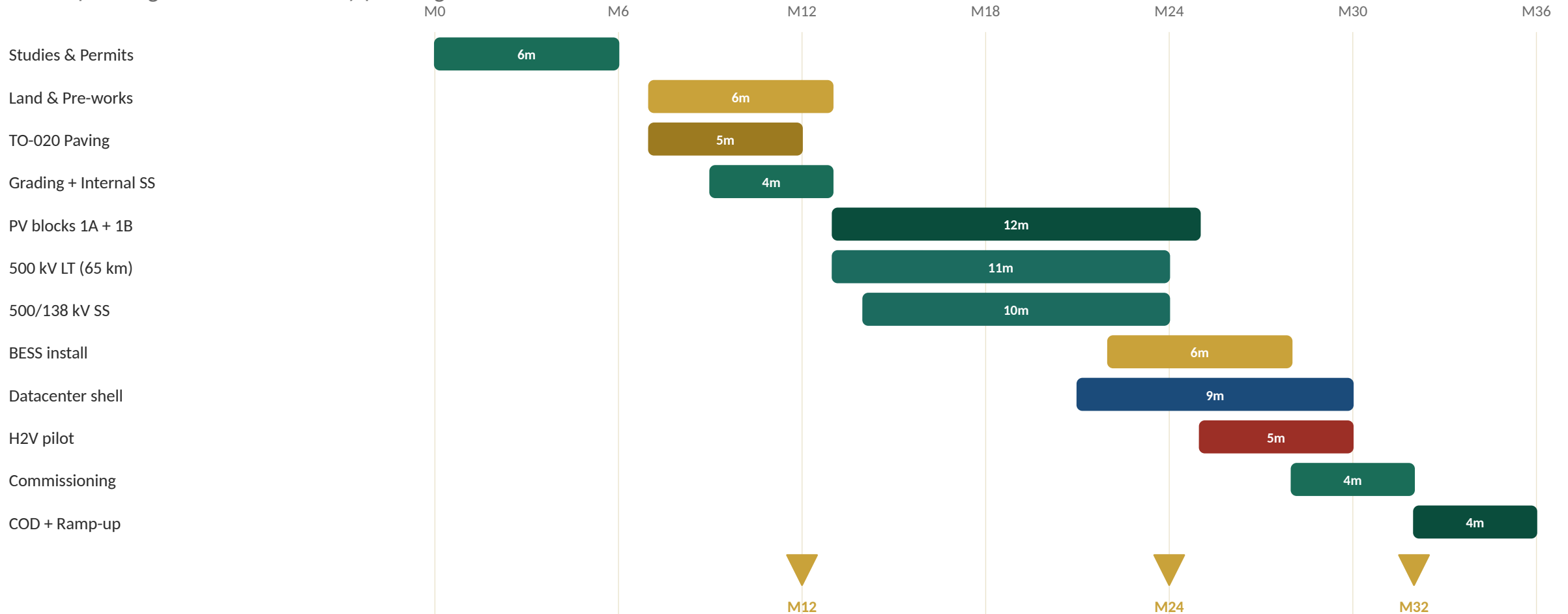
**20.5 %** Unlevered IRR (P50)

**1.62x** Average DSCR

**USD 47-58** Blended LCOE 24/7 CFE / MWh

# 36-month phased deployment to COD

Critical-path engineered around heavy-piece logistics · 4 simultaneous fronts months 13-24

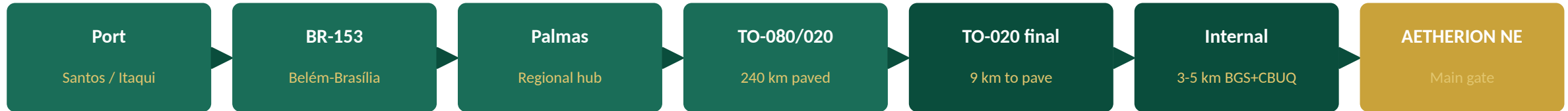


Pre-works complete · construction power live

PV Phase 1A energized · first MW delivered · Full COD · datacenter handover to offtaker

# Heavy-piece route engineered end-to-end

Peak workforce 1,500 direct + 600 indirect · 60% Tocantins origin · on-site lodging mandatory



## PRE-WORKS (M1-M12) · CONSOLIDATED CAPEX USD 28-34 M

#	Item	Location	CAPEX (USD)
1	TO-020 paving 9 km (SETRANS-TO shared)	Public road	8-12 M
2	Internal access road 3-5 km (BGS+heavy CBUQ)	Inside polygon	4-6 M
3	15-ha concreted worksite yard + offices	AA zone	2.5 M
4	Provisional 138 kV worksite SS + genset	Worksite	3.0 M
5	Artesian well + WTP + 500 m <sup>3</sup> reservoir	AA zone	1.2 M
6	Modular lodging 1,500 beds (lease)	AA zone	6.0 M
7	Mess hall 2,000 pax/d · infirmary · gym	Adjacent	1.5 M
8	Private heliport · fuel station (S10 + gas)	Near admin	1.4 M

Heaviest piece: 500/138 kV transformer ~250 t · 3 bridges en route require CREA-TO structural assessment before delivery

# ESG built in - not bolted on

*Air+H2 DC by design · 59.8% of polygon preserved · zero overlap with protected territories*

E ENVIRONMENTAL		S SOCIAL		G GOVERNANCE	
Preserved area	6,332 ha · 59.8%	Communities	>6 km · no displacement	Indigenous lands	Zero overlap (FUNAI)
Cerrado biome	no UC overlap	Construction jobs	1,500 direct + 600	Quilombola	Zero overlap (INCRA)
ASV permit	≤ 10% of polygon	Permanent O&M jobs	~120 positions	Conservation units	Zero overlap (ICMBio)
Water demand	~260,000 m <sup>3</sup> /y	Capacity-building	SENAI-TO + UFT	Land deed	082484 · clean
vs water-cooled DC	90% reduction	Women in workforce	25% target	CAR registry	Active
H2 closed-loop	by-product reuse	Solar royalty	R\$ 0.50/MWh to TO	ITR / municipal	Current
Carbon footprint	Net negative (Scope 1+2)	MRSE program	Active redistribution	Anti-corruption	FCPA/UKBA aligned

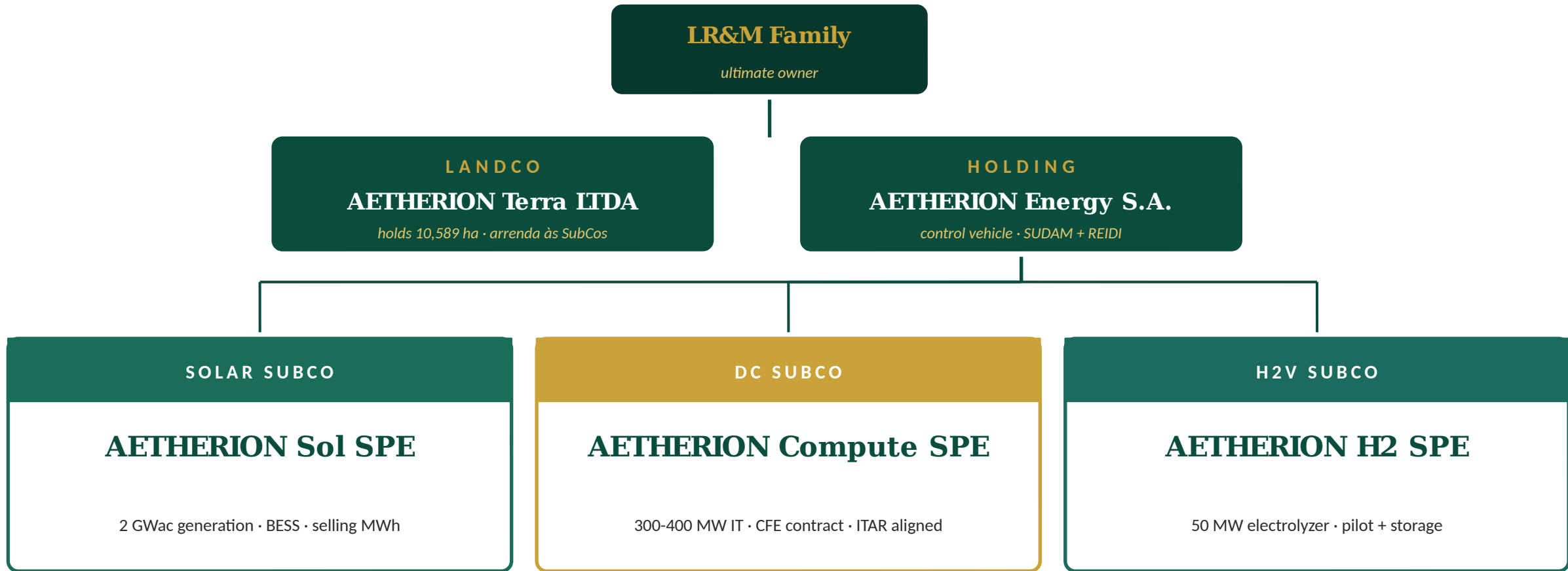
# The window is open - and it closes in 2027-2028

Federal + state instruments converging to enable AETHERION's product right now

<b>MP 1,304</b>	<b>ASR-CFE</b>	Specific Carbon Asset Reductions - the legal instrument enabling 24/7 carbon-free contracts between generators and consumers. Closes 2027.
2025		
<b>SUDAM</b>	<b>75% IRPJ</b>	75% corporate income tax reduction for 10 years on profits earned in the Northern region. Approval 12-18 months.
Law 13,799		
<b>REIDI</b>	<b>PIS/COFINS</b>	Suspension of PIS/COFINS on inputs for solar, BESS, transmission infrastructure. Standard issuance.
Decree 6,144		
<b>ONS PDE</b>	<b>Grid expansion</b>	Decennial Plan forecasts 8 GW expansion in TO/MA corridor. Capacity headroom at Rio Sono SS confirmed.
2034		
<b>MOIP</b>	<b>Datacenter MOIP</b>	Tax incentive for digital infrastructure - applies to datacenter and H2V components.
2024		

# LandCo + Holding + SubCos · bankable

Each layer optimized for SUDAM compliance, REIDI eligibility, and investor exit flexibility



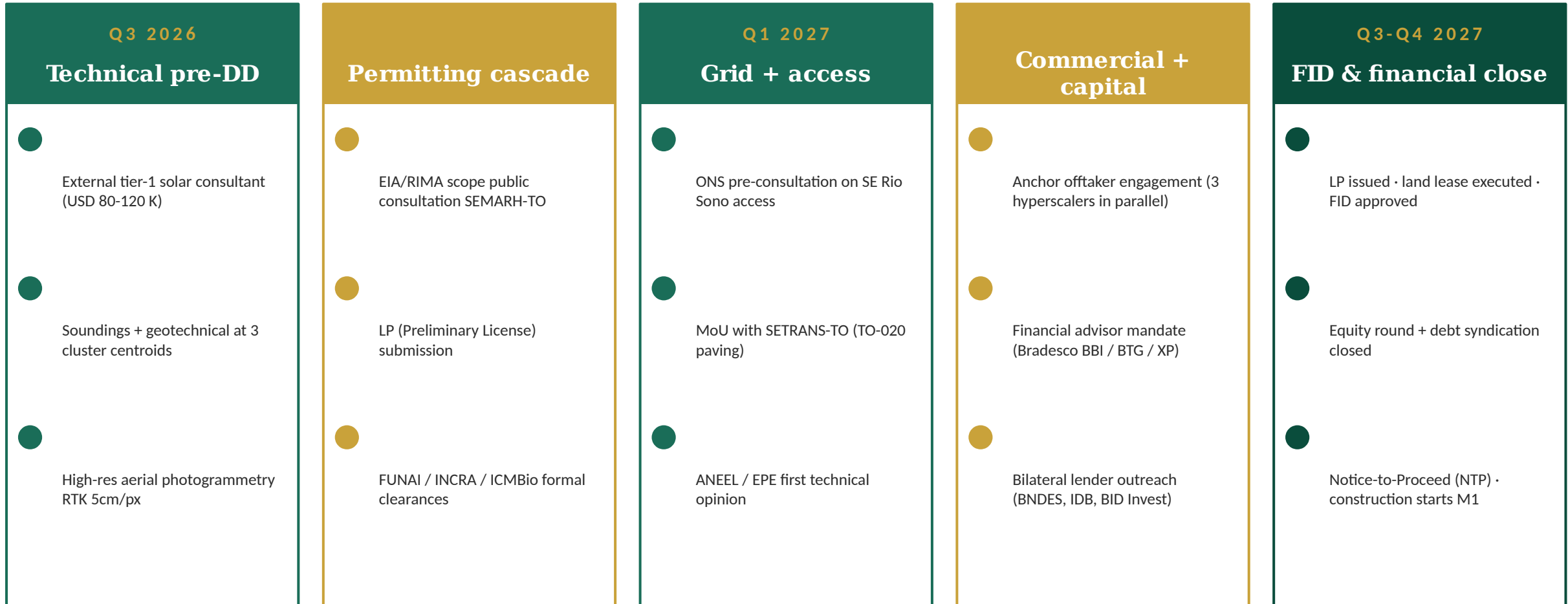
Structure designed by Pinheiro Neto-equivalent counsel · validated for SUDAM + REIDI + ASR-CFE eligibility · separable for asset-level exits

# Five priority risks - each with a structured mitigation

<p><b>R1</b> Grid interconnection delay (ONS access at SE Rio Sono)</p>	<p>HIGH</p>	<p>MEDIUM</p>
<p><i>Pre-consultation ONS Q3-2026 · MoU with operator · dedicated 65 km LT included in CAPEX · early procurement of transformer (T-18 months)</i></p>	<p><i>Impact</i></p>	<p><i>Probability</i></p>
<p><b>R2</b> Hyperscaler commercial deal slip (no 24/7 CFE buyer in time)</p>	<p>HIGH</p>	<p>LOW</p>
<p><i>Three parallel tracks: Microsoft / Google / AWS / Stargate engaged · backup Model A preserves underlying solar economics · phase-gating before DC CAPEX</i></p>	<p><i>Impact</i></p>	<p><i>Probability</i></p>
<p><b>R3</b> Environmental licensing (ASV scope · IBAMA/SEMARH-TO)</p>	<p>MEDIUM</p>	<p>MEDIUM</p>
<p><i>EIA/RIMA scope pre-consultation · ASV ≤ 10% of polygon · biome offset via RPPN commitment</i></p>	<p><i>Impact</i></p>	<p><i>Probability</i></p>
<p><b>R4</b> Construction labor / supply chain (1,500-peak in remote area)</p>	<p>MEDIUM</p>	<p>MEDIUM</p>
<p><i>Modular lodging contracted at FID · SENAI-TO partnership signed early · 3 backup EPC contractors pre-qualified · materials warehouse in Palmas</i></p>	<p><i>Impact</i></p>	<p><i>Probability</i></p>
<p><b>R5</b> FX &amp; macro (BRL appreciation reduces USD-equivalent returns)</p>	<p>MEDIUM</p>	<p>LOW</p>
<p><i>Revenue contracts negotiated in USD (CFE &amp; H2V) · debt mix USD/BRL aligned · NDF hedges 24-36 months · structural BRL undervaluation expected</i></p>	<p><i>Impact</i></p>	<p><i>Probability</i></p>

# Phase 8 - from validated dossier to financial close

Sequential workstreams · 9-12 month runway to investor readiness



THE ASK

# What we are bringing to market

Three sequenced opportunities · differentiated by capital appetite and risk profile

## TRACK 1 · Development Equity

### USD 60-80 M

Anchor early-stage capital

Funds Phase 8 (pre-DD, permitting, grid access, FID). Highest IRR (30-45%) and equity multiple (3-5x). 12-18 month deployment. Co-development seat available.

Target investor: Family offices · venture-style infra · strategic developers

## TRACK 2 · Construction Equity

### USD 1.0-1.5 B

FID + Phase 1A solar build

Funds 2 GWac PV + BESS + 500 kV LT. 36-month construction. Target 18-22% unlevered IRR. Debt syndication run in parallel (60-70% of CAPEX). Project finance structure.

Target investor: Infra funds (Brookfield, Pátria, Atlas, IG4, GIP, KKR) · DFIs (IDB Invest, BNDES, IFC)

## TRACK 3 · Strategic / Anchor Customer

### Multi-year CFE PPA

300-400 MW IT 24/7

15-25 year USD-denominated PPA contract. Anchor 24/7 CFE commitment validates Phase 2 datacenter CAPEX. Includes capacity commitment, power factor guarantees, ASR-CFE attestation.

Target investor: Hyperscalers · large industrial · sovereign AI ventures

# Built around a core sponsor · world-class advisors

*Selection process documented · final contracts subject to FID*

## CORE TEAM

Sponsor / Owner

### **LR&M Family · Holding family**

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*10,589 ha · committed long-term*

Founder / CEO

### **Henrique P. Settanni**

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*Strategy · capital structuring · operator*

CFO / Capital

### **To be hired post-FID**

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*Bank-side track record · BR + LATAM infra*

Chief Engineer

### **To be hired post-tech DD**

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*Tier-1 solar + DC dual experience*

Regulatory & ESG

### **To be hired post-LP**

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*Brazilian energy law · ONS interface*

## ADVISOR PIPELINE (shortlists invited to bid)

### **Financial structuring**

*Bradesco BBI · BTG Pactual · XP · Itaú BBA*

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### **Legal counsel**

*Pinheiro Neto · Mattos Filho · Lefosse · Trench Rossi*

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### **Solar tech DD**

*Wood Mackenzie · DNV · Black & Veatch · Fichtner*

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### **Datacenter design**

*ARUP · Jacobs · DLR Group · Compass DC*

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### **Environmental**

*ERM · Arcadis · WSP · Ecoplan (local TO)*

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### **EPC (long-list)**

*Engie · ACWA · Iberdrola · Solatio · Voltalia*

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### **O&M post-COD**

*Casa dos Ventos · Ascenty · CTEEP*

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# AETHERION

E N E R G Y

*Sites this strong come once a decade.  
Windows this open close quickly.*

**10,589 ha**

*Single contiguous matrícula · LR&M Family*

**82.3 / 100**

*Multi-criteria scorecard · 12 indicators weighted*

**MP 1,304/2025**

*ASR-CFE regulatory window · 2026-2028*

LET'S TALK

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REQUEST DATA ROOM ACCESS

**Under mutual NDA · 48-hour response  
SLA**

dataroom@aetherion.energy