



# **ACCELERATING GROWTH**

## **TO SUPPORT ENERGY SECTOR NEEDS IN A CARBON-FREE FUTURE**

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ORMAT 2022 ANALYST & INVESTOR DAY



# DISCLAIMER

THIS PRESENTATION INCLUDES FORWARD-LOOKING STATEMENTS, AND THE DISCLAIMER SHOULD BE READ CAREFULLY

This presentation contains statements relating to current expectations, estimates, forecasts and projections about future events that are “forward-looking statements” as defined in the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical facts, included in this presentation that address activities, events or developments that we expect or anticipate will or may occur in the future, including such matters as our projections of annual revenues, expenses and debt service coverage with respect to our debt securities, future capital expenditures, business strategy, competitive strengths, goals, development or operation of generation assets, market and industry developments and the growth of our business and operations, are forward-looking statements. When used in this press release, the words “may”, “will”, “could”, “should”, “expects”, “plans”, “anticipates”, “believes”, “estimates”, “predicts”, “projects”, “potential”, or “contemplate” or the negative of these terms or other comparable terminology are intended to identify forward-looking statements, although not all forward-looking statements contain such words or expressions. These forward-looking statements generally relate to Ormat’s plans, objectives and expectations for future operations and are based upon its management’s current estimates and projections of future results or trends. Although we believe that our plans and objectives reflected in or suggested by these forward-looking statements are reasonable, we may not achieve these plans or objectives. Actual future results may differ materially from those projected as a result of certain risks and uncertainties, including: our financial performance depends on the successful operation of our geothermal and REG power plants; our exploration, development, and operation of geothermal energy resources are subject to geological risks and uncertainties; we may experience a cyber incident, cyber security breach, severe natural event or physical attack on our operational networks and information technology systems; concentration of customers, specific projects and regions may expose us to heightened financial exposure; our international operations expose us to risks related to the application of foreign laws and regulations; political, economic and other conditions in the emerging economies where we operate may subject us to greater risk than in the developed U.S. economy;

conditions in and around Israel may adversely affect our operations and may limit our ability to produce and sell our products or manage our power plants; continued reduction in our Products backlog may affect our ability to fully utilize our main production and manufacturing facilities; some of our leases will terminate if we do not extract geothermal resources in “commercial quantities”; our BLM leases may be terminated if we fail to comply with any of the provisions of the Geothermal Steam Act or the terms or stipulations of such leases; some of our leases could terminate if the lessor defaults on any debt secured by the relevant property; reduced levels of recovered energy required for the operation of our REG power plants may result in decreased performance of such power plants; our business development activities may not be successful and our projects under construction may not commence operation as scheduled; we rely on power transmission facilities that we do not own or control; our use of joint ventures may limit our flexibility with jointly owned investments; our operations could be adversely impacted by climate change; geothermal and storage projects that we are operating, currently developing and/or plan to develop in the future may be exposed to market fluctuations; we may not be able to successfully conclude the transactions and integrate companies that we acquired and may acquire in the future; we encounter intense competition from other companies in our industry; changes in costs and technology may significantly impact our business by making our power plants and products less competitive; our intellectual property rights may not be adequate to protect our business; our financial performance could be adversely affected by changes in the legal and regulatory environment; a failure to supply contracted capacity and energy may result in the imposition of penalties; if any of our domestic power plants loses its current Qualifying Facility status under PURPA, or if amendments to PURPA are enacted that substantially reduce the benefits currently afforded to Qualifying Facilities, our domestic operations could be adversely affected; we may experience a reduction or elimination of government incentives; compliance with federal, state, local and foreign environmental laws and obtaining and maintaining environmental permits and governmental approvals may result in liabilities, costs and delays in construction;





# DISCLAIMER, MARKET & INDUSTRY DATA, AND NON-GAAP METRICS

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we could be exposed to significant liability for violations of hazardous substances laws; we may be unable to obtain the financing we need on favourable terms to pursue our growth strategy; if our project subsidiaries default on their obligations under limited or non-recourse debt or lease financing, we may be required to make certain payments to the relevant debt holders, and if the collateral supporting such leveraged financing structures is foreclosed upon, we may lose certain of our power plants; we may not be able to obtain sufficient insurance coverage to cover damages resulting from any damages to our assets and profitability including, but not limited to, natural disasters such as volcanic eruptions, lava flows, wind and earthquakes; the global spread of a public health crisis, including the COVID-19 pandemic may have an adverse impact on our business; the existence of a prolonged force majeure event or a forced outage affecting a power plant, or the transmission systems could reduce our net income, and other risks described under “Risk Factors” in Ormat’s annual report on Form 10-K filed with the Securities and Exchange Commission (“SEC”) on February 25, 2022 and in Ormat’s annual reports on Form 10-K and quarterly reports on Form 10-Q that are filed from time to time with the SEC.

These forward-looking statements are made only as of the date thereof, and, except as legally required, we undertake no obligation to update or revise the forward-looking statements, whether as a result of new information, future events or otherwise.

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This presentation includes market and industry data and forecasts that we have derived from publicly available information, various industry publications, other published industry sources and internal data and estimates. Industry publications and other published industry sources generally indicate that the information contained therein was obtained from sources believed to be reliable. Internal data and estimates are based upon information obtained from trade and business organizations and other contacts in the markets in which we operate and our management’s understanding of industry conditions. Any estimates underlying such market-derived information and other factors could cause actual results to differ materially from those expressed in the independent parties’ estimates and in our estimates.

## NON-GAAP METRICS

This presentation, and the accompanying oral presentation, include certain financial measures not presented in accordance with the generally accepted accounting principles in the United States (“GAAP”), including EBITDA, Adjusted EBITDA and net debt. These measures may exclude items that are significant in understanding and assessing the Company’s financial results. Therefore, these measures should not be considered in isolation and are not a substitute for, superior to, measures of financial performance prepared in accordance with GAAP. You should be aware that the Company’s presentation of these non-GAAP measures may not be comparable to similarly titled measures used by other companies, which may be defined and calculated differently. Please see the appendix to this presentation for a reconciliation between such non-GAAP measures and the most comparable GAAP measures.

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01

09:00

DORON BLACHAR, CEO

**Advancing our strategy To support energy sector needs in a carbon-free future**

02

09:10

PAUL THOMSEN, VP BUSINESS DEVELOPMENT

**The increasing value of geothermal in a carbon-free future**

03

09:30

DORON BLACHAR, CEO

**Continue to deliver profitable growth in the electricity segment**

10:00

**Q&A and Break**

04

10:30

OFER BEN YOSEF, EVP ENERGY STORAGE AND BUSINESS DEVELOPMENT

**Well positioned to deliver accelerated growth in storage**

05

11:00

ASSI GINZBURG, CFO

**Product segment**

06

11:15

ASSI GINZBURG, CFO

**Financial overview**

07

11:30

DORON BLACHAR, CEO

**Key takeaways and Q&A**

12:00

**Lunch**



## OUR SPEAKERS FOR TODAY



**DORON BLACHAR**  
CEO



**ASSI GINZBURG**  
CFO



**OFER BENYOSEF**  
EVP ENERGY STORAGE  
& BUSINESS DEVELOPMENT



**PAUL THOMSEN**  
VP BUSINESS DEVELOPMENT



**SMADAR LAVI**  
VP, HEAD OF IR  
& ESG PLANNING AND REPORTING



# MANAGEMENT PARTICIPANTS



**SHLOMI ARGAS**  
PRESIDENT, HEAD OF  
OPERATIONS AND PRODUCTS



**SHIMON HATZIR**  
EVP ELECTRICITY SEGMENT



**JESSICA WOELFEL**  
GENERAL COUNSEL & CCO



**MIKE PAVO**  
HEAD OF STORAGE OPERATIONS



# 01

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## **ADVANCING OUR STRATEGY** TO SUPPORT ENERGY SECTOR NEEDS IN A CARBON-FREE FUTURE

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DORON BLACHAR | CEO



# A LEADING RENEWABLE ENERGY PROVIDER

WITH A PROVEN TRACK RECORD  
IN GEOTHERMAL & ENERGY STORAGE



Over

**55**

Years of experience

Own & operate

**~1.1GW**

Geothermal, Storage,  
Solar PV & REG<sup>(1)</sup>

**1,400**

Employees

**\$663M**

2021 revenues

**\$401M**

2021 adj. EBITDA<sup>(2)</sup>

**\$62M**

2021 Net income<sup>(3)</sup>

(1) REG – Recovered Energy Generation

(2) See appendix for reconciliation of non-GAAP financial measures.

(3) Net income attributable to the company stockholders



# OUR BUSINESS SEGMENTS



**ELECTRICITY**



**PRODUCT**

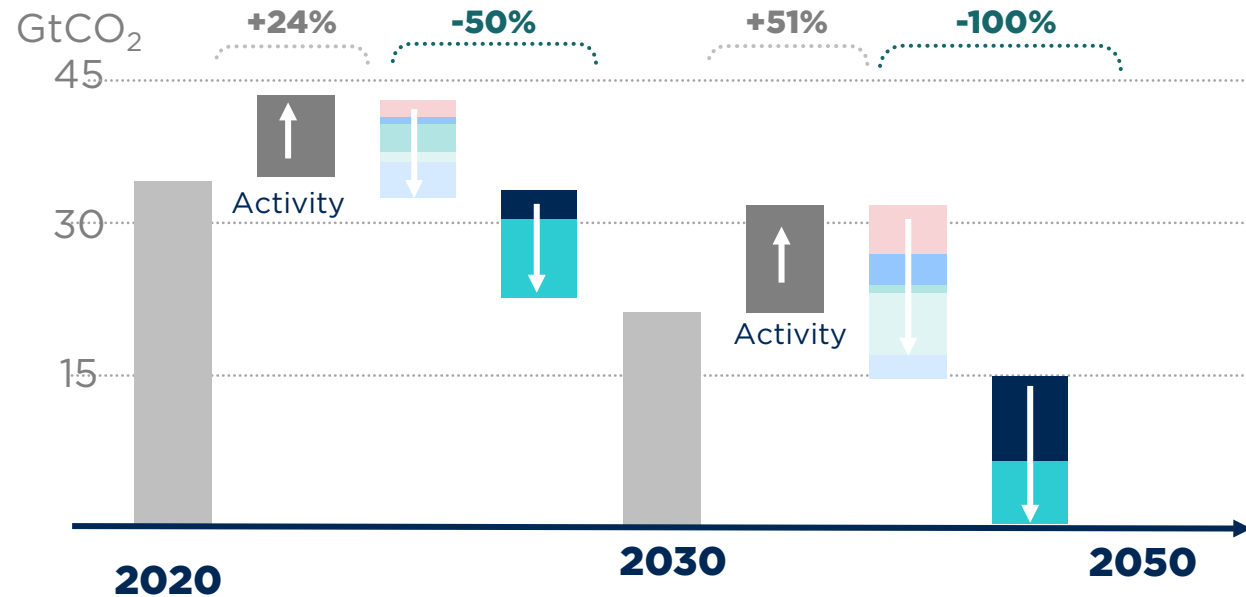


**ENERGY STORAGE**



# GLOBAL NET ZERO BY 2050 ROADMAP FOR THE GLOBAL ENERGY SECTOR

## EMISSION REDUCTION BY MITIGATION MEASURES IN THE NET ZERO EMISSION SCENARIO



**RENEWABLES AND  
ELECTRIFICATION** PLAY KEY  
ROLES IN ACHIEVING NET ZERO  
EMISSION SCENARIO BY 2050

### MITIGATION MEASURES

- Renewables
- Electrification

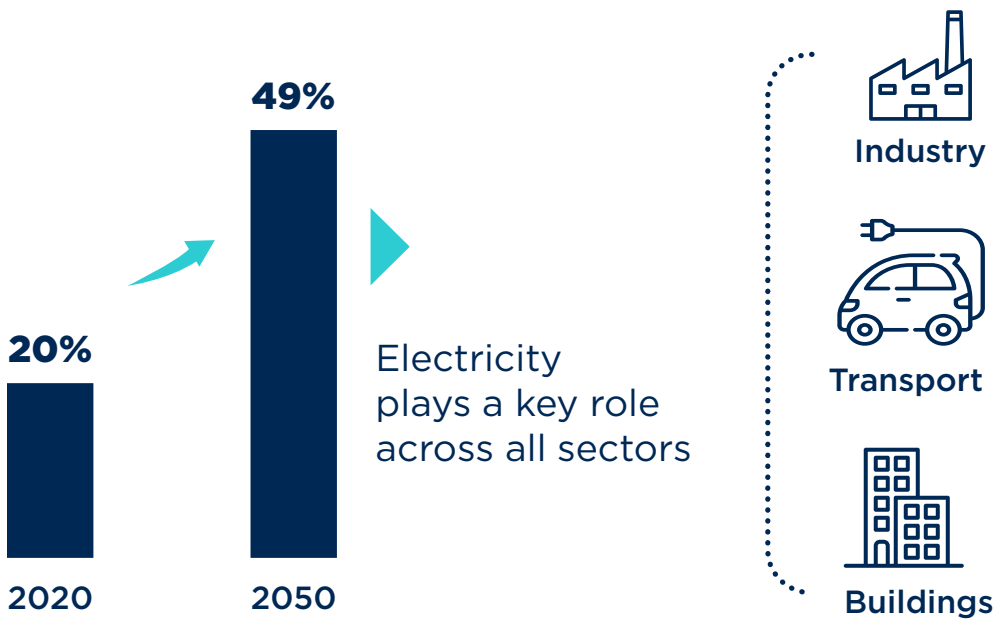
- Energy efficiency
- CCUS
- Bio energy

- Hydrogen and hydrogen-based fuels
- Behavioral changes



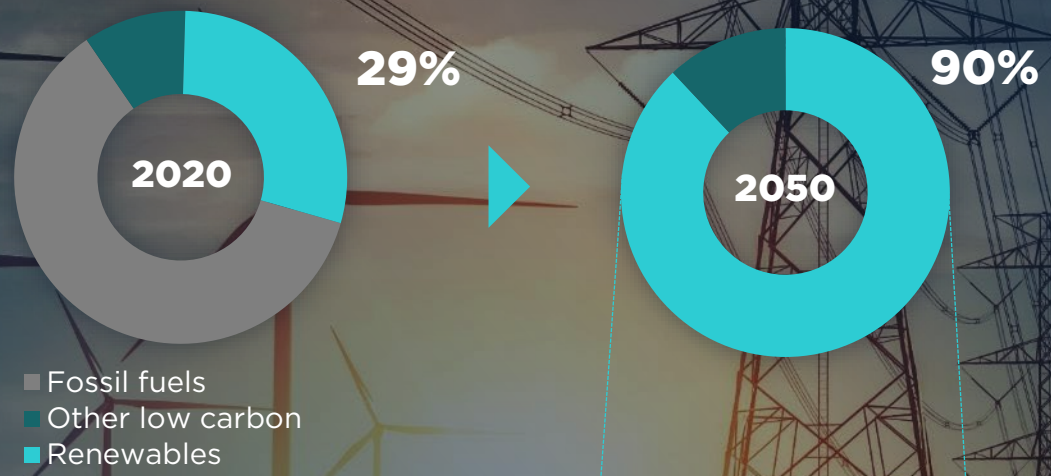
# GLOBAL ELECTRICITY DEMAND EXPECTED TO MORE THAN DOUBLE BETWEEN 2020 AND 2050

THE PREDICTED INCREASE IN THE SHARE OF  
ELECTRICITY IN TOTAL ENERGY CONSUMPTION



# 2050: A FUTURE ENERGY SECTOR DOMINATED BY RENEWABLES

THE PREDICTED SHARE OF RENEWABLES IN TOTAL  
ELECTRICITY GENERATION GLOBALLY



70%  
from intermittent power:  
wind, solar

Source: [Net Zero by 2050 A Roadmap for the Global Energy Sector](#), IEA, October 2021





**IN A FUTURE WHERE SOLAR &  
WIND ARE PREDICTED TO BE**

**70%**

**OF TOTAL ELECTRICITY  
GENERATION...**

**STABILITY & FLEXIBILITY IN THE  
ELECTRICITY SUPPLY IS A MUST**



# ORMAT'S SOLUTIONS FACILITATE INDUSTRY NEEDS ON THE PATH TO A CARBON-FREE FUTURE



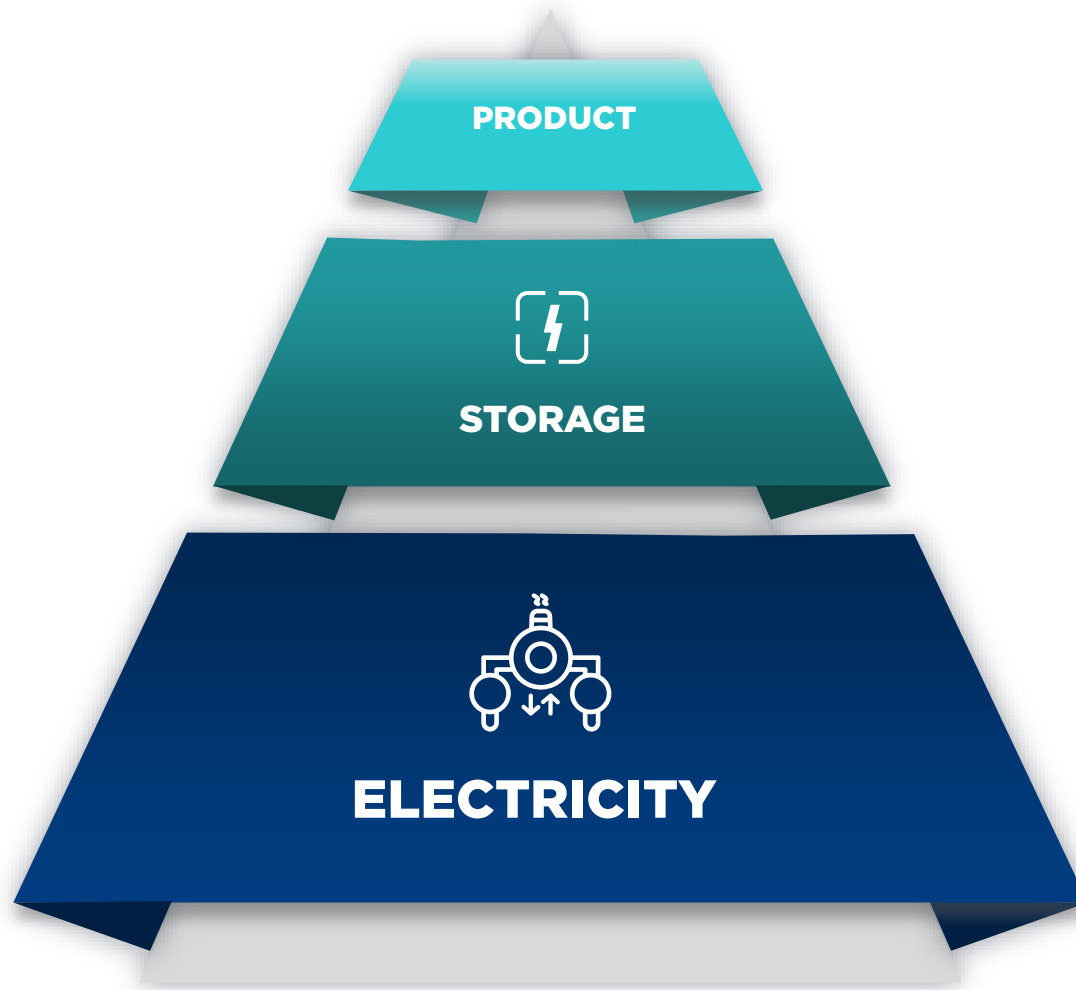
**Generates firm &  
flexible power**



**Enables stability of the  
grid and flexibility**



# ORMAT GROWTH STRATEGY

**Expanding our offerings:**

High-temperature resources  
Technological innovations



**Steep growth:** focus on key U.S. markets



**M&A**



**Organic growth:** focus on the U.S. and  
Indonesia

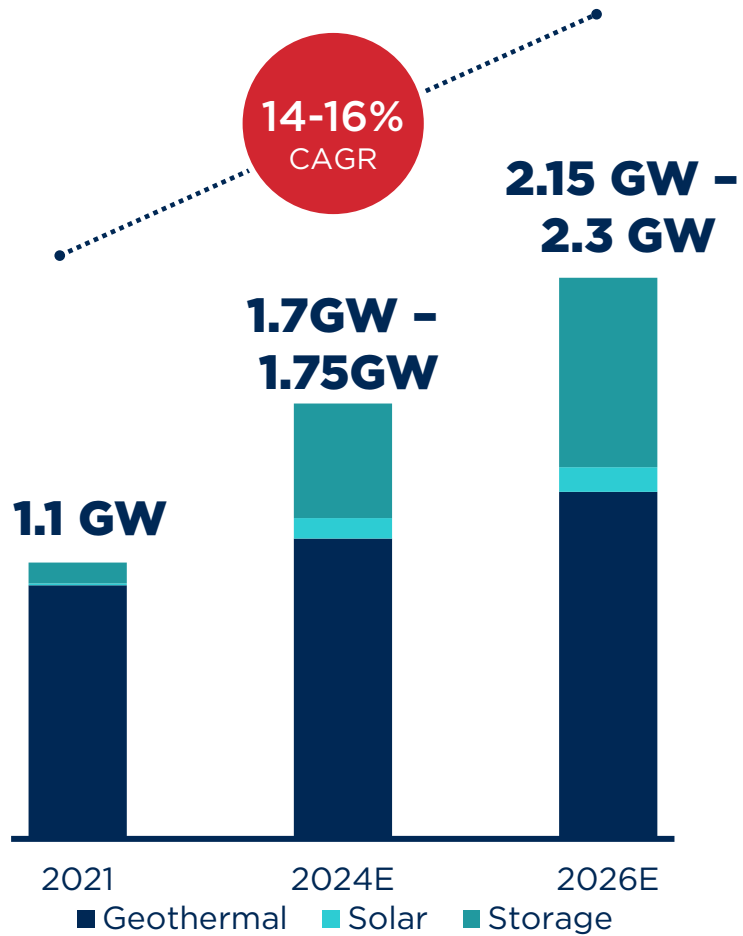


**M&A**

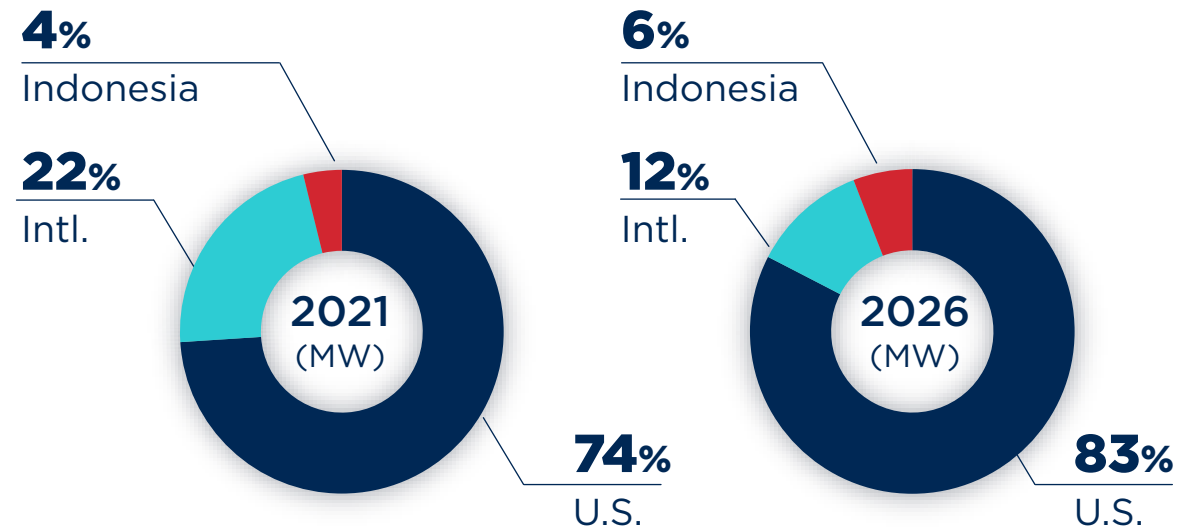


# ORMAT PORTFOLIO GROWTH TARGETS

## PORTFOLIO GROWTH (GW)



## EXPAND OPERATION IN THE U.S.

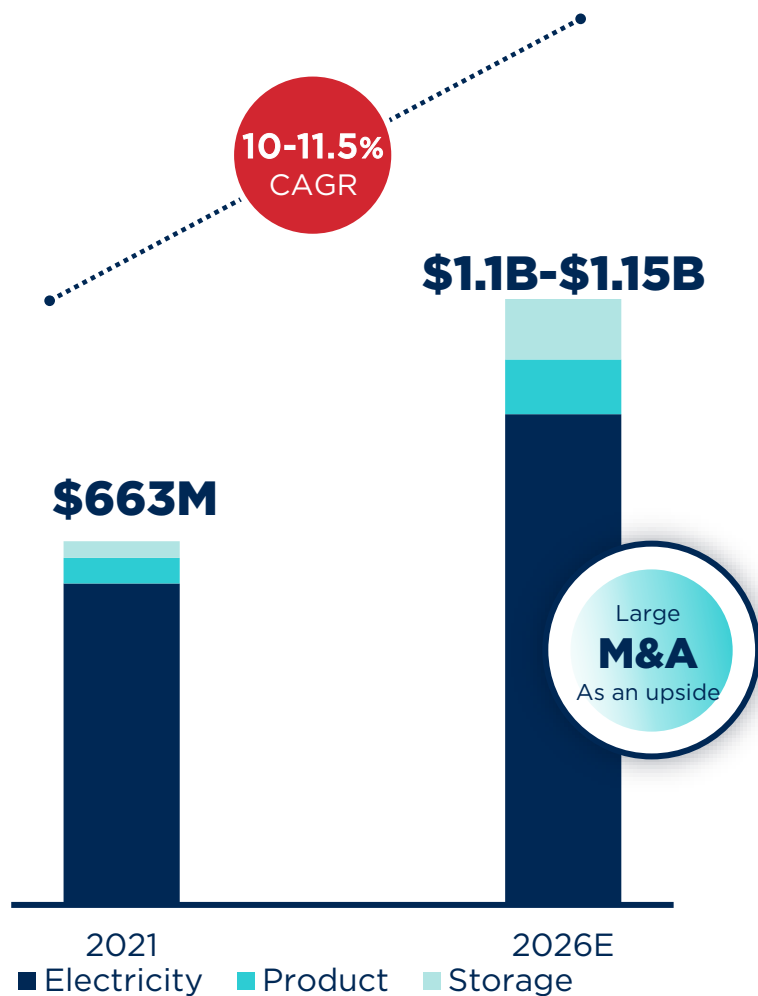




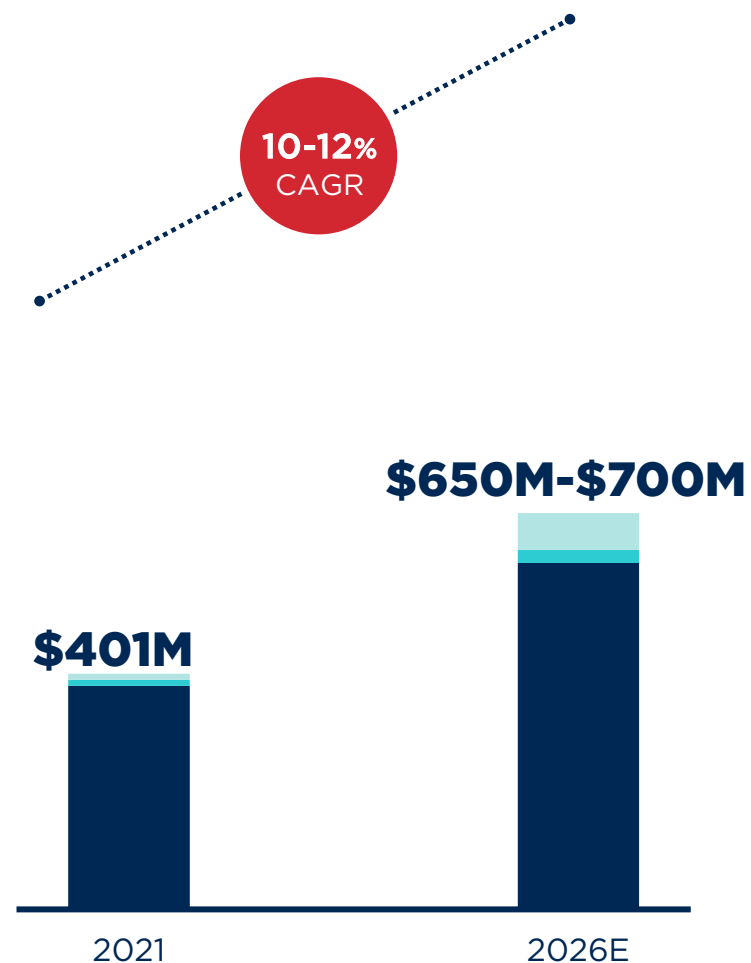
# STRATEGY

## ORMAT FINANCIAL GROWTH TARGETS

### REVENUE GROWTH



### ADJUSTED EBITDA GROWTH<sup>(1)</sup>



(1) See reconciliation note on page 95



# 02

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## THE INCREASING VALUE OF GEOTHERMAL IN THE U.S. IN A CARBON-FREE FUTURE

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PAUL THOMSEN | VP BUSINESS DEVELOPMENT



# U.S. GEOTHERMAL MARKET

THE U.S. IS THE WORLDS LEADING PRODUCER OF GEOTHERMAL POWER



**3.7GW**  
Installed capacity  
through 2021<sup>1</sup>



**>95%**  
of U.S. capacity in  
California and Nevada<sup>2</sup>



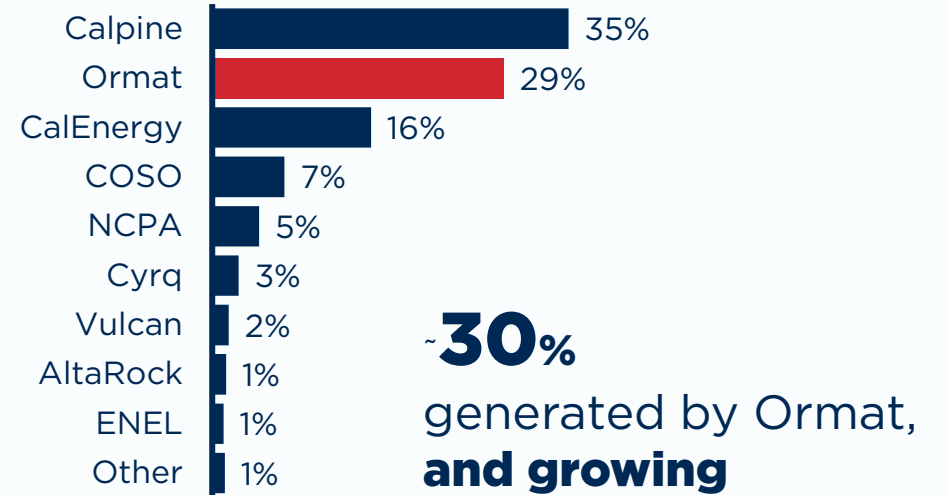
**23%**  
of global  
installed capacity<sup>1</sup>



**60GW**  
Estimated potential  
by 2050<sup>3</sup>

Sources: (1) [thinkgeoenergy](#), (2) [IEA GEOTHERMAL](#)  
(3) [Geothermal Power Market Forecast 2019-2029, Visiongain](#)

## GEOTHERMAL OPERATORS' SHARE OF U.S. GENERATION



Source: U.S Energy Information Administration (EIA) 2020. Ormat bar includes Terra gene generation acquired by Ormat in 2021



# ORMAT IS THE LARGEST U.S. GEOTHERMAL DEVELOPER

**674<sub>MW</sub><sup>1</sup>**

**Generating capacity**  
from 17 plants  
in CA, NV, ID and OR

**65%**

of the generating  
capacity in **Nevada**

**19**

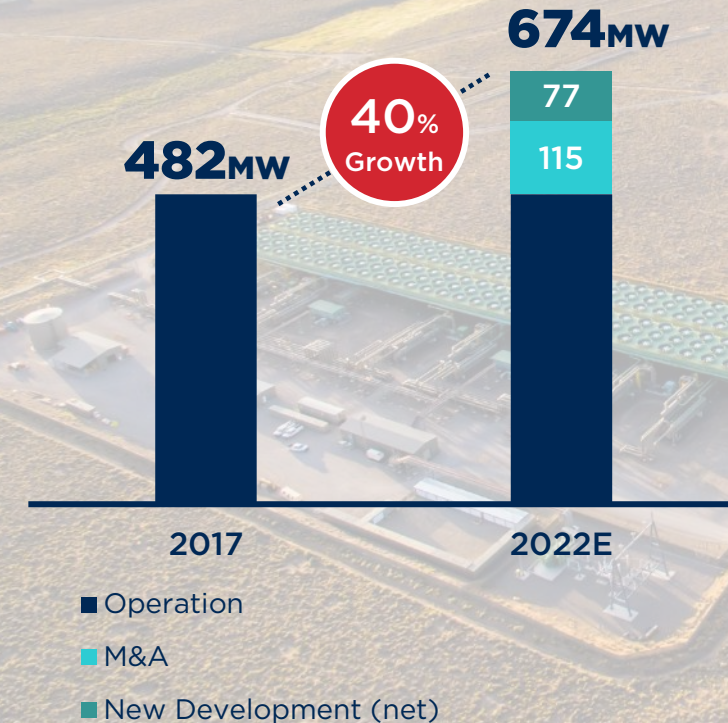
**Projects**  
under construction  
and development

**30**

**Prospects**  
in NV, CA, OR,  
UT and NM

(1) Including five hybrid geothermal-solar PV projects

## ORMAT IS THE FASTEST GROWING GEOTHERMAL OPERATOR IN THE U.S.



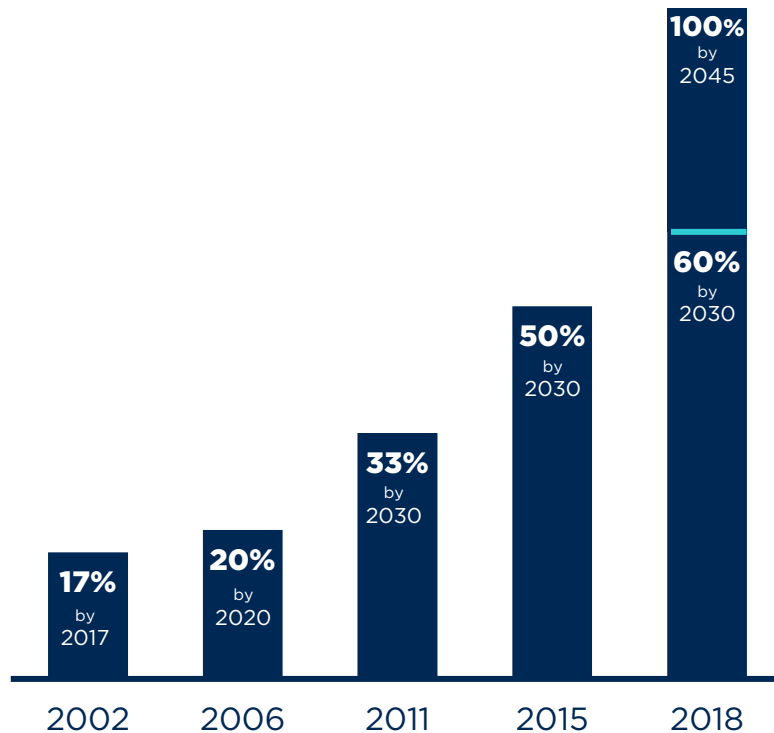


# WHAT HAS LED TO REALIZATION OF GEOHERMAL VALUE?

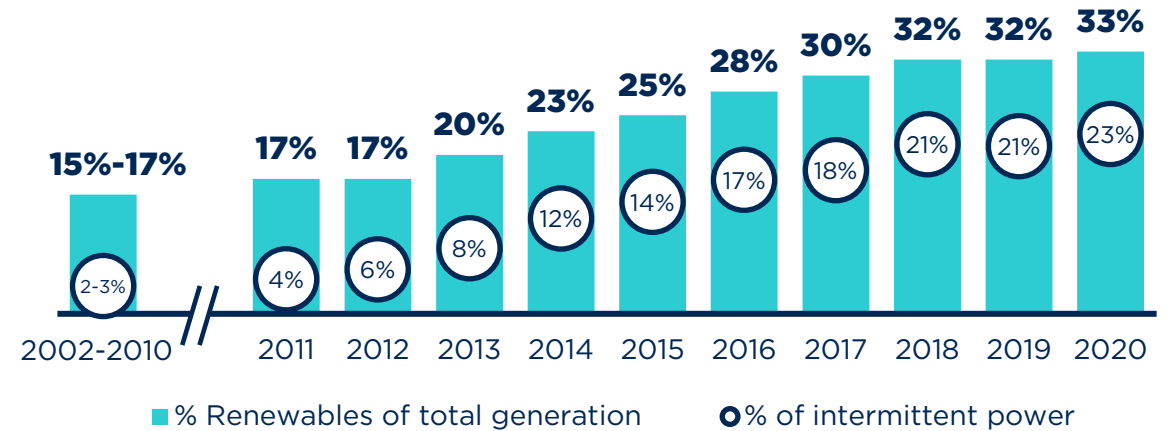


# THE INCREASING SHARE OF INTERMITTENT POWER IN CALIFORNIA

**CALIFORNIA RENEWABLE PORTFOLIO STANDARD (RPS) TARGET DEVELOPMENT**



**PROGRESSION TO 100% CARBON-FREE ELECTRICITY**

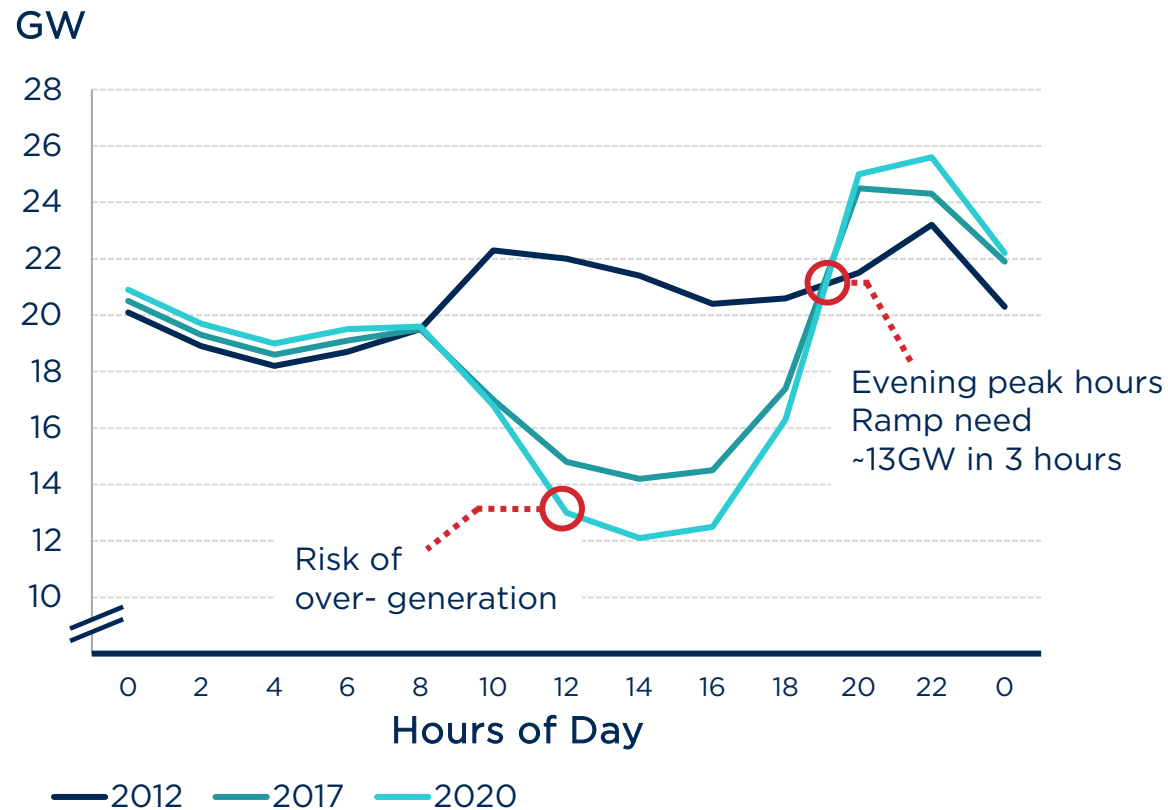




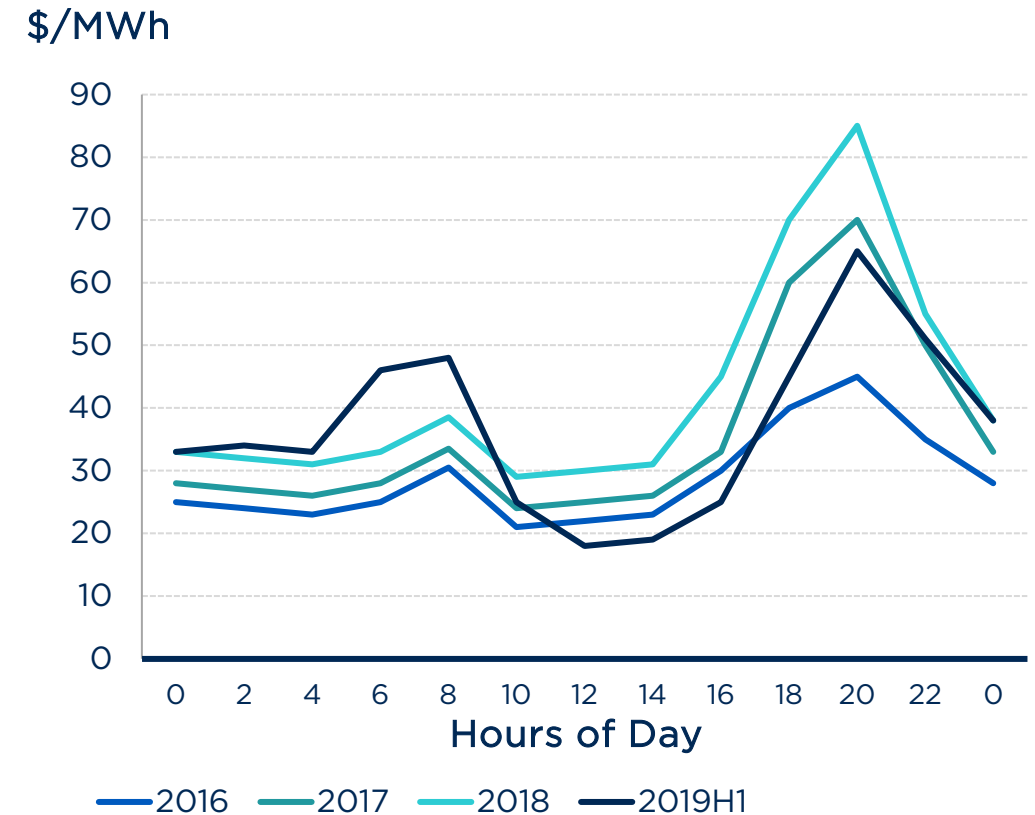
# THE IMPACT OF INTERMITTENT POWER ON THE GRID

Solar PV impact on the electric grid strengthens the position of geothermal as a premium renewable source

## TYPICAL SPRING DAY NET - LOAD IN CALIFORNIA<sup>1</sup>



## ENERGY PRICES IN SOUTHERN CALIFORNIA 2016-2019<sup>2</sup>



(1) CAISO FAST FACT (2) CAISO





# AUGUST 2020: **BLACKOUTS IN CALIFORNIA**

Blackouts created a new sense of urgency about summer reliability, with new emphasis on  
the need for firm resources



## REGULATORS, SYSTEM OPERATORS & OFF TAKERS RESPONDED:

**2021 California PUC**  
Procure:

**1GW**

of zero emission and  
firm power **by 2026**<sup>1</sup>

**Geothermal goals:**

**500 MW**  
**NV Energy**<sup>2</sup>

**500MW-1.5 GW**  
**LADWP**<sup>3</sup>

**Firm zero emission power -  
namely **geothermal****

California PUC: California Public Utilities Commission ; NV Energy: Nevada Energy LADWP: The Los Angeles Department of Water and Power Sources: (1) [CPUC](#) (2) PUC of Nevada, Integrated Resource Plan 2021 (3) [NREL.GOV](#)



# WHAT IS REQUIRED TO SUPPORT THESE GOALS



## UNLOCKING GEOHERMAL POTENTIAL



**LAND POSITION**

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**PERMITTING**

---



**TRANSMISSION**



## ORMAT IS WELL POSITIONED TO SUPPORT INDUSTRY GOALS



### LAND POSITION

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### PERMITTING

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### TRANSMISSION





## LAND POSITION IN THE U.S.

**4%**

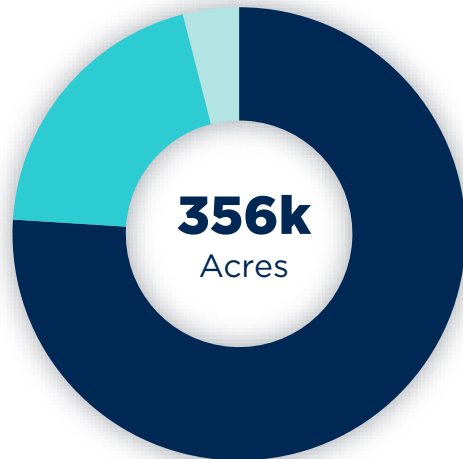
Owned by Ormat or  
leased from states

**76%**

BLM

**20%**

Private



### Increasing the land position

- Bureau of Land Management (BLM)
- Acquisitions







## PERMITTING

# 30

prospects in the U.S.<sup>1</sup>



(1) As of 31.12.2021



McGinness Hills Complex, NV





## TRANSMISSION: ACQUISITION OF OXBOW TRANSMISSION LINE<sup>1</sup>

Transmission Capacity on NV  
Energy's ON-Line :

**318<sub>MW</sub>** (46MW unused)

Additional > **140<sub>MW</sub>** of Long-  
Term Firm Capacity with various  
transmission system operators

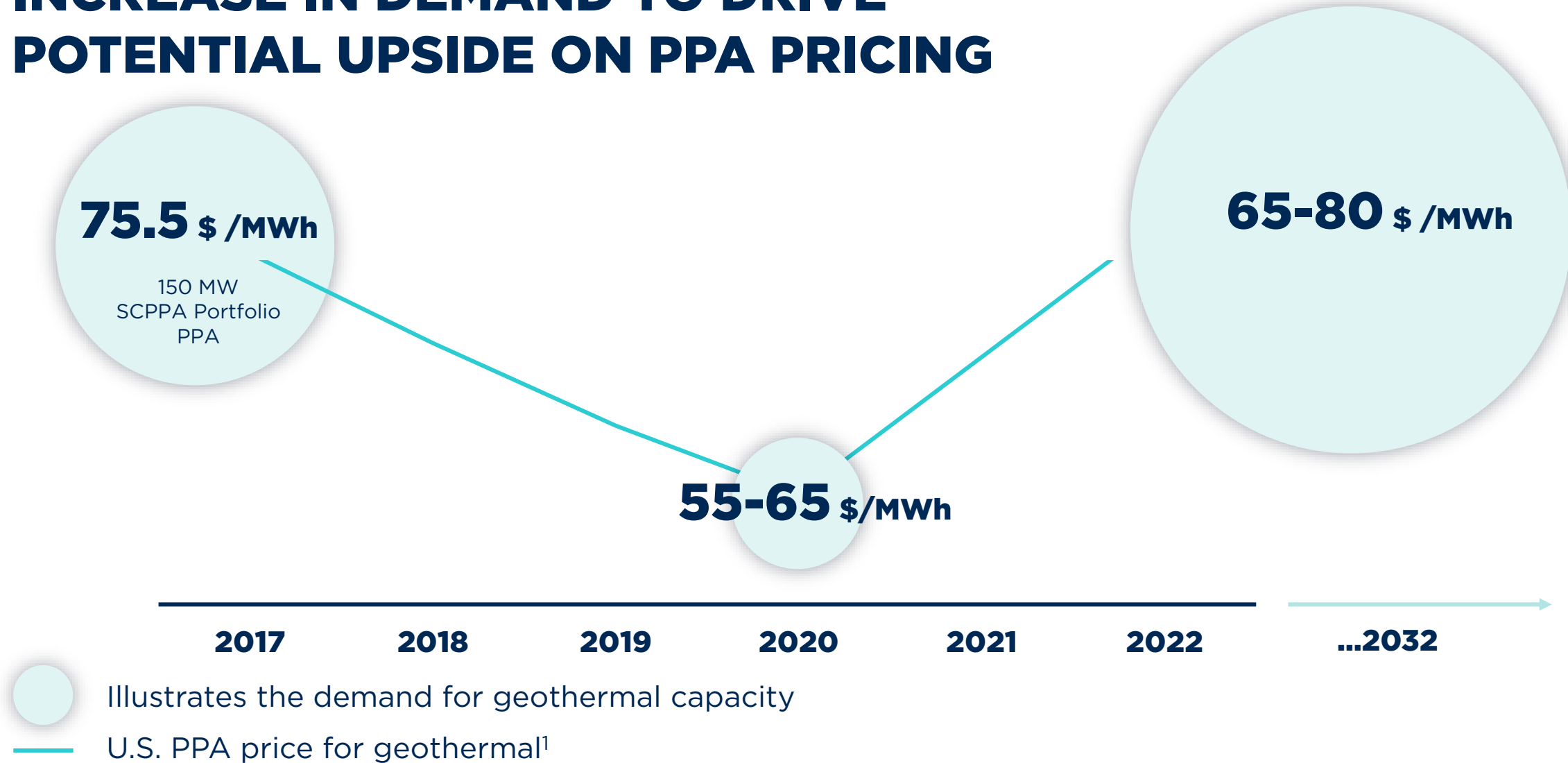
Underutilized 220-mile T-line of

**300<sub>MW</sub>-400<sub>MW</sub>**

of 230KV electricity to provide  
incremental access



# INCREASE IN DEMAND TO DRIVE POTENTIAL UPSIDE ON PPA PRICING



(1) 75.5\$/MWh PPA price are based on 150MW SCAPPA Portfolio PPA signed in 2017. The 55-65\$/MWh range is based on CD4 PPA that was signed in 2019 at a fixed rate of 68\$/MWh in CA (equivalent to \$62 \$/MWh in NV) and other price indications provided by the business development team for past and future PPAs in California (high end of range) and Nevada (low end of range).



# SUMMARY: GEOTHERMAL IS ON THE RISE

**1**

## Increased demand:

A target of additional approximately 2GW geothermal capacity

**2**

## Strong positioning:

Land, permitting and transmission are key

Ormat is strongly positioned with robust prospect inventory and secured transmission

**3**

## Increased PPA pricing





# 03

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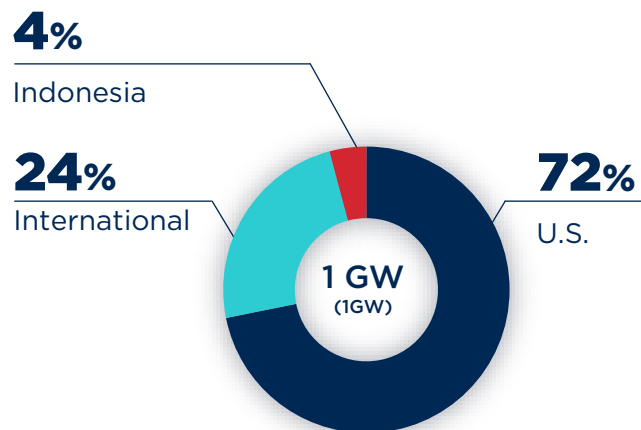
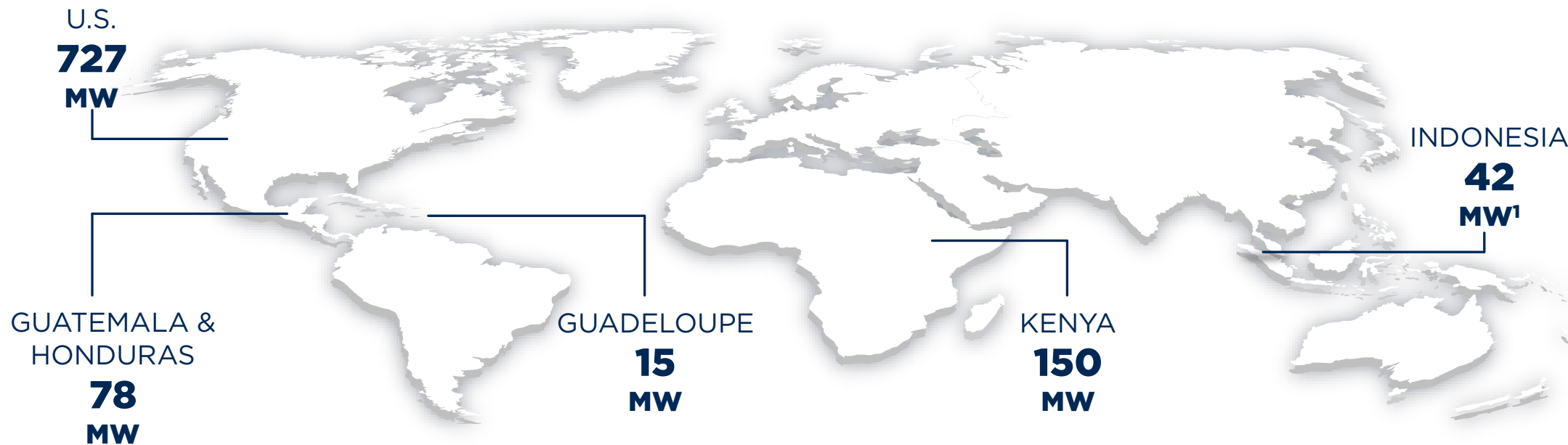
## **CONTINUE TO DELIVER PROFITABLE GROWTH IN THE ELECTRICITY SEGMENT**

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DORON BLACHAR | CEO



# GEOGRAPHIC BREAKDOWN OF 2021 ELECTRICITY SEGMENT PORTFOLIO (MW)



**1 GW<sup>2</sup> OF OPERATING ASSETS**  
GEOTHERMAL AND SOLAR PV

OPERATING GLOBALLY WITH INCREASING  
EXPOSURE IN HIGH-RETURN MARKETS

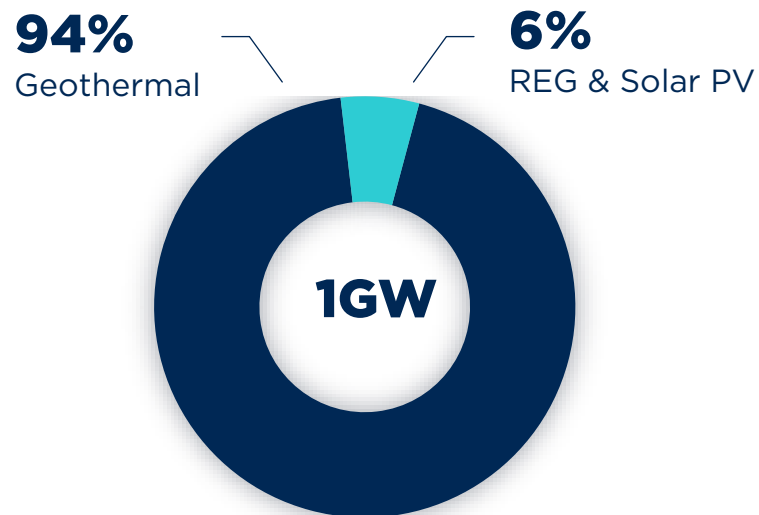
(1) In Sarulla, we include our 12.75% share only (2) Current portfolio as of March 2022



# STABLE, VISIBLE OPERATION

## GEOHERMAL DOMINANT PORTFOLIO

with highest capacity factor of any renewable resource



## VISIBLE CASH GENERATING ASSETS



**15** years  
Weighted average PPA life



**89.7** \$/MWh  
Average price for 2021



**95%**  
of 2021 adj. EBITDA



# ADVANCING PROFITABLE GROWTH IN ATTRACTIVE MARKETS

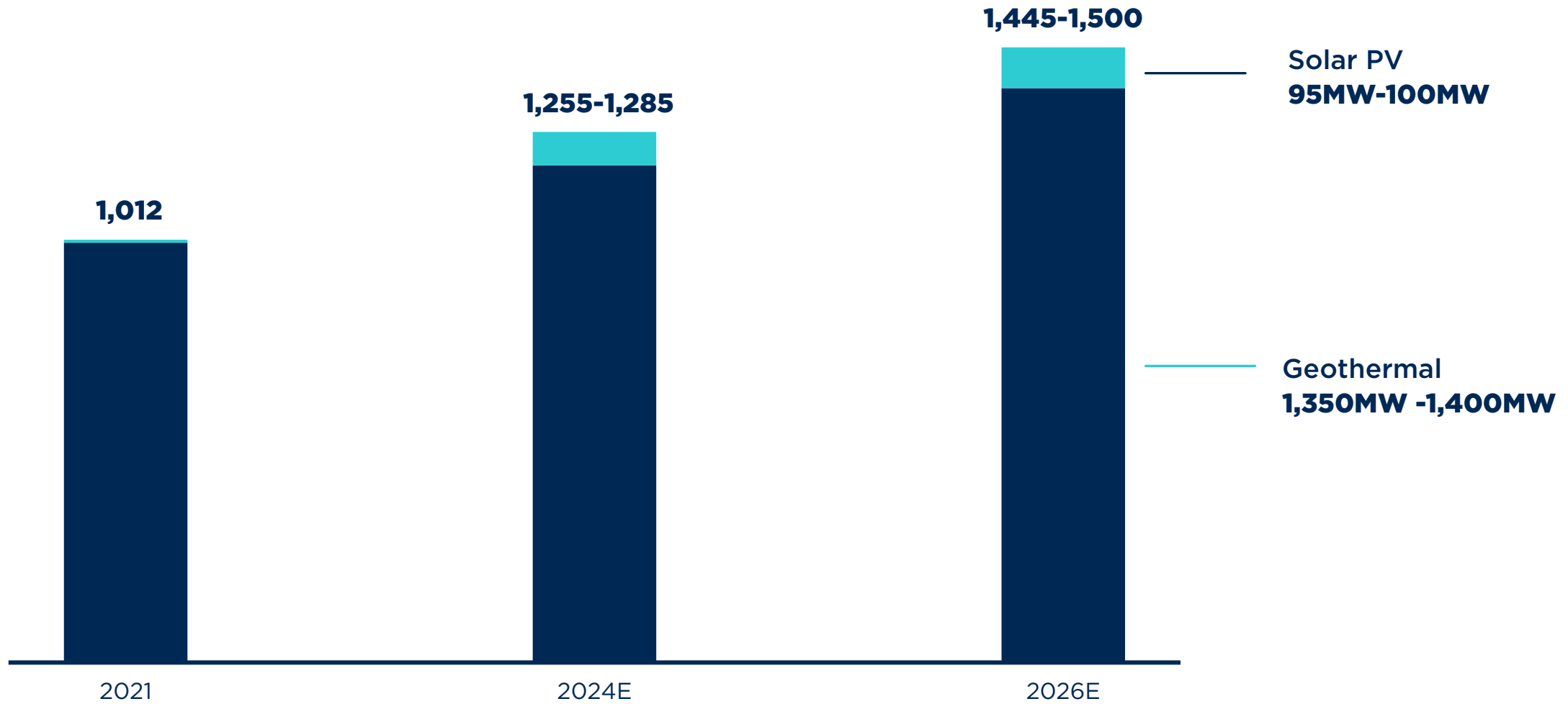
## GEOHERMAL POTENTIAL IN TARGETED MARKETS





## GROWTH TARGET (MW)

### GEOTHERMAL AND SOLAR PV





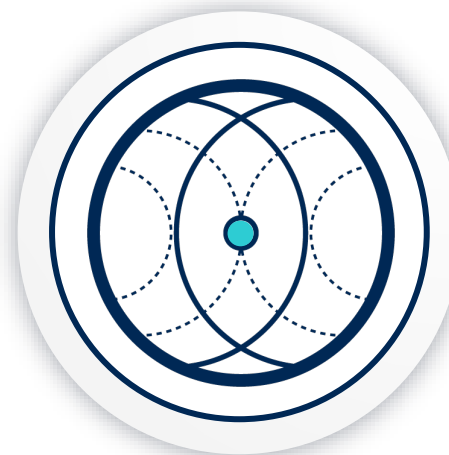
# HOW WE PLAN TO CONTINUE DELIVERING PROFITABLE GROWTH



**ORGANIC GROWTH**  
ENHANCED EXPLORATION



**INDONESIA**



**M&A**



# HOW WE PLAN TO CONTINUE DELIVERING PROFITABLE GROWTH



**ORGANIC GROWTH**  
ENHANCED EXPLORATION



**INDONESIA**



**M&A**



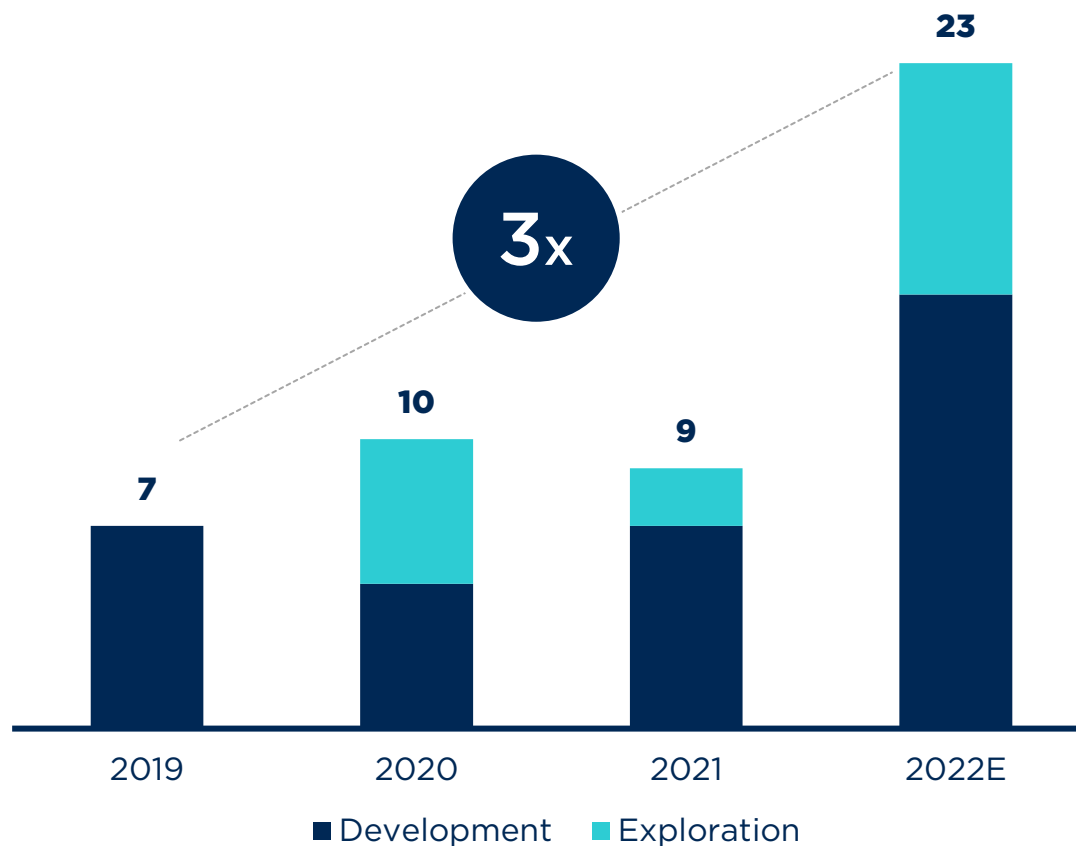
# 41 PROSPECTS FOR EXPLORATION AND DEVELOPMENT





## EXPANDING DRILLING ACTIVITY TO SUPPORT EXPEDITED GROWTH

Extensive exploration and drilling campaigns  
expected in 2022, 10 sites at 5 countries





# HOW WE PLAN TO CONTINUE DELIVERING PROFITABLE GROWTH



**ORGANIC GROWTH**  
ENHANCED EXPLORATION



**INDONESIA**



**M&A**



# INDONESIA



**4<sup>th</sup>**

**largest country in the world<sup>1</sup>**  
273M population



**#1**

**largest economy in  
Southeast Asia<sup>2</sup>**



**BBB/Baa2**  
**Country's rating**  
by S&P and Moody's<sup>3</sup>



Jakarta , Indonesia

(1) By population (2) By GDP (3) Indonesia's Sovereign Credit Rating

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# INDONESIA ENERGY MARKET (2020)



~**33GW**

2020 electricity  
production<sup>1</sup>



~**12%**

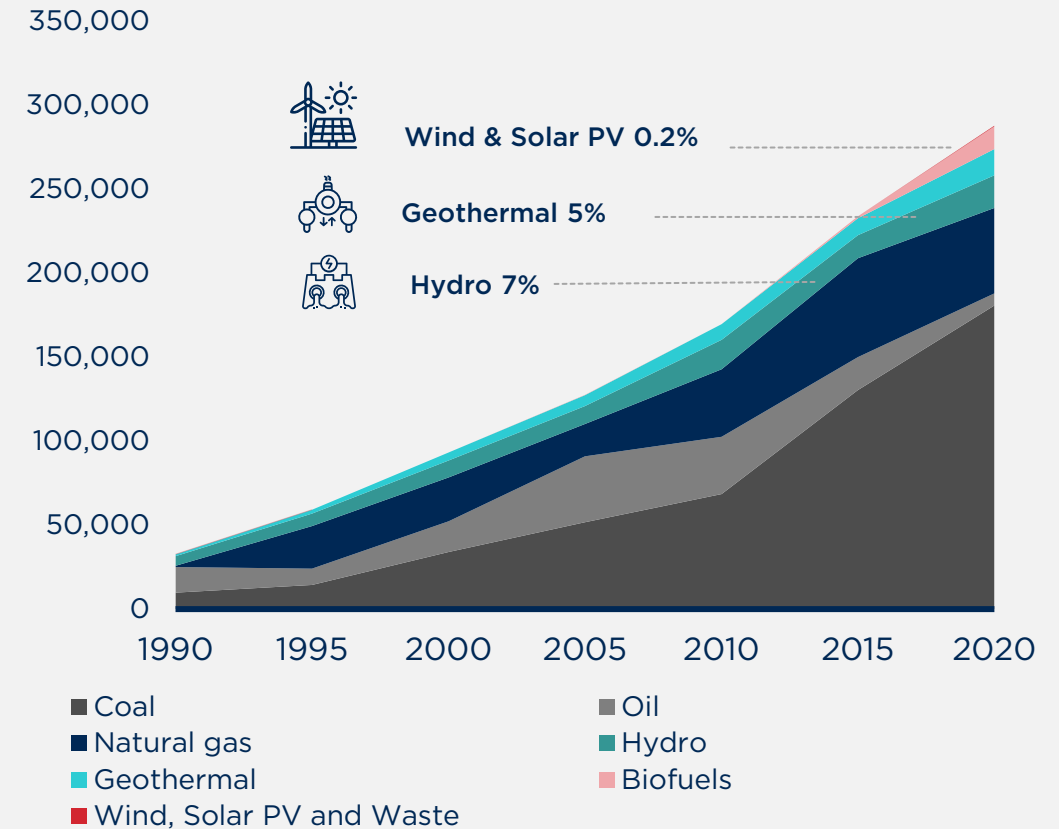
Renewables<sup>1,2</sup>  
(5% geothermal)



~**99%**

of population has  
access to Electricity<sup>3</sup>

## Electricity generation by source (GWh)<sup>1</sup>





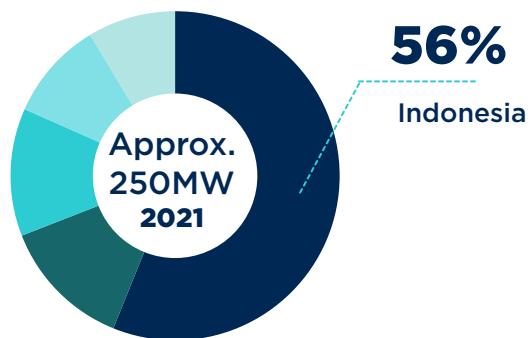
## 2<sup>ND</sup> LARGEST GEOTHERMAL MARKET IN THE WORLD

### 2.3GW

installed geothermal capacity, steam dominated<sup>1</sup>

### 56%

of 2021 new geothermal capacity worldwide came from Indonesia<sup>1</sup>



### 29GW

Estimated geothermal potential<sup>2</sup>

### Approx. 300MW

Expected geothermal development by 2023<sup>3</sup>

### 140MW

open to binary technology by 2023<sup>4,5</sup>

Kawah Ijen lake and volcano early morning at East Java, Indonesia.



# SUPPORTIVE REGULATION

01

Renewable energy targets  
**23% by 2025, 31% by 2035<sup>1</sup>**

03

Government drilling  
program

02

**20.9GW** of renewable  
energy by 2030. approx.  
**16% from geothermal<sup>2</sup>**

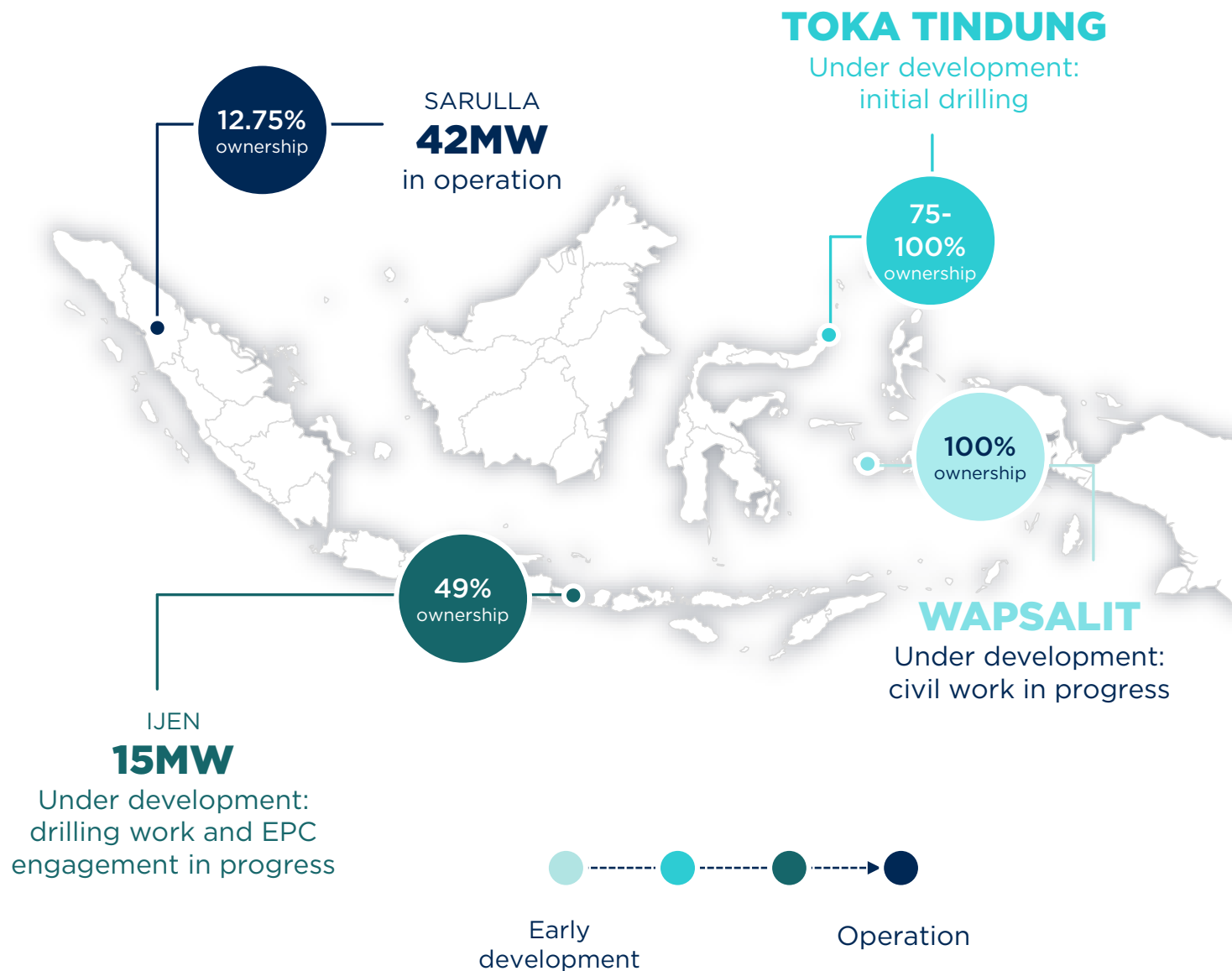
04

Avg. geothermal rate  
**9-12 cent/kWh<sup>3</sup>**

Padar Island, Flores, Indonesia



# ORMAT'S DEVELOPMENT IN INDONESIA<sup>1</sup>



(1) As of March 2022



## ADDITIONAL GROWTH DRIVERS FOR ORMAT PIPELINE

01

### M&A

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Targeting between 40MW and 60MW through M&A

02

### Partnership with PLN<sup>1</sup>

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Ormat was selected in the 1<sup>st</sup> RFP for four prospects (49% developer/51% PLN)

03

### Government drilling program<sup>2</sup>

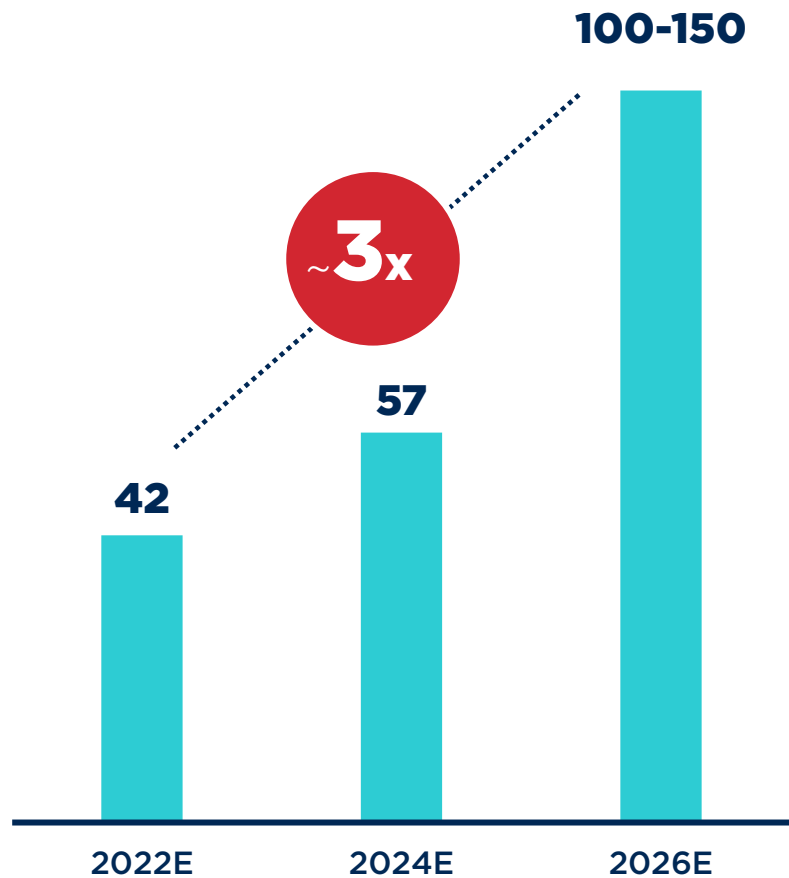
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Tenders will be released in 2023

(1) PLN: PT Perusahaan Listrik Negara (state owned company) (2) Government of Indonesia



## ORMAT'S EXPECTED GROWTH IN INDONESIA (MW)



(1) Ormat future market share is based on the current installed capacity in Indonesia (2.3GW) and the additional expected capacity by 2026 (1.5GW), according to PLN roadmap



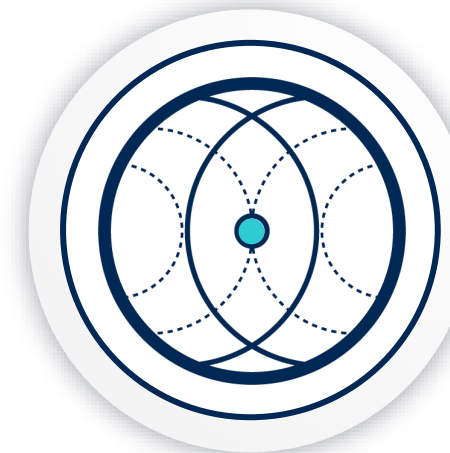
# HOW WE PLAN TO CONTINUE DELIVERING PROFITABLE GROWTH



**ORGANIC GROWTH**  
ENHANCED EXPLORATION



**INDONESIA**



**M&A**



## M&A

Track record of accretive value M&A transactions:

**2016**

### **BOUILLANTE, GUADELOUPE**

- 9MW from 1 operational power plant
- Expanded to 15MW in 6 months
- Advanced stages of 10MW enhancement

**2018**

### **U.S. GEOTHERMAL**

- 3 operational power plants
- Improved generation from 38MW to 47MW
- Advanced stage of 25MW expansion
- 2 prospects under exploration

**2021**

### **TG GEOTHERMAL<sup>1</sup>**

- 2 operational power plants
- Improved generation from 68MW to 72MW
- Enhancement potential
- 1 development project - drilling is expected in H2-2022
- Underutilized transmission line

Continue to explore domestic and international opportunities.

(1) TG Geothermal Portfolio, LLC (a subsidiary of Terra-Gen, LLC)



Dixie Valley, NV | Source: Google Map



# SUMMARY

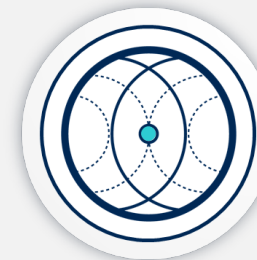
## ELECTRICITY SEGMENT GROWTH DRIVERS



**ORGANIC GROWTH**  
ENHANCED EXPLORATION

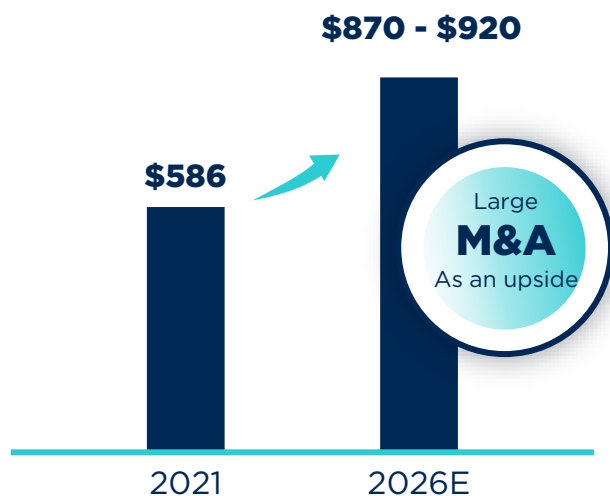


**INDONESIA**

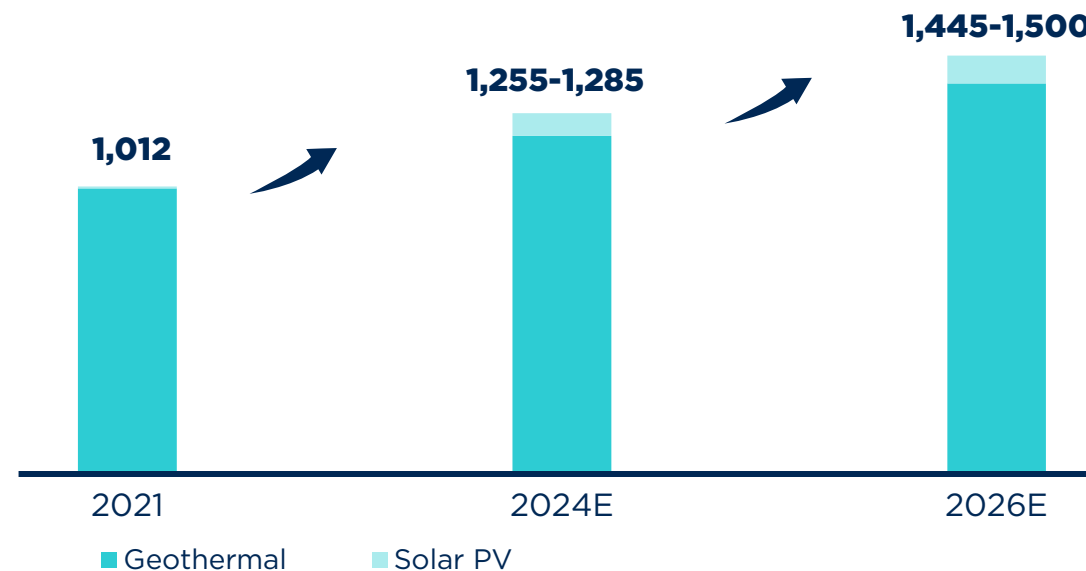


**M&A**

### EXPECTED REVENUE GROWTH (\$M)



### EXPECTED PORTFOLIO GROWTH (MW)





# 04

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## WELL POSITIONED TO DELIVER **ACCELERATED GROWTH IN STORAGE**

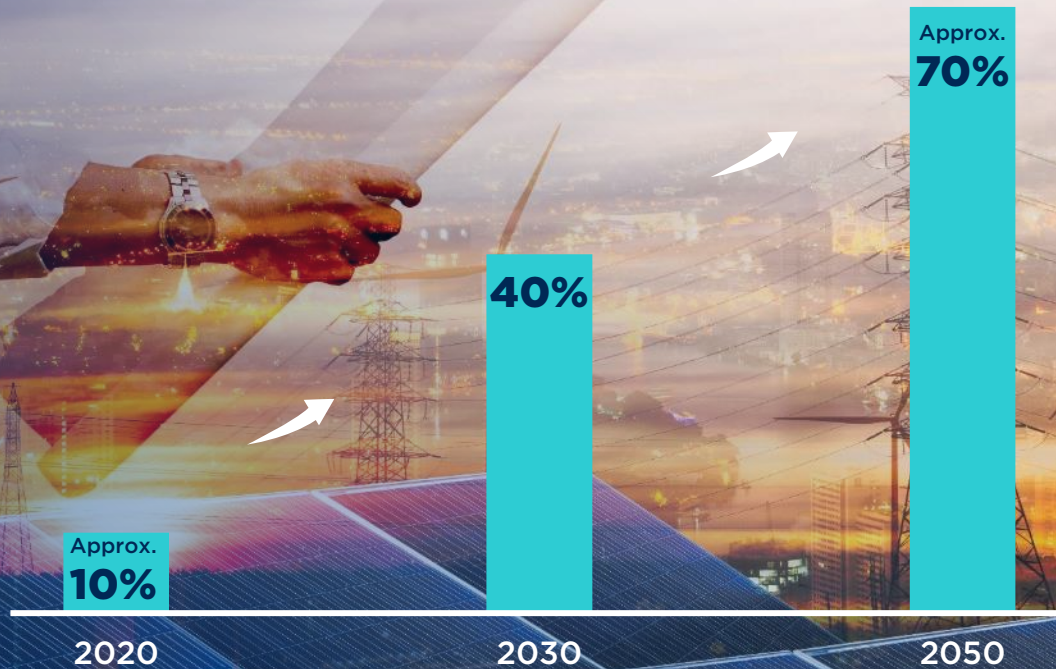
---

OFER BENYOSEF | EVP ENERGY STORAGE AND  
BUSINESS DEVELOPMENT



# WHY ENERGY STORAGE?

THE SHARE OF WIND & SOLAR IN TOTAL  
ELECTRICITY GENERATION GLOBALLY



As the share of wind and solar in the generation mix rises, **energy storage is critical to support the stability and flexibility of the electric grid**



# WHY IS ORMAT IN ENERGY STORAGE BUSINESS ?



Steep market growth trajectory



Strong regulatory support



Market opportunities



Ormat growth strategy



# STEEP MARKET GROWTH TRAJECTORY FOR FRONT OF THE METER (FTM) APPLICATIONS

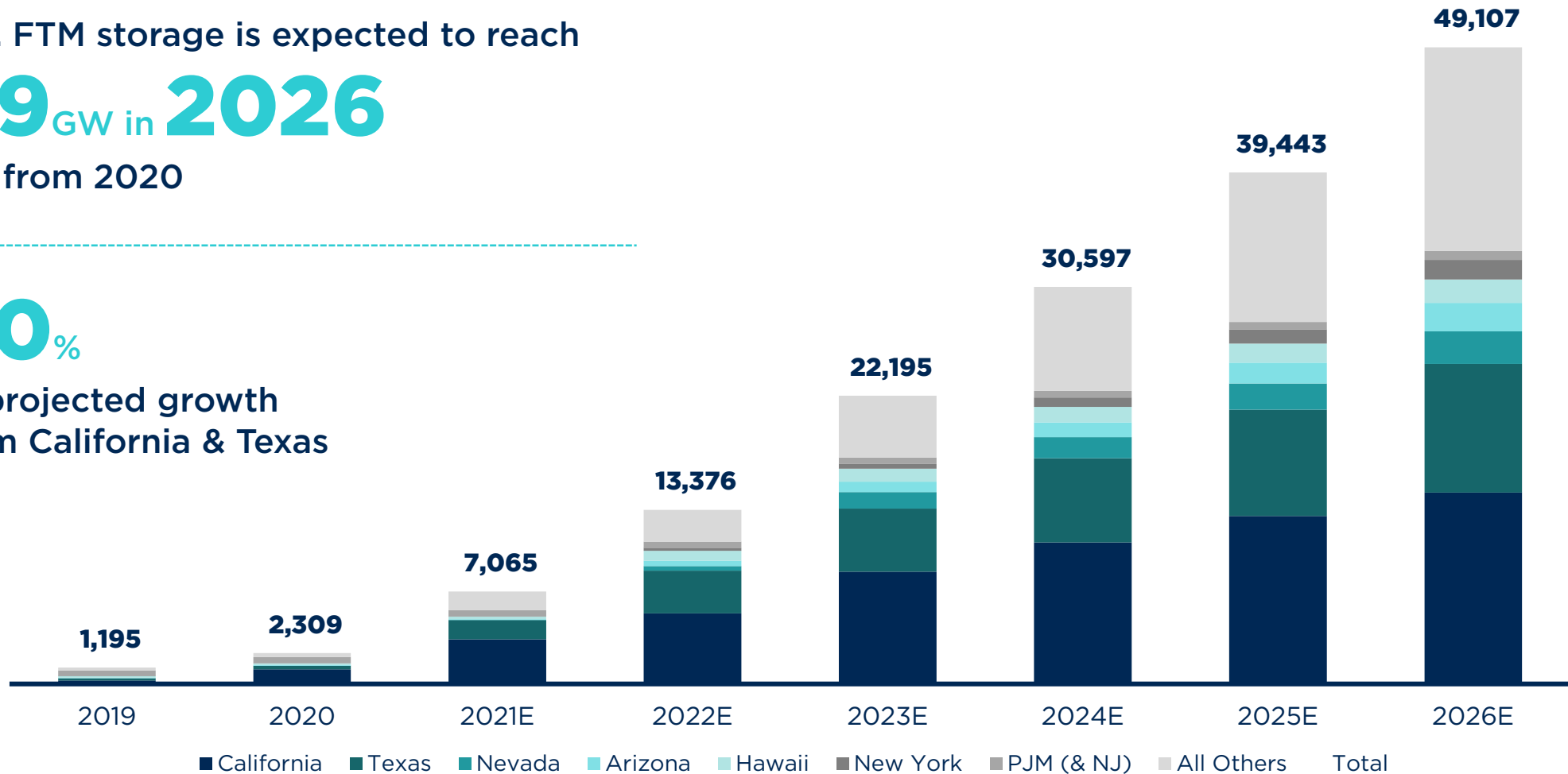
U.S. FTM storage is expected to reach

**49** GW in **2026**

**21x** from 2020

**50%**

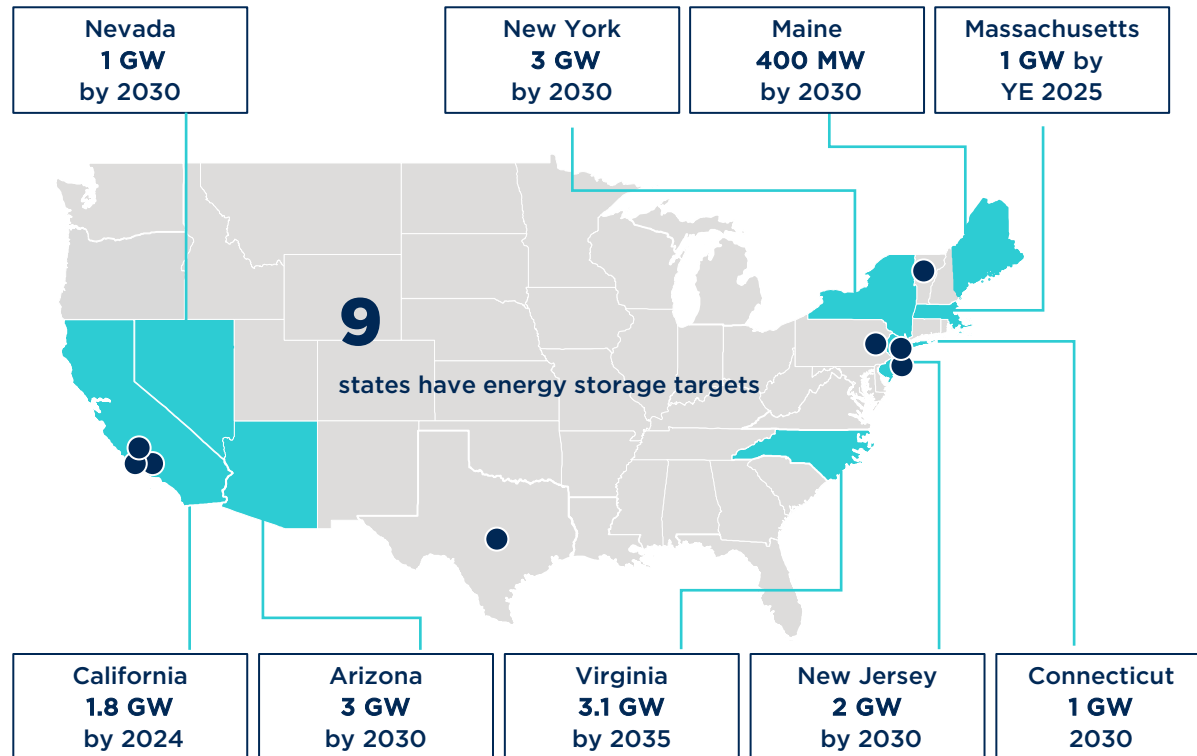
of projected growth  
from California & Texas



U.S. FTM CUMULATIVE STORAGE DEPLOYMENT FORECAST (MW)



# REGULATORY AND POLICY DRIVERS KEY TO GROWTH: STATE-LEVEL ENERGY STORAGE TARGETS



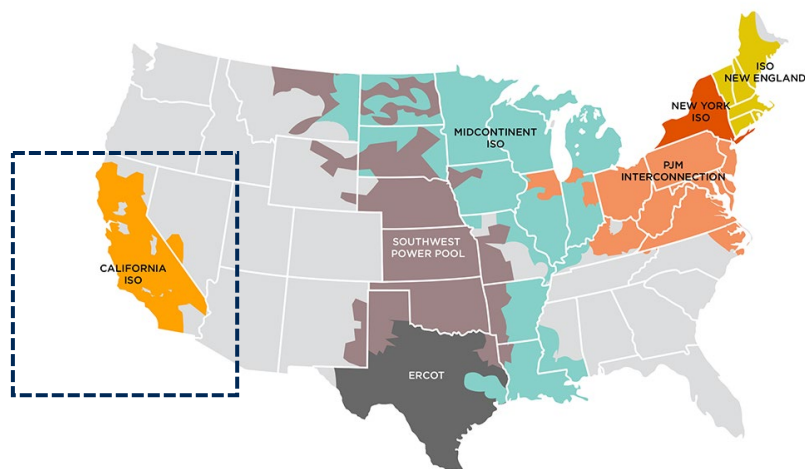
**CPUC<sup>(1)</sup>:**  
Procure additional  
**15 GW**  
of new storage and  
demand response  
resources by 2032

● Existing Ormat storage facility

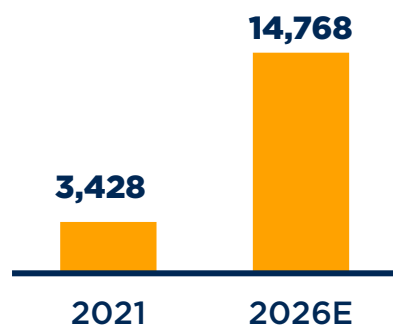
(1) California PUC: California Public Utilities Commission



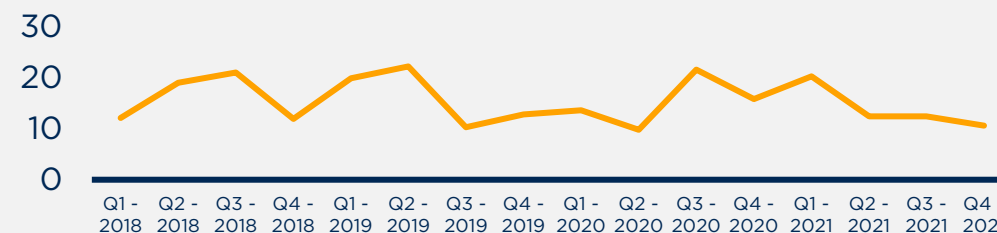
# CAISO MARKET<sup>1</sup>



## EXPECTED DEPLOYMENT (GW)<sup>2</sup> (STORAGE + SOLAR PV AND STAND-ALONE STORAGE)



## PRICES (\$/kW-MONTH)



Market prices excluding RA contracts

## REVENUE SOURCE

- Capacity – RA contracts
- Ancillary services
  - Reg up/Reg down/Spinning reserve
- Energy



**CAISO: 43%** of total 2021 storage revenues  
**61%** RA contract  
**20%** Ancillary services  
**19%** Energy

## CAISO MARKET

Complexity of CAISO storage market, mostly driven by co-optimization, requires collaboration and support across internal and external stakeholders to maximize revenue while properly managing risk

(1) CAISO- California Independent System Operator  
 (2) Source Wood Mackenzie U.S. energy storage monitor Q4 2021



# ILLUSTRATIVE BATTERY ENERGY STORAGE SYSTEM (BESS) MODEL

## 4 HOURS, STAND ALONE BESS, CAISO

SIZE

80MW/320MWh

TERM

20 Years

REVENUE ASSUMPTIONS

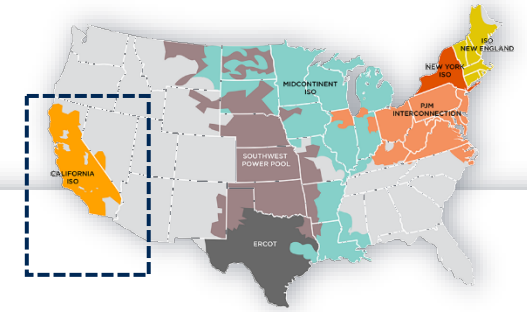
- Merchant: \$11/kW-mo.
- Contracted Capacity: \$6/kW-mo.

CAPEX<sup>1</sup>

\$1,160-\$1,330/kW

OPEX<sup>1</sup>

\$26-\$30/kW-yr.



(1) CAPEX and OPEX calculated based on Ormat assumptions



# ILLUSTRATIVE BESS MODEL

## 4 HOURS, STAND ALONE BESS, CAISO

Total CAPEX

**\$93-\$106M**

Avg. Annual Revenue

**\$15M**

Avg. Annual OPEX

**\$2.1-\$2.4M**

Avg. Annual EBITDA

**\$12.9-\$13.2M**

Avg. Gross Margin

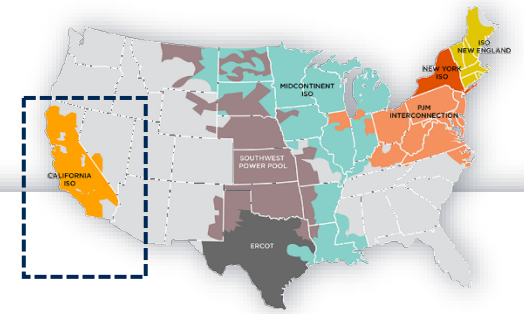
**52-54%**

Avg. EBITDA Margin

**84-86%**

PIRR

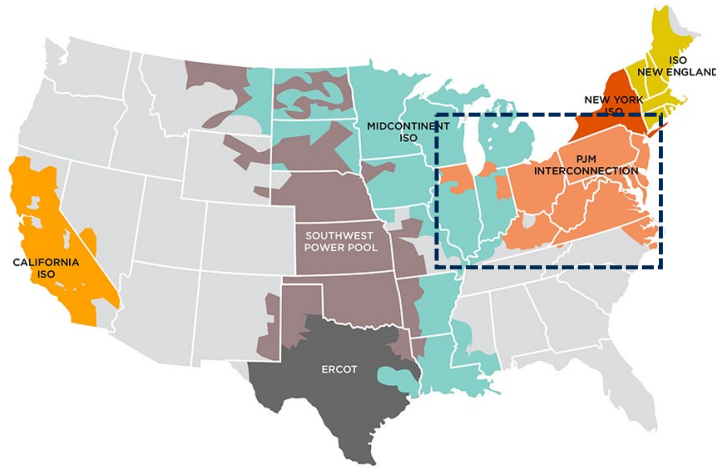
**9.0-10.5%**



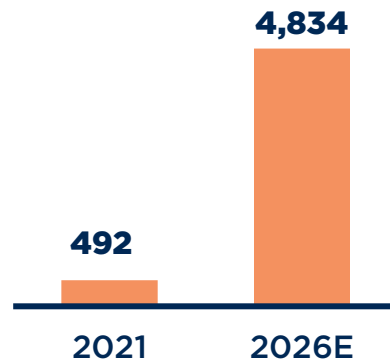
(1) ITC- Investment Tax Credit



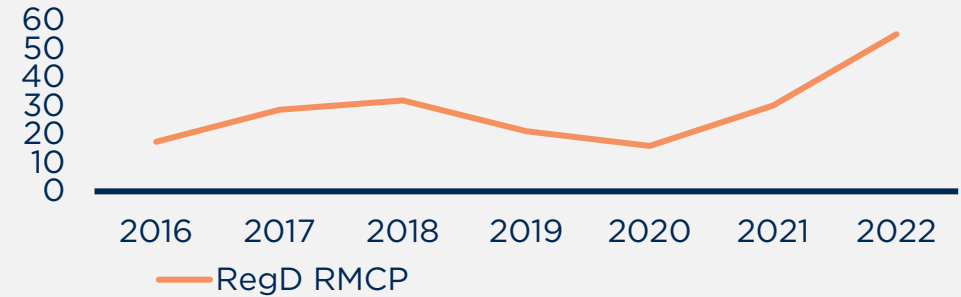
## PJM MARKET<sup>1</sup>



### EXPECTED DEPLOYMENT (GW)<sup>2</sup> (STORAGE + SOLAR PV AND STAND-ALONE STORAGE)



## PRICES (\$/MWh)



## REVENUE SOURCE

Ancillary services at the regulation market



**PJM: 32%** of total 2021 storage revenues

**100%** from ancillary services

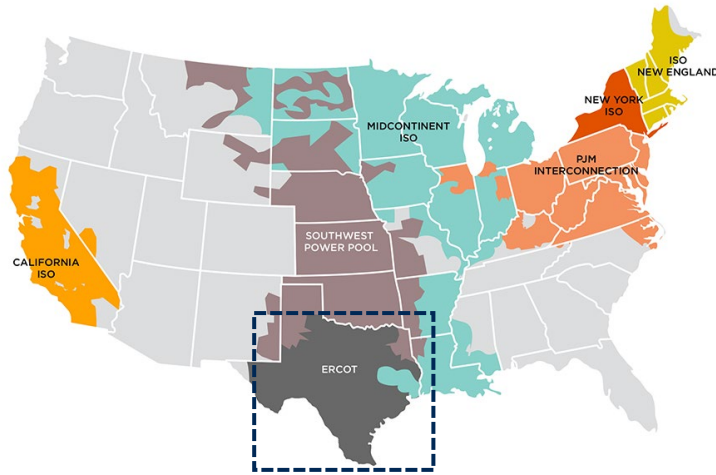
## REG D

Fast-oscillation regulation signal, designed for resources with high ramp rates and limited duration, mainly BESS

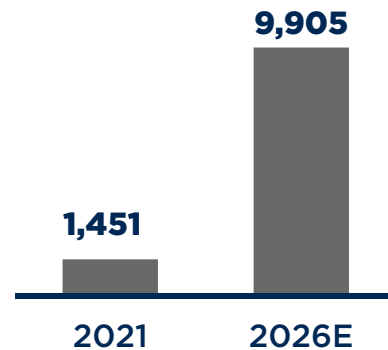
(1) PJM - PJM Interconnection is a regional transmission organization (RTO)  
(2) Source Wood Mackenzie U.S. energy storage monitor Q4 2021



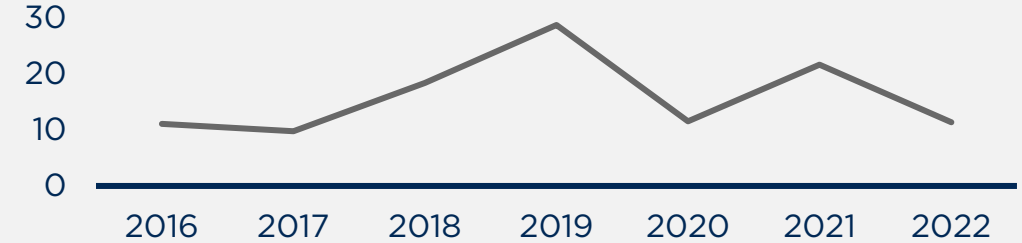
# ERCOT MARKET<sup>1</sup>



## EXPECTED DEPLOYMENT (GW)<sup>2</sup> (STORAGE + SOLAR PV AND STAND-ALONE STORAGE)



## PRICES (\$/MWh)



Excludes one-time high prices in February 2021 Texas freeze

## REVENUE SOURCE

- Ancillary services:
  - Responsive Reserve Service (RRS)
- Energy



**ERCOT: 10%** of total 2021 storage revenues  
**100%** from ancillary services

## “REAL TIME CO-OPTIMIZATION”

- In 2025/2026 ERCOT is expected to implement “Real Time Co-optimization” regime
- Ancillaries and energy will be sold in real time in 5-minute intervals in addition to “day ahead”

(1) ERCOT - Electric Reliability Council of Texas  
(2) Source Wood Mackenzie U.S. energy storage monitor Q4 2021



# ILLUSTRATIVE BESS MODEL

## 2 HOURS, STAND ALONE BESS, ERCOT

SIZE

80MW/160MWh

TERM

15 Years

REVENUES ASSUMPTIONS

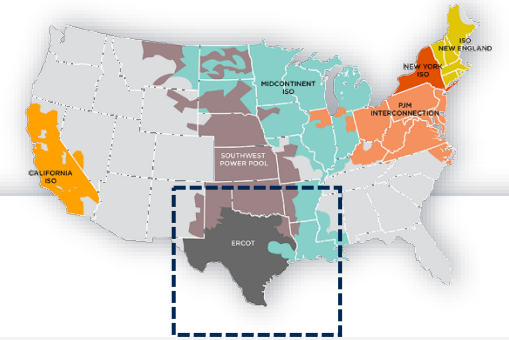
\$9.2/kW-mo.

CAPEX<sup>1</sup>

\$625-750/kW

OPEX<sup>1</sup>

\$16-20/kW-yr.



(1) CAPEX and OPEX calculated based on Ormat assumptions



# ILLUSTRATIVE BESS MODEL

## 2 HOURS, STAND ALONE BESS, ERCOT

Total CAPEX

\$50-\$60M

Avg. Annual Revenue

\$8.8M

Avg. Annual OPEX

\$1.3-\$1.6M

Avg. Annual EBITDA

\$7.2-\$7.5M

Avg. Gross Margin

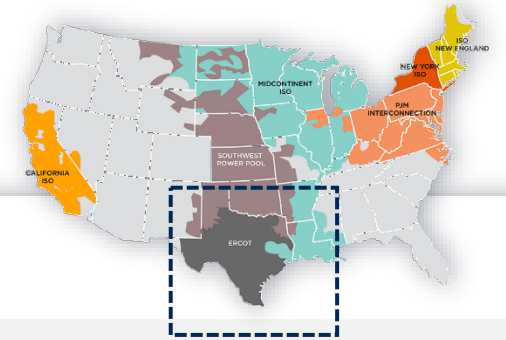
40-44%

Avg. EBITDA Margin

82-85%

PIRR

8.0-10.0%





# ORMAT STRATEGIC FOCUS

1

**TARGET THE LARGEST AND MOST LUCRATIVE MARKETS:**

California, Texas, and PJM

2

**FOCUS ON STANDALONE ENERGY STORAGE**

Providing ancillary service, energy and capacity to the grid

3

**EXPANSION TO NEW REGIONS**

Short-term: additional markets in the U.S.  
Mid-term: international regions

4

**INCREASE SCALE AND MARGINS**

## 83 MW/176 MWh

01 CA

**30MW/120MWh**

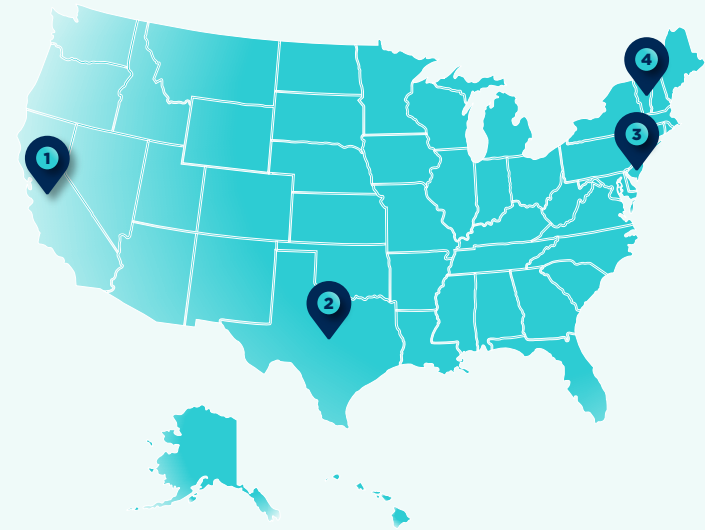
02 TX

**10MW/10MWh**

03 NJ

**41MW/41MWh**

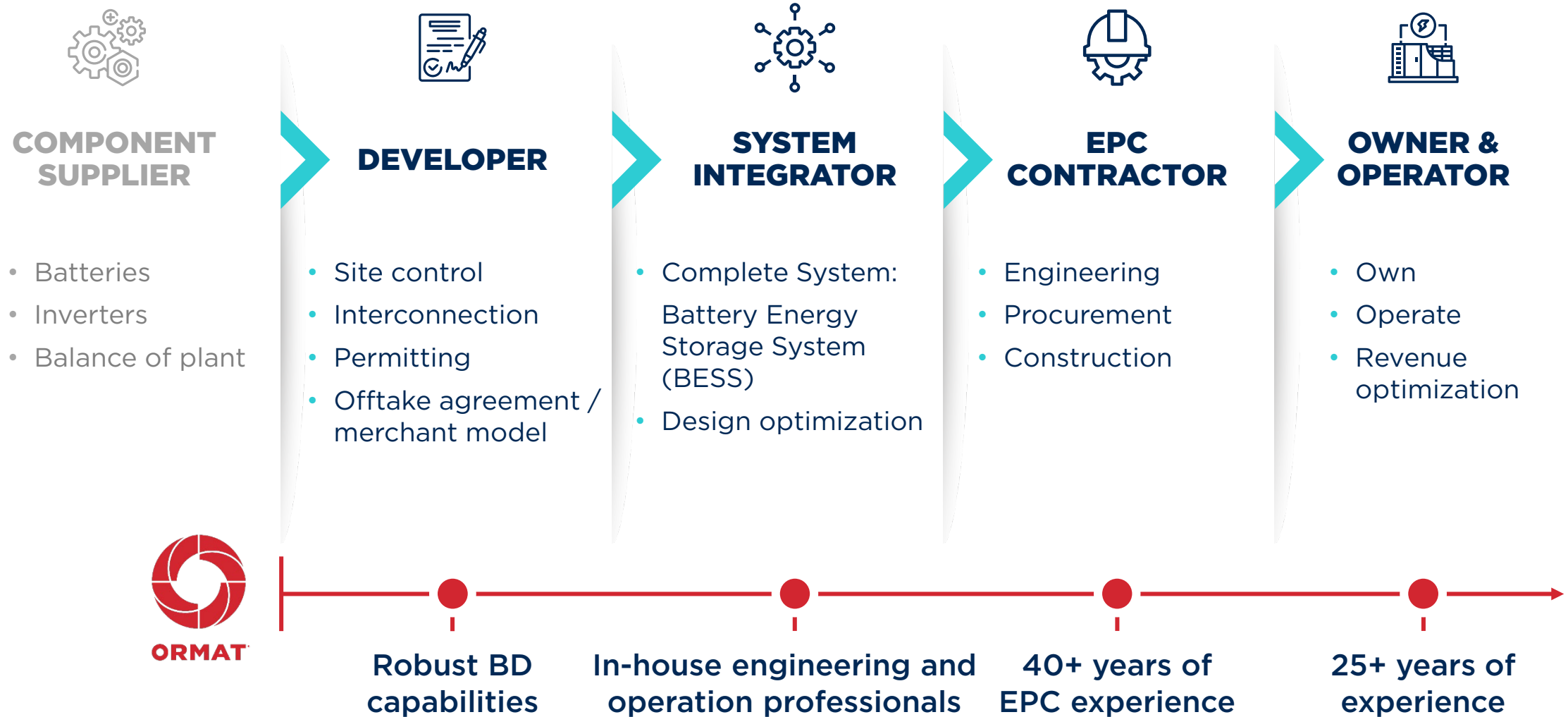
04 VT

**2MW/5MWh**



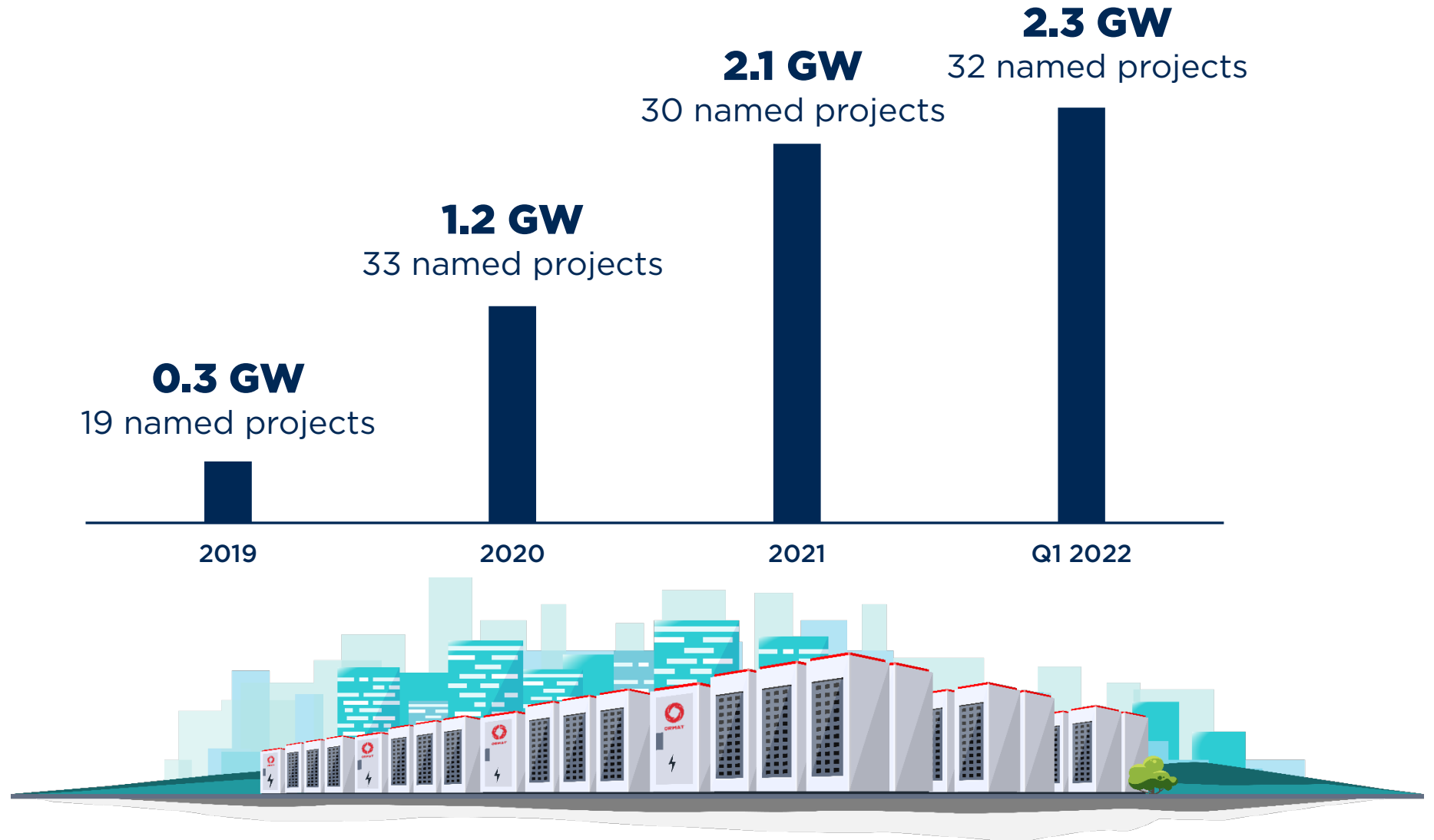
# STRONG POSITION ACROSS THE BESS VALUE CHAIN

## OPERATIONAL AND FINANCIAL BACKING





# LEVERAGING OUR MARKET EXPERTISE TO ENHANCE AND BUILD STORAGE PIPELINE





# ORMAT ENERGY STORAGE GROWTH

## UNDER CONSTRUCTION:

8 projects, 189 MW, all secured for battery supply and revenue source

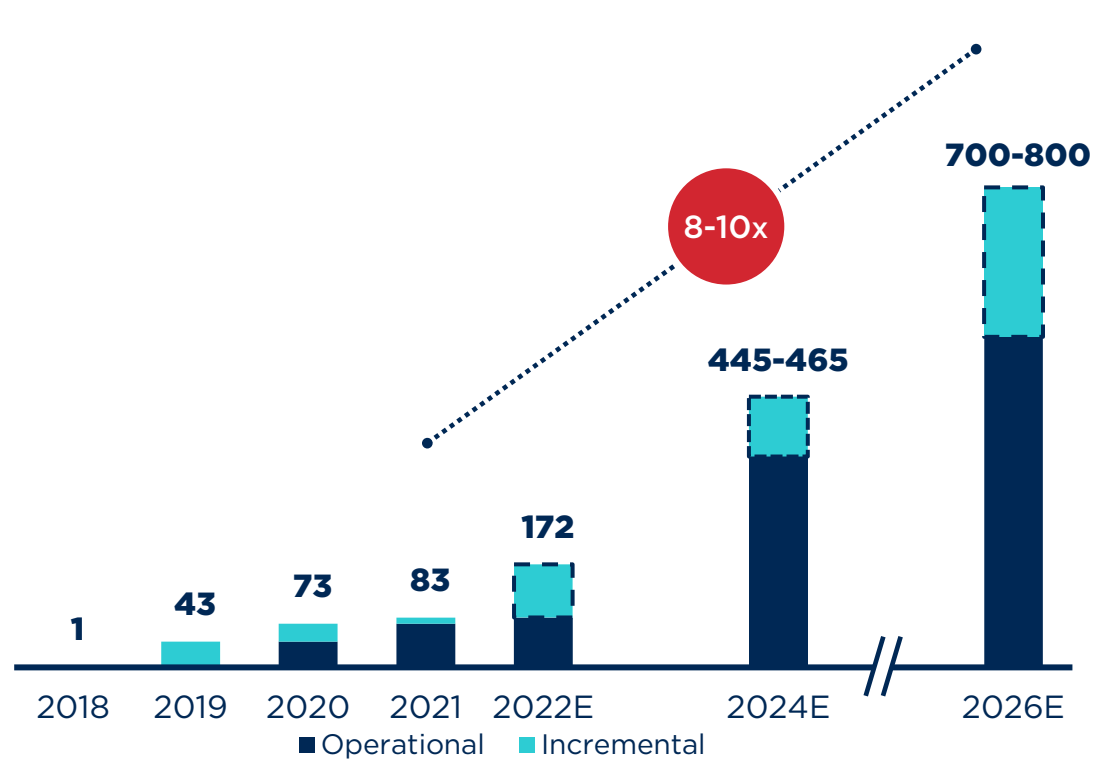
Expected COD	State	Project	Projected Capacity (MW)	Projected MWh	Revenue source
2022	CA	1 Tierra Buena;	25	60	RA & Merchant
		2 Pomona 2			
	TX	3 Upton	25	25	Merchant
	NJ	4 Andover	27	27	Merchant
		5 Howell			
	OH	6 Bowling Green	12	12	Merchant
2023	CA	7 Bottleneck	80	320	Merchant; Seek RA
	NJ	8 East Flemington	20	20	Merchant



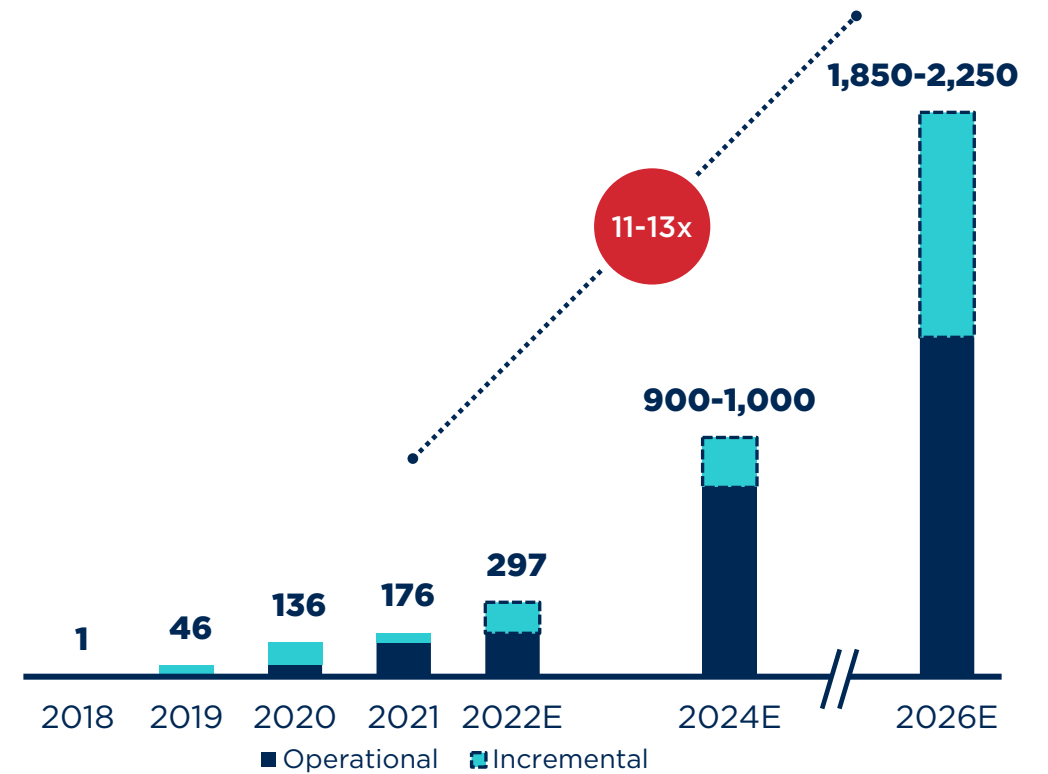


# LEVERAGING BD EFFORTS TO GROW OUR PORTFOLIO

## Ormat energy storage development (MW)



## Ormat energy storage development (MWh)





# ACCELERATING GROWTH IN THE ENERGY STORAGE MARKET

1

## LARGE PIPELINE IN LUCRATIVE LOCATIONS

- Strong regulatory support
- Robust growth trajectory

2

## EXPERTISE AND TRACK RECORD

- In geothermal
- First mover in storage

3

## UNIQUE CORE CAPABILITIES

- Financial strength
- Stability of electricity segment
- Professional team





# 05

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## PRODUCT SEGMENT

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ASSI GINZBURG | CFO





# GEOTHERMAL'S GROWING GLOBAL MARKET

**1GW/Year**

expected geothermal capacity addition in the next 10 years

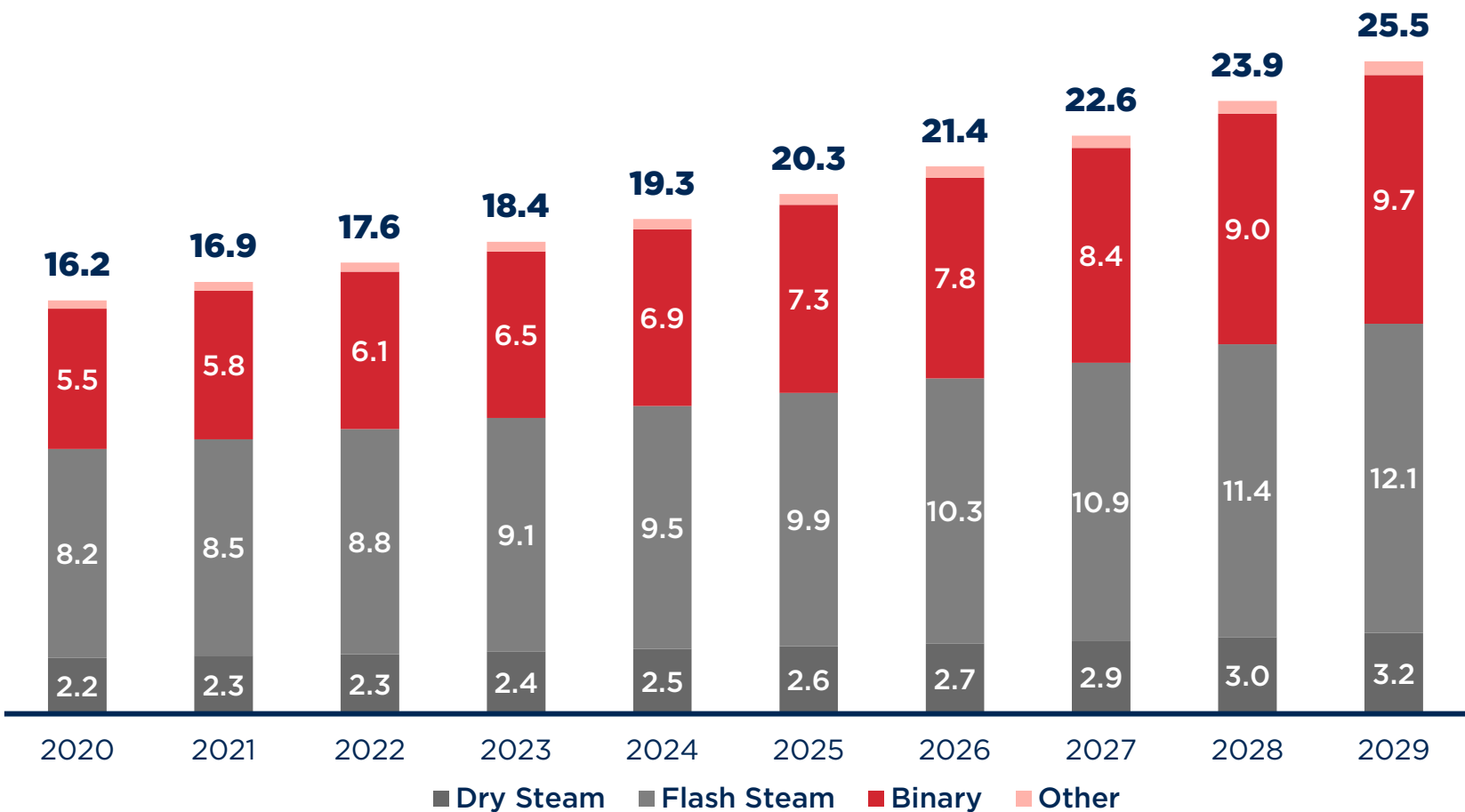
**>400MW/Year**

of binary capacity addition in the next 10 years

**~80%**

expected increase in binary share in the next 10 years

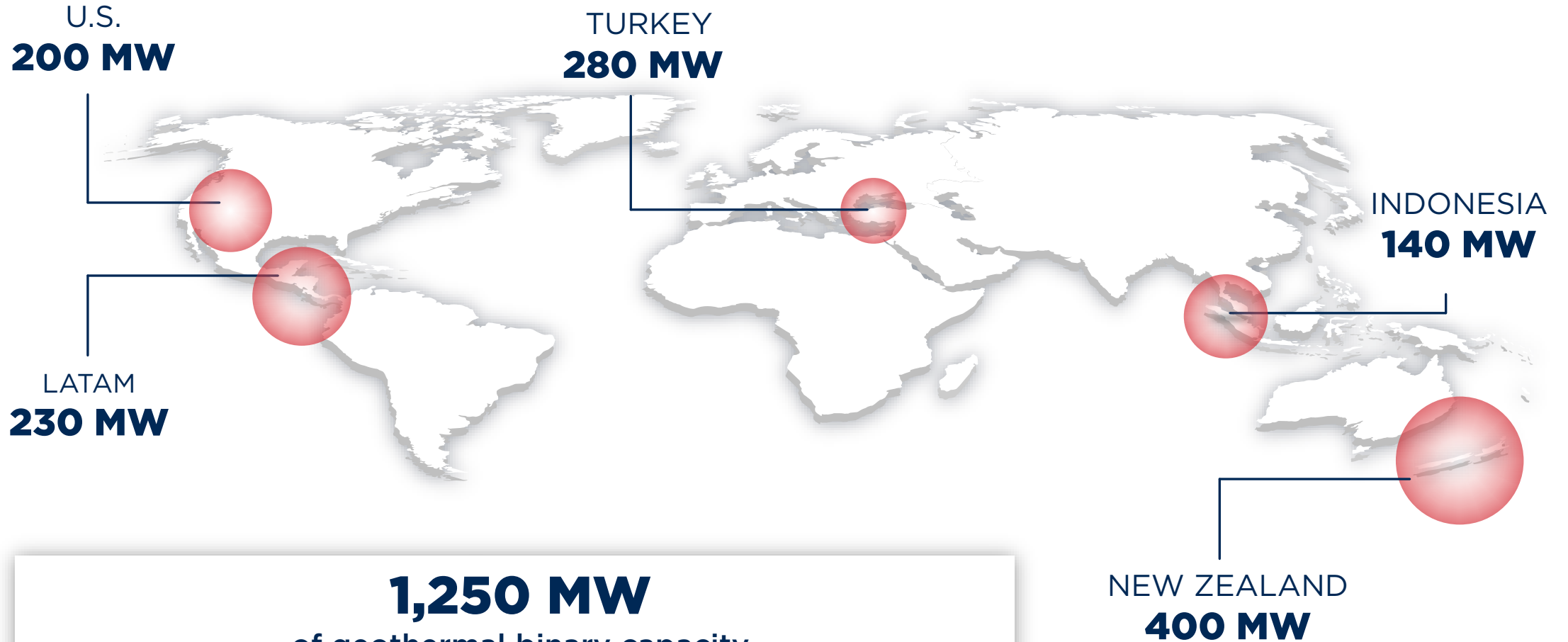
Geothermal Market Forecast (GW)<sup>1</sup>



(1) Source: Geothermal Power Market Forecast 2019-2029, Visiongain  
Other = EGS, Hybrid, Co-Gen



# FOCUSING ON STRATEGIC TERRITORIES WITH INCREASING DEMAND



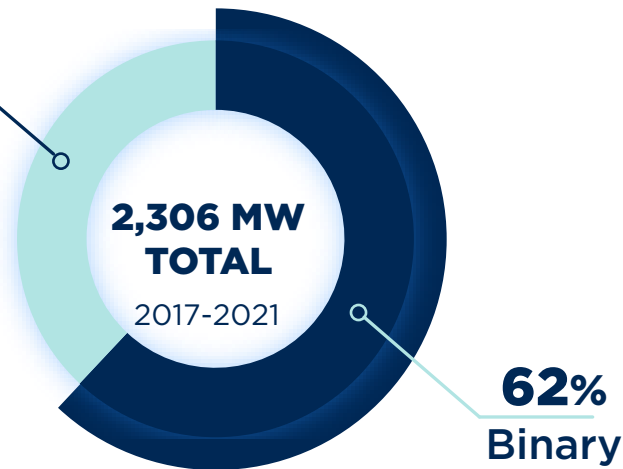
**1,250 MW**  
of geothermal binary capacity  
is expected to be released by 2024



# ORMAT IS THE LEADING SUPPLIER OF BINARY GEOTHERMAL POWER PLANTS WORLDWIDE (BY INSTALLED CAPACITY)

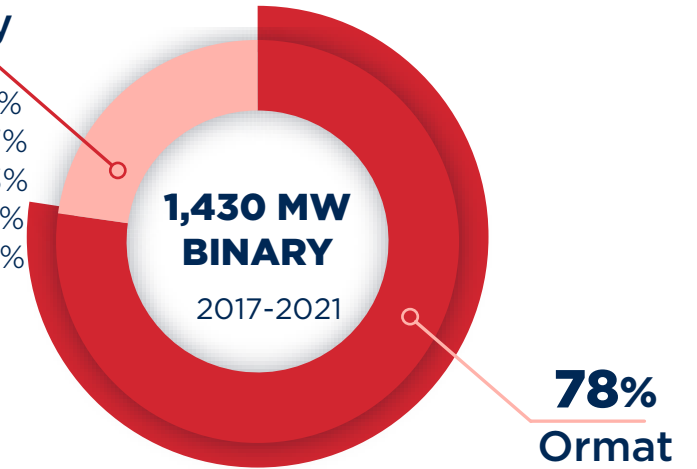
## 38% STG

Toshiba	16%
Mitsubishi	12%
Fuji	9%
Other	2%



## 22% other binary

TICA (Exergy)	9%
Kaishan	7%
Turboden	3%
Atlas Copco (Egesim)	2%
Other	1%

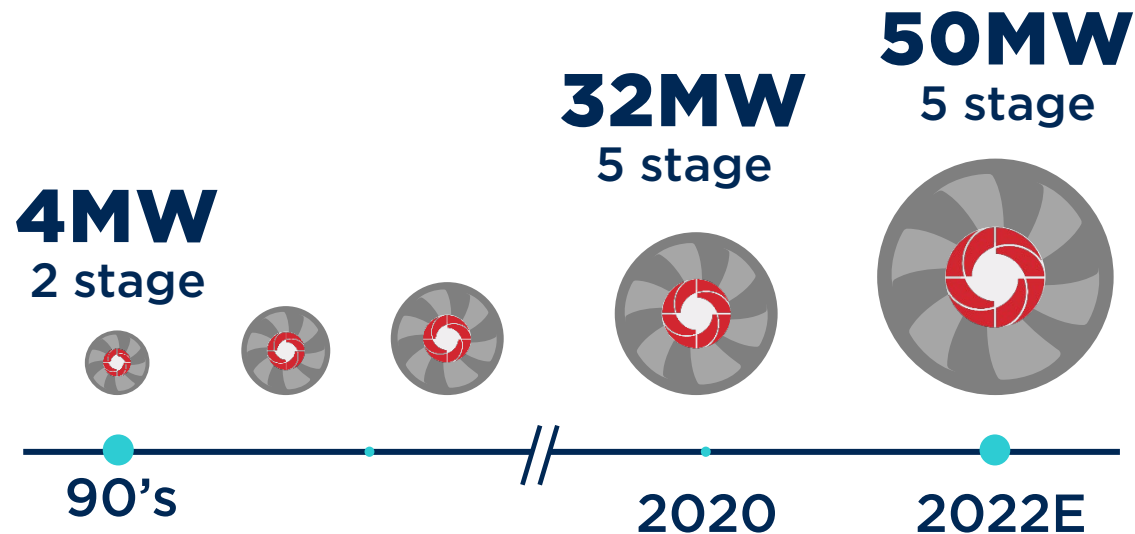




# TECHNOLOGICAL INNOVATIONS

Designed and manufactured the world's largest binary turbine to:

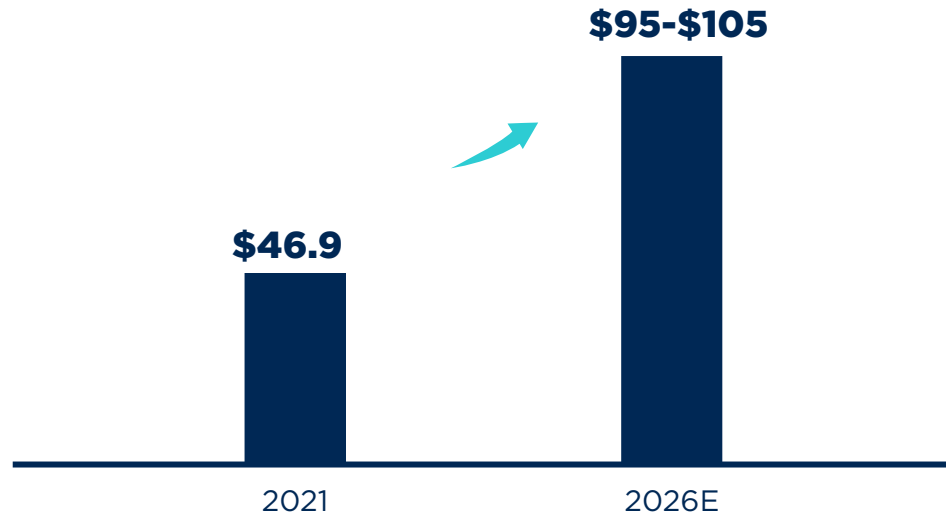
- Lower project costs
- Improve operational costs
- Increase turbine and cycle efficiency
- Strengthen Ormat's competitive edge
- Enable competition with steam technology



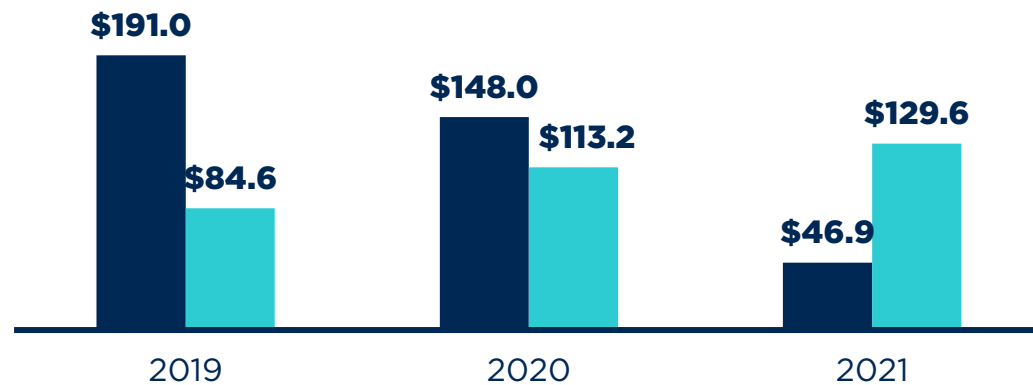


# PRODUCT SEGMENT SUMMARY

## EXPECTED PRODUCT REVENUE GROWTH (\$M)



## PRODUCT AND INTERSEGMENT REVENUE (\$M)





# SOLID POTENTIAL TO GROW PRODUCT BUSINESS

1

**STRONG POTENTIAL IN NEW ZEALAND,  
INDONESIA, LATAM AND U.S.**

2

**THE WORLD IS EMERGING FROM THE  
COVID-19 PANDEMIC**

Potential for recovery of geothermal market in Turkey

3

**TECHNOLOGICAL IMPROVEMENTS  
STRENGTHEN ORMAT'S COMPETITIVE EDGE**



Ngawha, New Zealand



# 06

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## FINANCIAL OVERVIEW

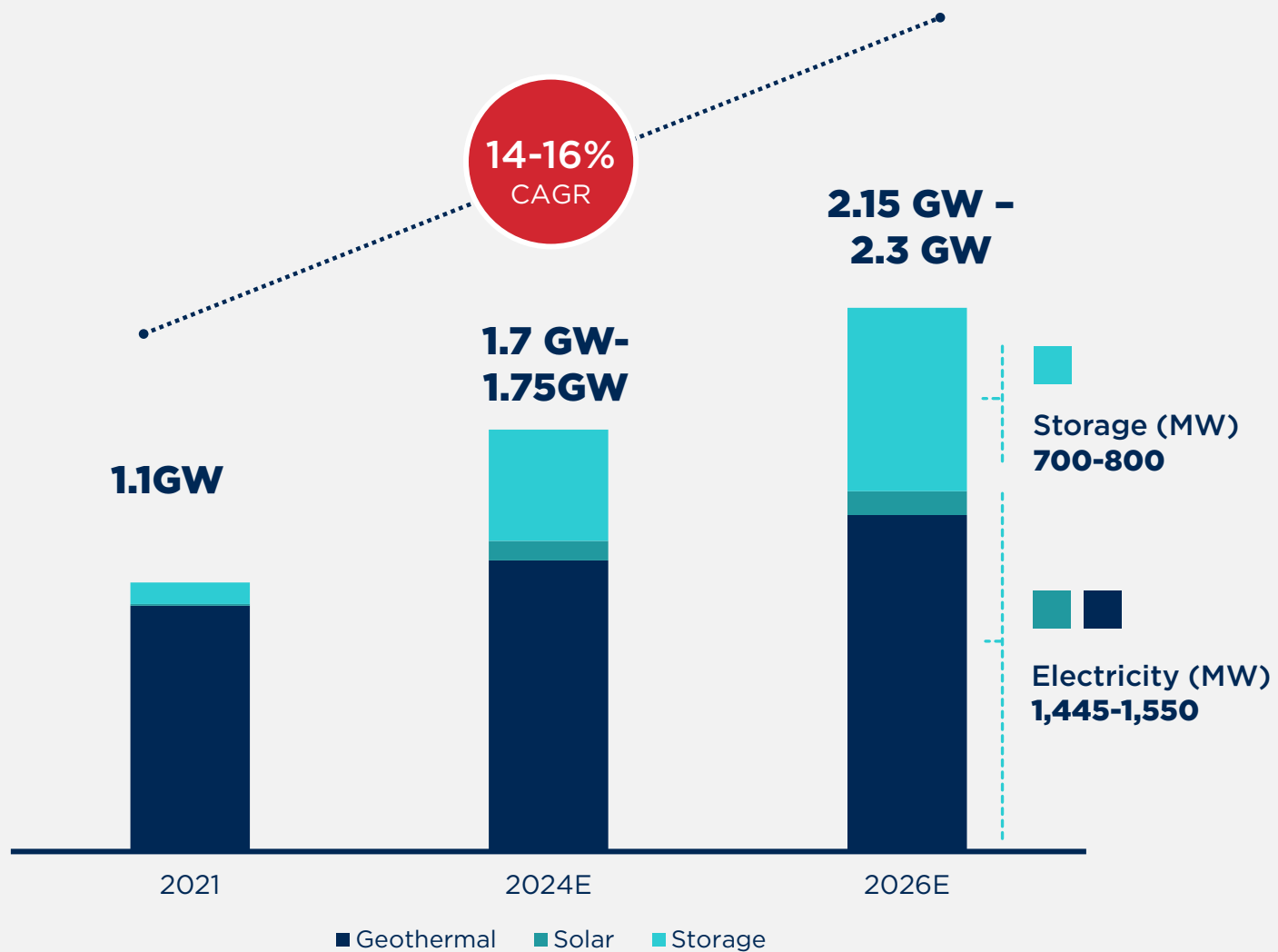
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ASSI GINZBURG | CFO



## FINANCIAL ASPECTS OF GROWTH PLAN

### INSTALLED CAPACITY GROWTH (MW)



CAPITAL NEEDS



CAPITAL STRUCTURE





## BUILDING UPON OUR FINANCIAL STRENGTH

### CAPITAL NEEDS



### Limited impact of commodity prices

The majority of project pipeline for 2022/ 2023 was manufactured  
Cost of Ormat OEC – 20% of total project capex

(1) Capital needs for 2023 until 2026 are based on MW growth target and on CapEx assumption of \$4.0M- \$4.5M per MW for geothermal and \$1.2 per MW for storage. 1% of CapEx needs is related to product capex.

## CAPEX RESOURCES

Cash Flow from operations

Tax equity transaction

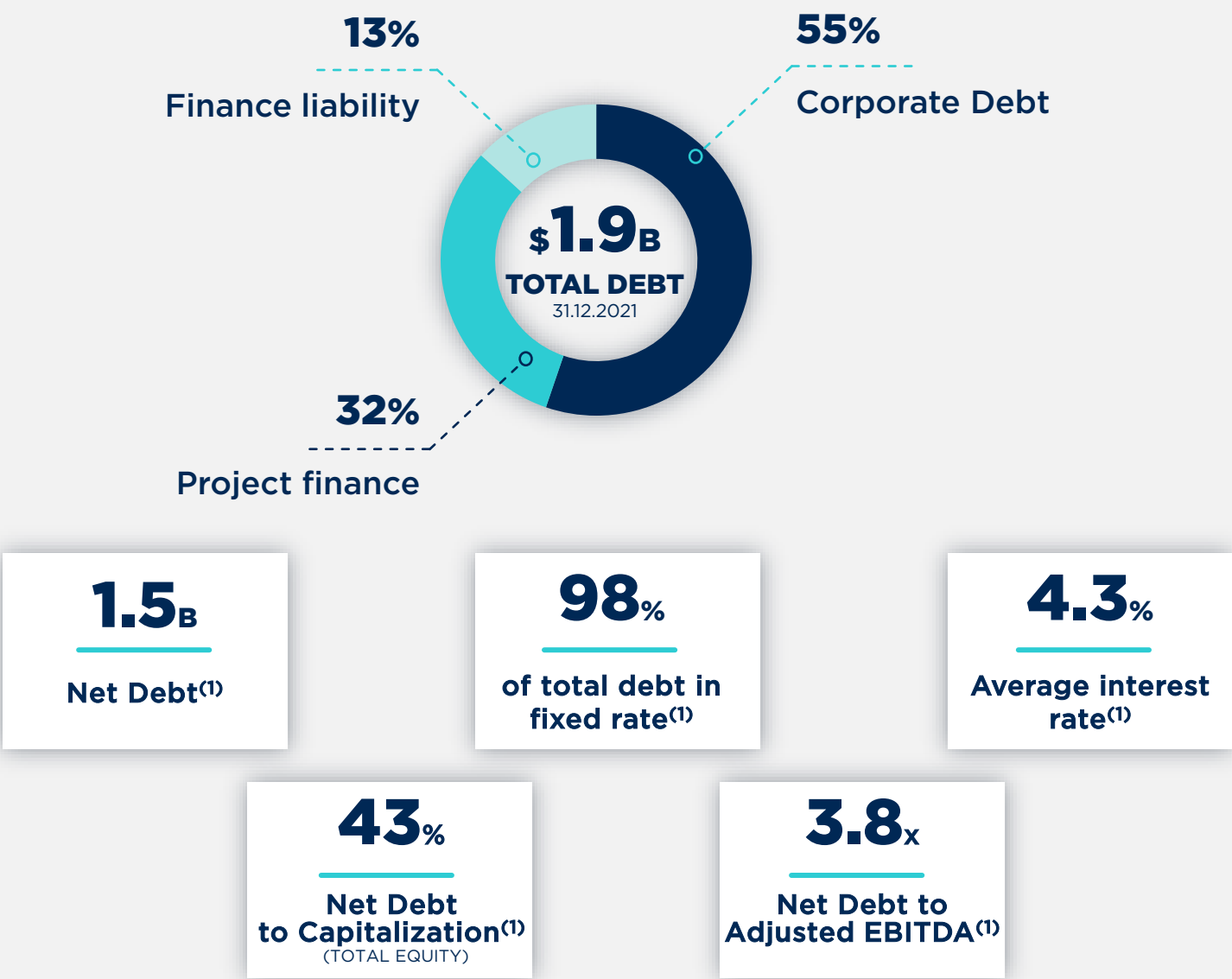
Project debt finance

Corporate financing





# STRONG CAPITAL POSITION



## 2026 MAINTAIN SOLID FINANCIAL LEVERAGE

**3.5-4.0<sub>x</sub>**

2026E Net Debt to Adjusted EBITDA

**48-52%**

2026E Net Debt to Capitalization

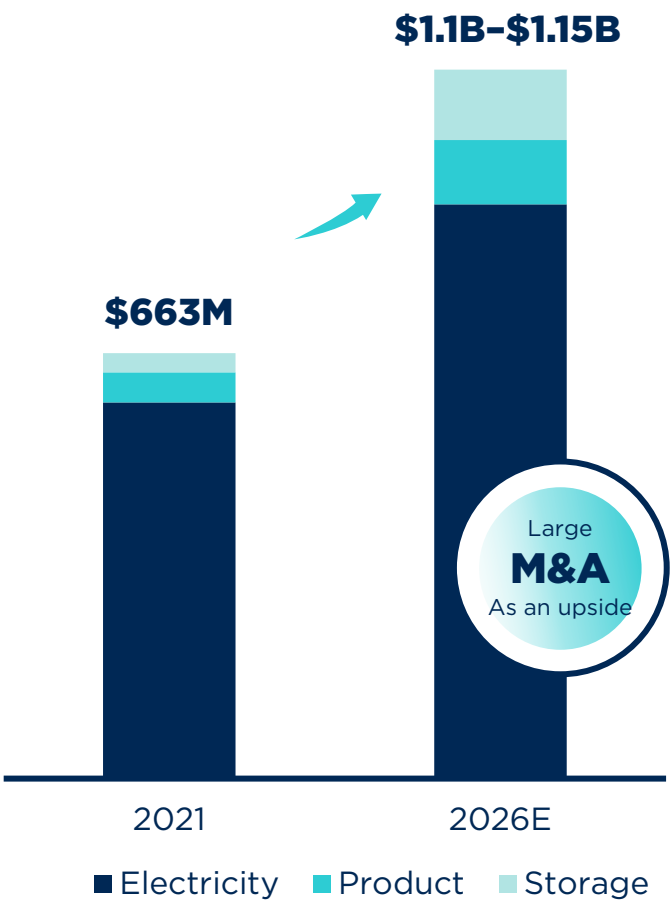
(1) As of December 31, 2021



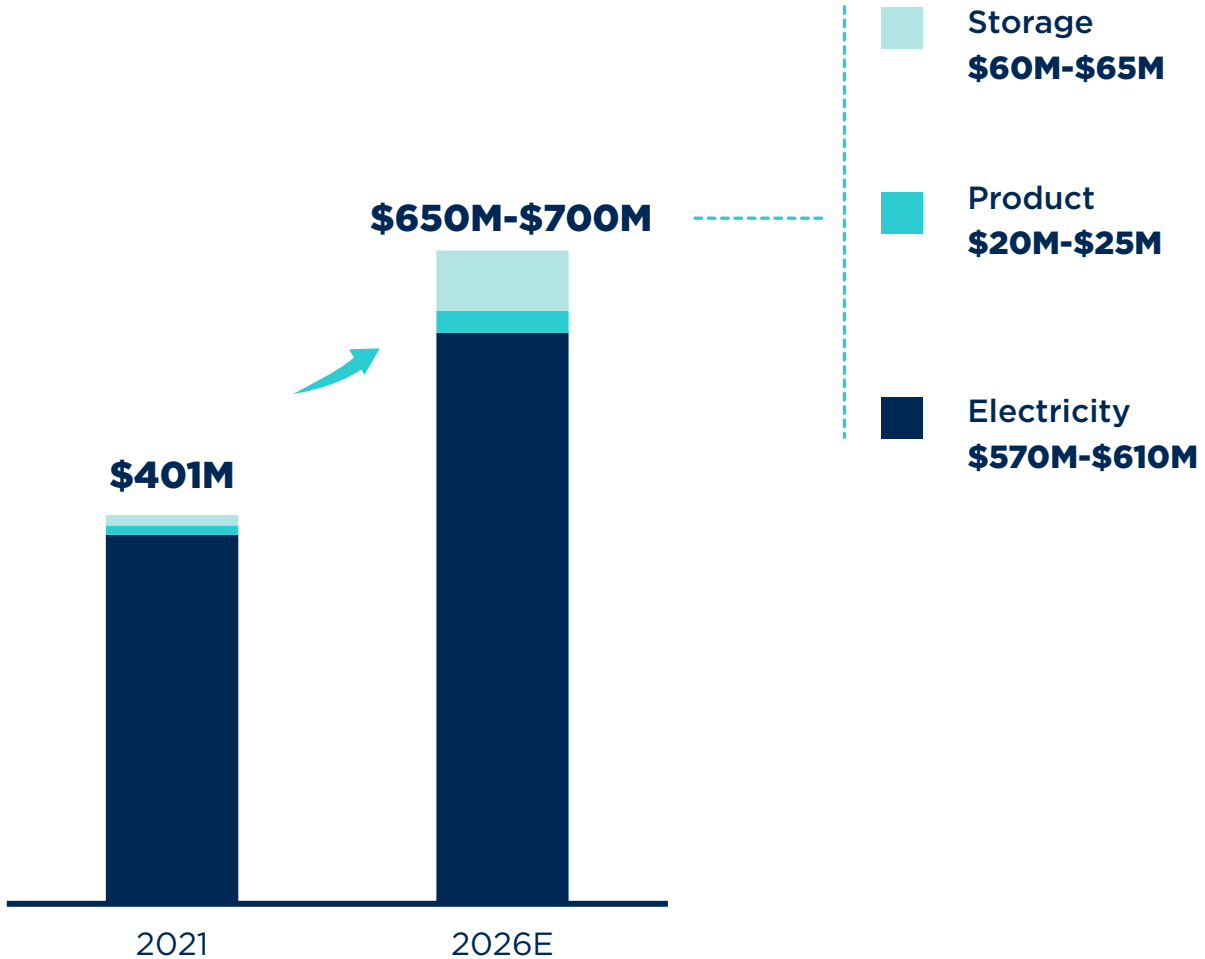


# FINANCIAL GROWTH TARGETS

## REVENUE GROWTH



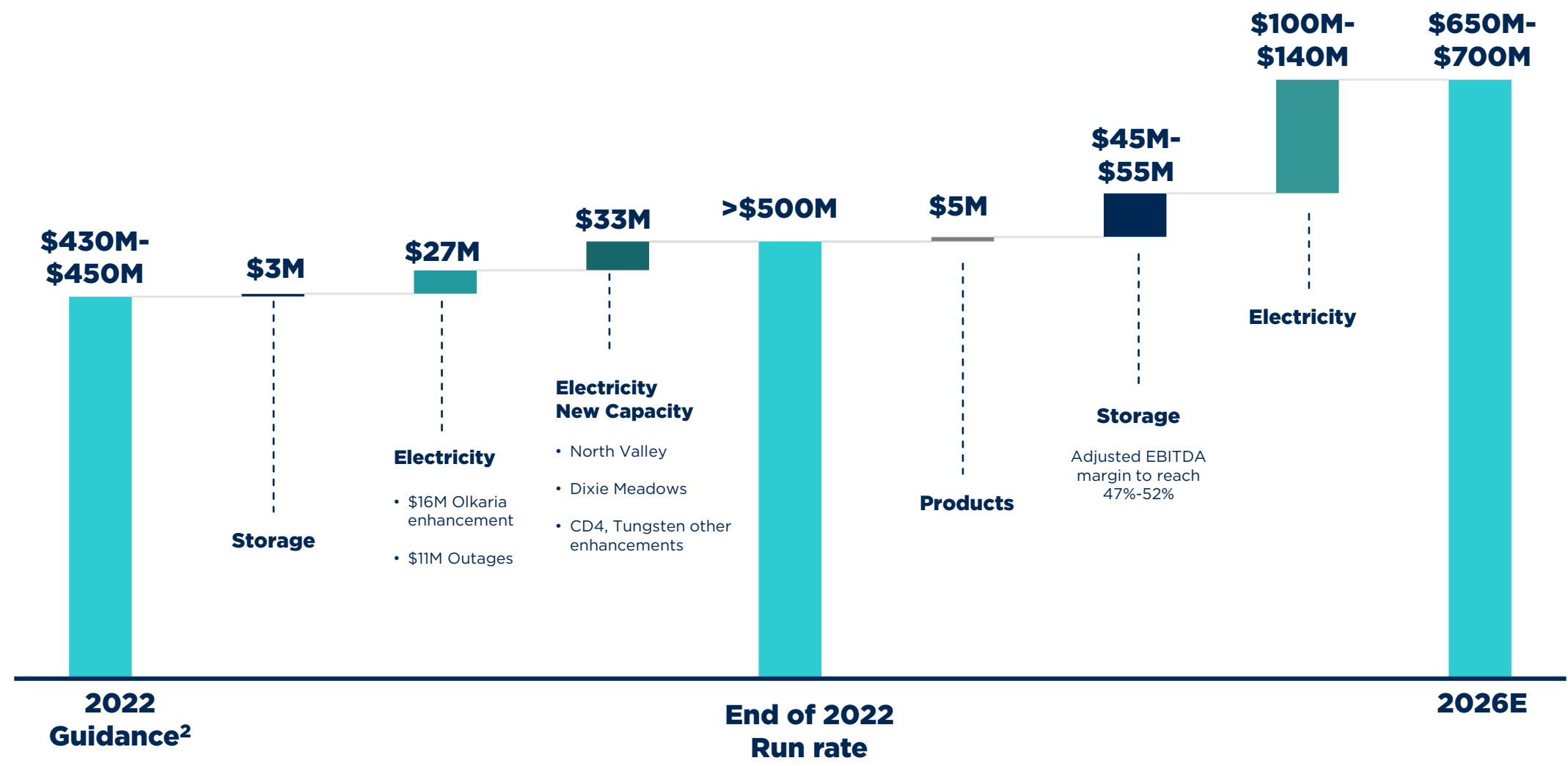
## ADJUSTED EBITDA GROWTH<sup>1</sup>



(1) See reconciliation note on page 95



# ADJUSTED EBITDA GROWTH<sup>1</sup>

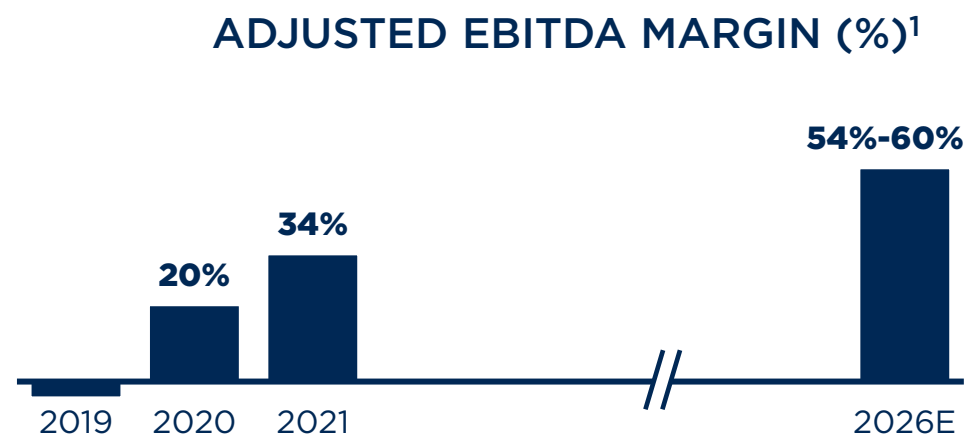
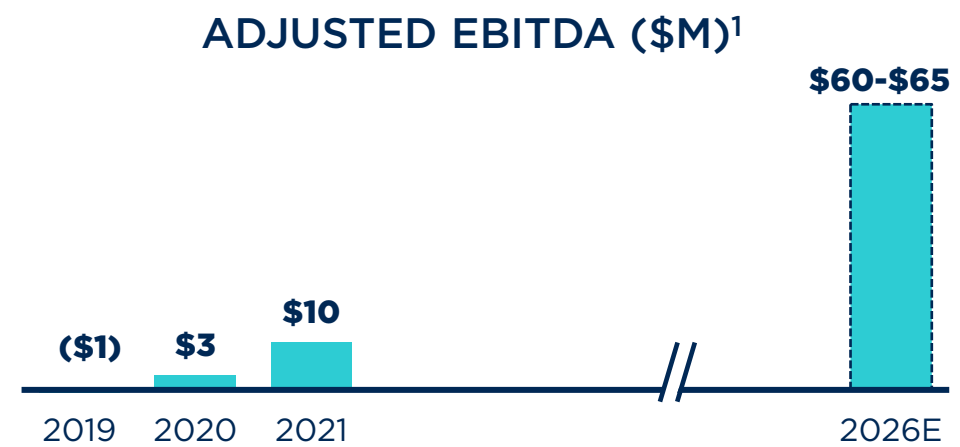
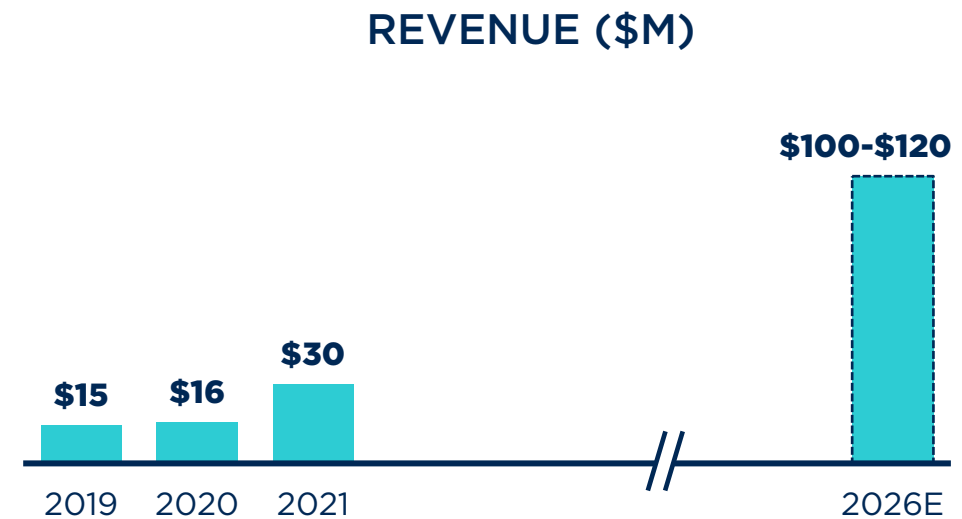
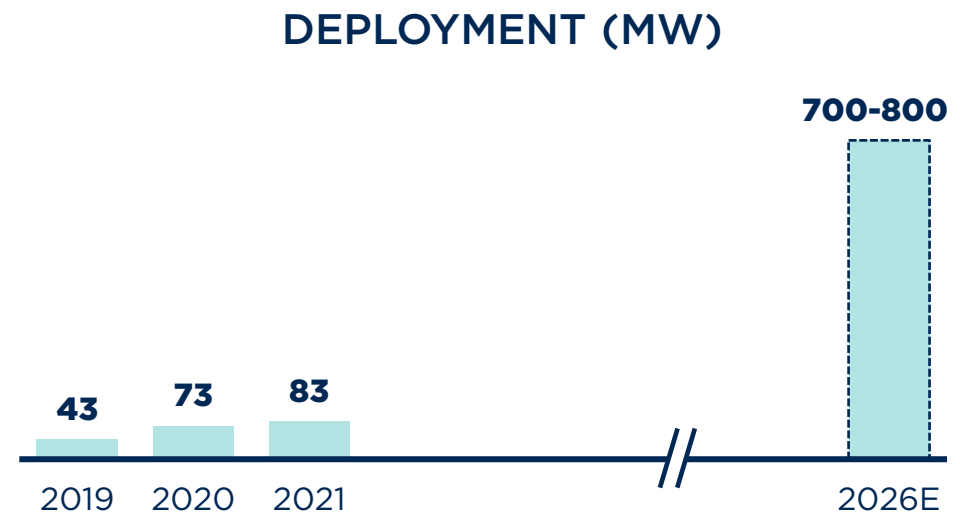


(1) See reconciliation note on page 95  
 (2) 2022 Guidance includes insurance proceeds related to Heber 1 and Puna





# STRONG STORAGE PROJECTED GROWTH IN ALL PARAMETERS



(1) See reconciliation note on page 95



## WELL POSITIONED TO SUPPORT ACCELERATING GROWTH

1

**STRONG FINANCIAL POSITION**  
TO SUPPORT GROWTH PLAN AND M&A  
OPPORTUNITIES

2

**MAINTAIN STRONG LEVERAGE  
METRICS**

3

**INCREASE PROFITABILITY**  
STORAGE MARGINS



# 07

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## KEY TAKEAWAYS & Q&A

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DORON BLACHAR | CEO





# DELIVERING SUSTAINABLE GROWTH



Large growth potential with strong tailwinds



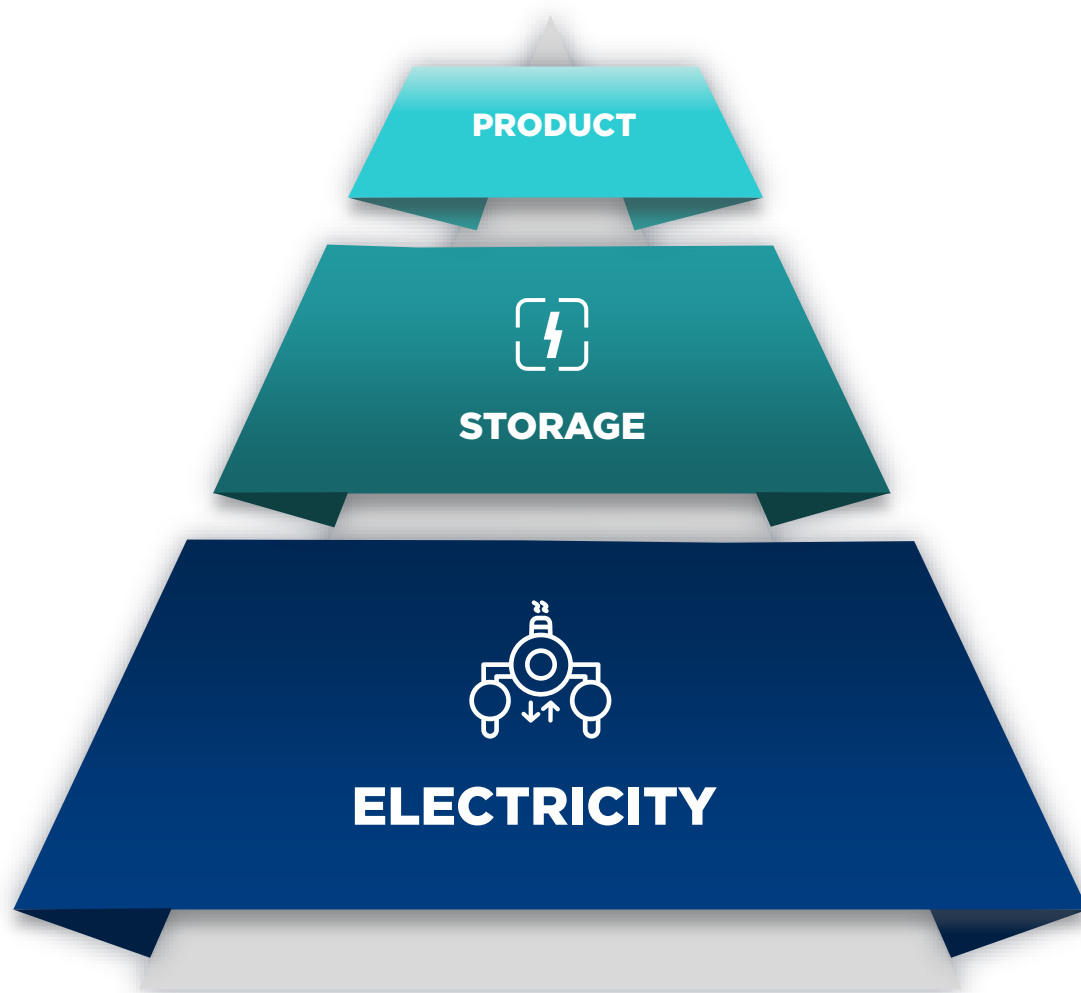
Strong financial position



Pure-play renewables platform aligned with ESG principles



# ORMAT GROWTH STRATEGY

**Expanding our offerings:**

High-temperature resources  
Technological innovations



**Steep growth:** focus on key U.S. markets



**M&A**



**Organic growth:** focus on the U.S. and  
Indonesia

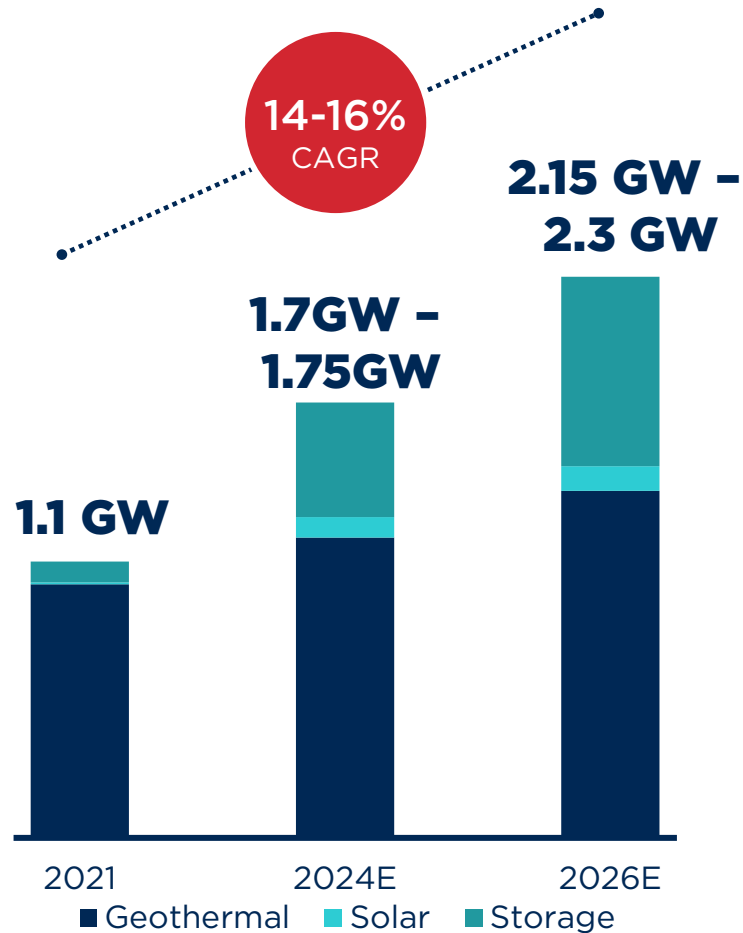


**M&A**

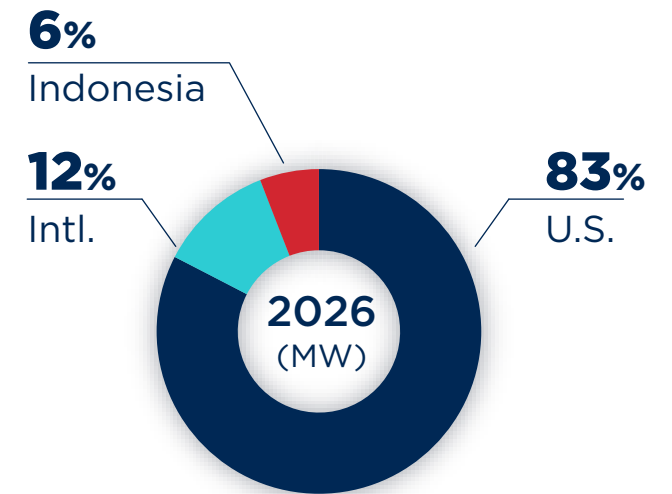
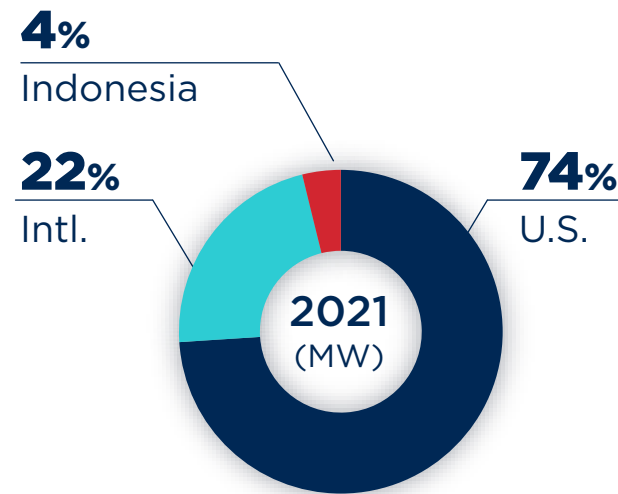


# ORMAT FINANCIAL GROWTH TARGETS

## PORTFOLIO GROWTH (GW)



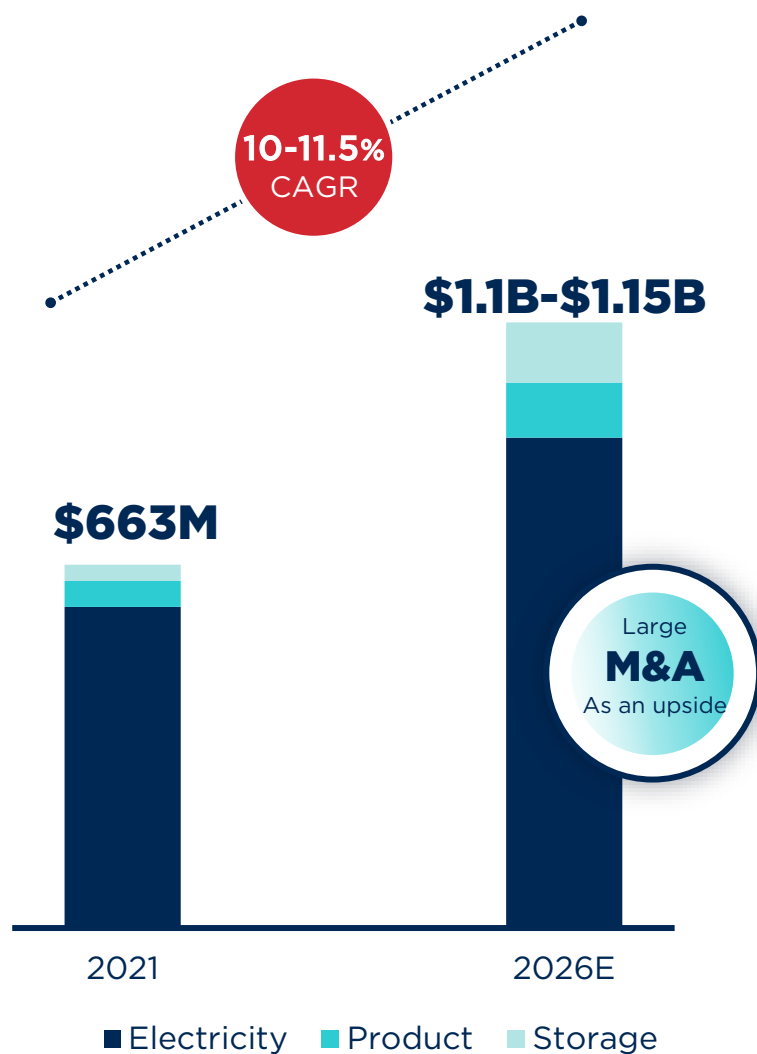
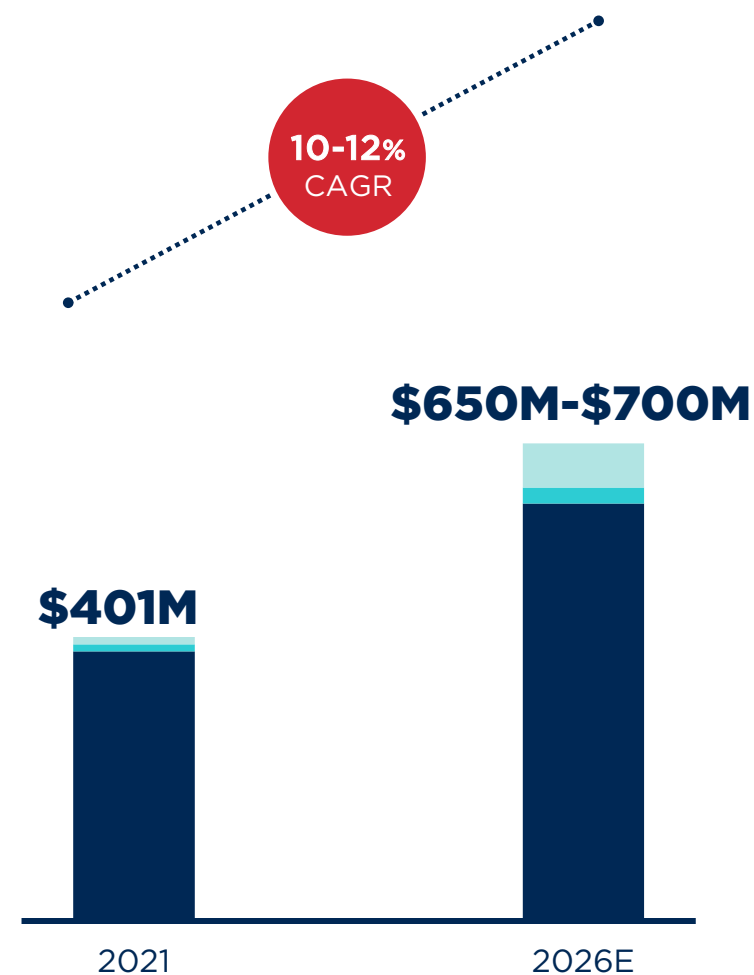
## EXPAND OPERATION IN THE U.S.





## ORMAT FINANCIAL GROWTH TARGETS

## REVENUE GROWTH

ADJUSTED EBITDA GROWTH<sup>1</sup>

(1) See reconciliation note on page 95



## COMMITTED TO CONTINUED PROFITABLE GROWTH



MORE THAN  
**DOUBLE EXPLORATION ACTIVITY**



EXPANDING SIGNIFICANTLY  
**DEVELOPMENT EFFORTS IN INDONESIA**



**GROWING OUR ENERGY STORAGE**  
TARGETING 10X THE CURRENT CAPACITY BY 2026



**STRONG REGULATORY TAILWIND**



# COMMITTED TO CONTINUED PROFITABLE GROWTH

## THANK YOU!

[IR@ORMAT.COM](mailto:IR@ORMAT.COM)





# RECONCILIATION OF EBITDA AND ADJUSTED EBITDA

(DOLLARS IN THOUSANDS)

	Years Ended Dec 31, 2021
Net income	76,077
Adjusted for:	
Interest expense, net (including amortization of deferred financing costs)	80,534
Income tax provision (benefit)	24,850
Adjustment to investment in an unconsolidated company: our proportionate share in interest expense, tax and depreciation and amortization in Sarulla	14,680
Depreciation and amortization	177,930
<b>EBITDA</b>	<b>374,071</b>
mark to market on derivative instruments	741
Stock-based compensation	9,168
Reversal of a contingent liability	(418)
Allowance for bad debts related to February power crisis in Texas	2,980
Hedge Losses resulting from Feb power crisis in Texas	9,133
Merger and acquisition transaction costs	5,635
Legal settlement expense	—
Tender-related deposits write-off	134
<b>Adjusted EBITDA</b>	<b>401,444</b>

We calculate EBITDA as net income before interest, taxes, depreciation and amortization. We calculate Adjusted EBITDA as net income before interest, taxes, depreciation and amortization, adjusted for (i) mark-to-market gains or losses from accounting for derivatives, (ii) stock-based compensation, (iii) merger and acquisition transaction costs, (iv) gain or loss from extinguishment of liabilities, (v) cost related to a settlement agreement, and (vi) other unusual or non-recurring items. We adjust for these factors as they may be non-cash or unusual in nature and/or are not factors used by management for evaluating operating performance. We believe that presentation of this measure will enhance an investor's ability to evaluate our financial and operating performance. EBITDA and Adjusted EBITDA are not measurements of financial performance or liquidity under accounting principles generally accepted in the United States, or GAAP, and should not be considered as an alternative to cash flow from operating activities or as a measure of liquidity or an alternative to net earnings as indicators of our operating performance or any other measures of performance derived in accordance with U.S. GAAP. Our board of directors and senior management use EBITDA and Adjusted EBITDA to evaluate our financial performance. However, other companies in our industry may calculate EBITDA and Adjusted EBITDA differently than we do. This information should not be considered in isolation from, or as a substitute for, or superior to, measures of financial performance prepared in accordance with GAAP or other non-GAAP financial measures.

The table above reconciles net income to EBITDA and Adjusted EBITDA for the year ended December 31, 2021.





# RECONCILIATION OF NON-GAAP FINANCIAL MEASURES

	Year Ended December 31
	2021
<b>Cash and cash equivalents, marketable securities and Restricted cash (in millions \$)</b>	
Cash and cash equivalents	239
Marketable Securities at fair value	43
Restricted cash and cash equivalents and marketable securities	104
<b>Total cash and cash equivalents and Restricted cash (in millions \$)</b>	<b>387</b>
<b>Total Debt (in millions \$)</b>	
Current portion of long-term debt:	
Short term revolving credit lines with banks (full recourse)	0
Commercial paper	0
Limited and non-recourse	62
Full recourse	314
Finance liabilities	11
<b>Total current portion of long-term debt:</b>	<b>386</b>
Long-term debt, net of current portion:	
Limited and non-recourse	540
Full recourse	740
Finance liability	242
<b>Total long-term debt, net of current portion:</b>	<b>1,521</b>
<b>Total Debt</b>	<b>1,908</b>
Total Debt Breakdown (in millions \$):	
Limited and non-recourse	601
Full Recourse	1,054
Financial liability	253
<b>Total Debt</b>	<b>1,908</b>
Net Debt (in millions)	1,521
Total Equity	1,998
<b>Net Debt to Capitalization (Total Equity) (%)</b>	<b>43%</b>
<b>Net Debt to Adjusted EBITDA</b>	
Net Debt (in millions)	1,507
Adjusted EBITDA (in millions)	401
<b>Net Debt to Adjusted EBITDA (x)</b>	<b>3.8</b>

(1) Reflects LTM Adjusted EBITDA.





# RECONCILIATION OF NON-GAAP METRICS

## PROJECTED EBITDA AND ADJUSTED EBITDA

The Company is unable to provide a reconciliation for its projected EBITDA and Adjusted EBITDA metrics to net income without unreasonable efforts due to the high variability and complexity with respect to estimating certain forward-looking amounts. These include impairments and disposition and acquisition of business interests, income tax expense, and other non-cash expenses and adjusting items that are excluded from the calculation of EBITDA and Adjusted EBITDA.

## NET DEBT METRICS

The table in previous slides reconciles total debt to net debt.

We calculate net debt as total debt less total cash and cash equivalents and restricted cash. We believe presentation of this measure will enhance an investor's ability to evaluate our financial and operating performance. Net debt is not a measurement of financial performance or liquidity under accounting principles generally accepted in the United States, or GAAP, and should not be considered as an alternative to any measures of performance derived in accordance with GAAP. Other Companies our industry may calculate net debt differently than we do. This information should not be considered in isolation from, or as a substitute for, or superior to, measures of financial performance prepared in accordance with GAAP.

The Company is unable to provide a reconciliation for its projected net debt to capitalization and projected net debt to Adjusted EBITDA metrics without unreasonable efforts due to the high variability and complexity with respect to estimating certain forward-looking amounts.