

A large solar thermal power plant is shown under a clear blue sky. In the center, a tall, cylindrical receiver tower stands prominently, emitting a bright white glow from its top. The tower is surrounded by a vast field of heliostats, which are large, rectangular mirrors with a complex, grid-like pattern of circular and square openings. These mirrors are arranged in long, parallel rows that recede into the distance, creating a strong sense of perspective. The ground is dry and dusty, typical of a desert environment. In the background, a range of mountains is visible under the sky. The overall scene conveys a sense of industrial scale and clean energy production.

Solar Thermal with Energy Storage for the US and China
Washington DC – June 3, 2015

SolarReserve Overview



- Leading global developer of utility-scale solar power projects and advanced solar thermal storage technology
- Commercialized world's leading solar thermal technology (CSP) with integrated energy storage – providing reliable and non-intermittent electricity, day or night
- More than \$1.8 billion of projects in construction and operation globally
- Development and long-term power contracts for 482 MW representing \$2.8 billion of project capital
- Proven management team – has built more than 27 GW and financed over \$48 billion in energy projects in 25 countries

Global Reach Across Six Continents

Development portfolio of 6.6 GW across the world's most attractive, high growth renewable markets



SolarReserve Rationale for China

- Creation of a new domestic renewable industry on the scale of Chinese PV and wind
- Inherent energy storage results in double the annual MWh of comparably sized solar facilities (PV, trough, direct steam) at 453 GWh for a 100 MW Qinghai plant
- Dramatic reduction of GHG emissions as a result of using zero fossil fuel requirement unlike PV, trough, direct steam, wind (the only viable renewable baseload power solution)
- Western China solar resource and high altitude is ideal for molten salt tower technology, with no natural gas augmentation required unlike for trough and direct steam
- Hybrid solar projects combining CSP and PV deliver the lowest cost baseload renewable energy and completely displace coal-fired generation

50 SolarReserve hybrid plants will generate 63 million MWh annually, equivalent to 20 500 MW coal plants or 75% of Three Gorges, with zero environmental impacts and a clear roadmap to dramatic capital cost reductions

CRESCENT DUNES

The solution for solar energy to operate day and night,
as a viable alternative to coal, oil, natural gas, diesel and nuclear



Crescent Dunes – Project Highlights

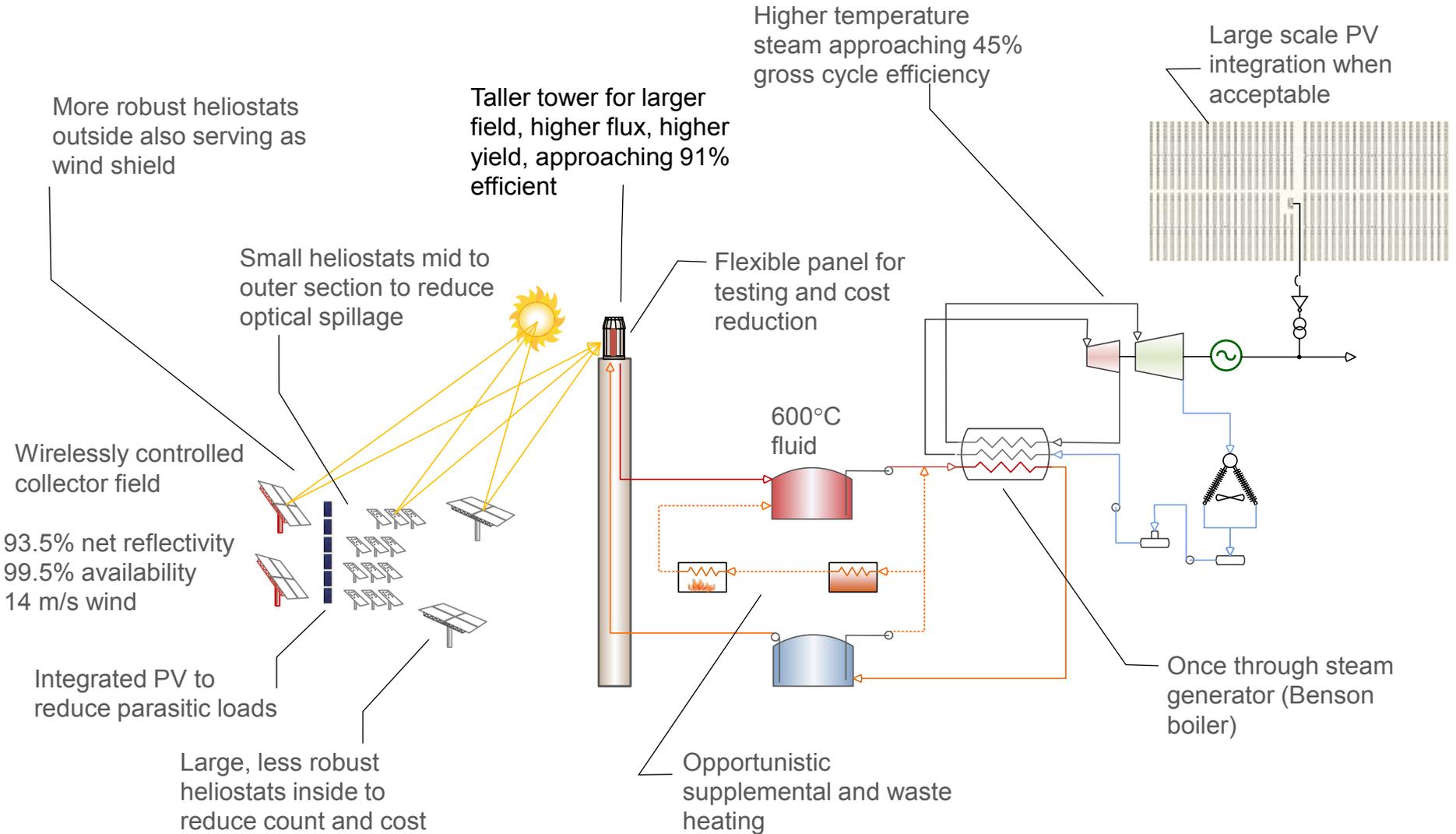


Tonopah, Nevada

- **Technology:** SolarReserve’s proprietary solar thermal energy storage technology that enables reliable, on-demand energy production – day and night.
- **Electricity Production:** 110 MW capacity delivering more than 500,000 megawatt hours of electricity per year to the Nevada energy market.
- **Storage:** Market leading energy storage provides 10 hours of full load electricity generation.
- **Equity Investment:** \$260 million of private equity from SolarReserve (managing partner), ACS Cobra and Banco Santander.
- **Debt Financing:** Debt supported by U.S. Department of Energy Loan Guarantee Program.
- **Power Purchaser:** 25-year power contract with NV Energy, Nevada’s largest utility, for 100% of output at a fixed price with 1% annual escalation, regardless of world fuel prices.

Crescent Dunes 110 MW Solar Energy Project

SolarReserve Hybrid Plant Configuration



World's First Combined CSP and PV Solar Park

Lesedi, Jasper and Redstone Power Projects

Postmasburg, Northern Cape, South Africa

LESEDI SOLAR POWER PROJECT

Operations Date: May 2014
REIPPPP: Round 1
Size: 75 MW
Technology: Photovoltaic (PV)
Electricity Production: 150,000 MW-hours annually
Homes Powered: more than 65,000 homes

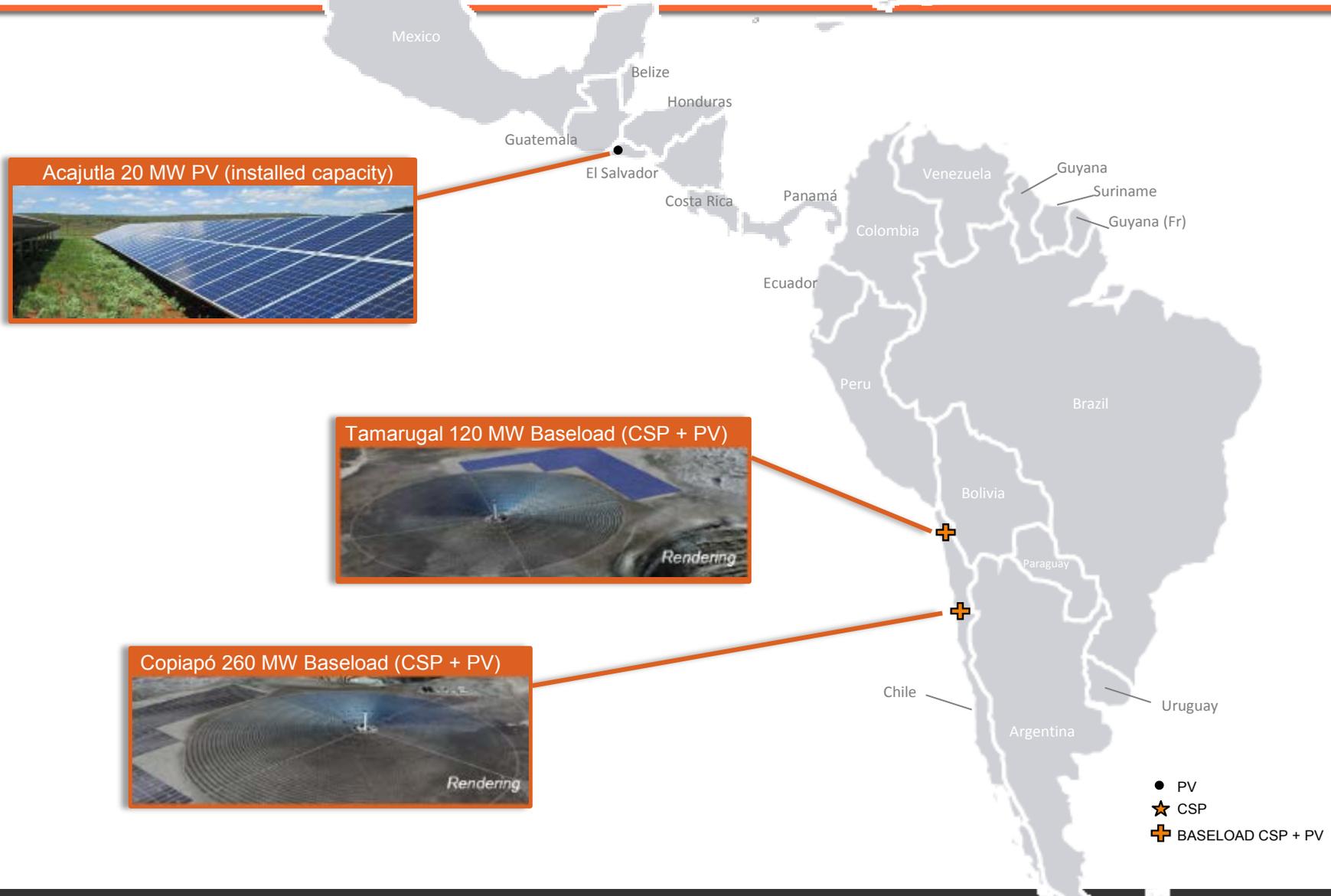
REDSTONE SOLAR THERMAL POWER PROJECT

Anticipated Operations Date: 2018 (project rendering above)
REIPPPP: Round 3 (CSP)
Size: 100 MW
Technology: Concentrating Solar Power (CSP) with molten salt energy storage
Electricity Production: 480,000 MW-hours annually
Homes Powered: more than 200,000 homes during peak demand, day and night

JASPER SOLAR POWER PROJECT

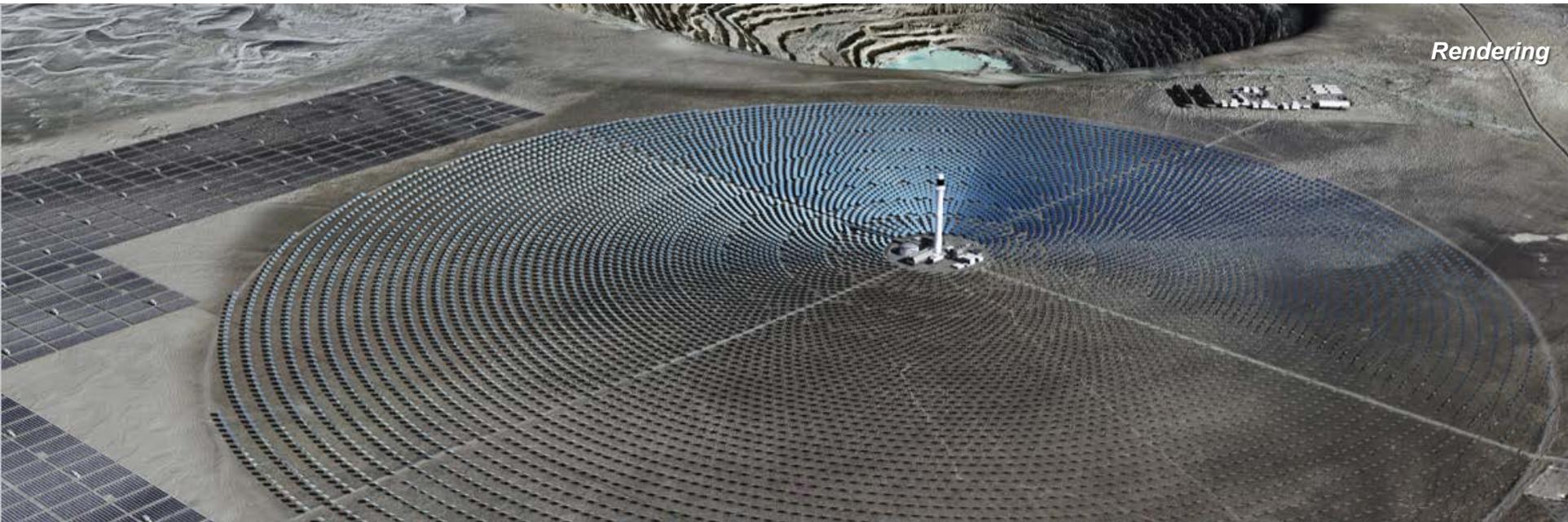
Operations Date: October 2014
REIPPPP: Round 2
Size: 96 MW
Technology: Photovoltaic (PV)
Electricity Production: 180,000 MW-hours annually
Homes Powered: more than 80,000 homes

SolarReserve's Advanced Development Projects in Latin America



Copiapó – Project Highlights

Combined CSP + PV System Provides Reliable and Cost Effective Baseload Power



- Location: Copiapó, Atacama Region of Chile on the SIC transmission system
- Technology: SolarReserve's proprietary CSP tower technology with Molten Salt Thermal Energy Storage combined with solar photovoltaics (PV)
- Project Details: Two 130 megawatt (MW) solar thermal towers with energy storage, combined with 150 MWs of PV – resulting in 260 MW of continuous output
- Baseload Power: Operates at capacity factor & availability percentage equal to that of coal fired power plant
- Electricity Production: 260 MW's of firm baseload (24/7) power delivering more than 1,700 gigawatt hours annually, powering the equivalent of 560,000 homes
- Storage: 14 hours of full load electricity generation
- Financial Close: Expected mid-2016

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中美太阳能光热与储能
华盛顿特区-2015年6月3日

SolarReserve简介



- 全球领先实用规模的太阳能光电项目和先进光电储能技术开发商
- 久经考验的管理团队-已在25个国家建立超过27GW的能源项目，总融资量超过480亿美元
- 全球领先的商业化太阳能光热和储能一体技术，可以日夜提供可靠的、不间断的电。
- 全球有18亿美元的项目在建和运行。
- 482MW长期开发电力合同占项目资金的28亿美元

触及全球六大洲

6.6GW开发组合涉及全球最具吸引力的快速发展的可再生能源市场



SolarReserve的中国理念

- 创建一个基于中国光伏和风电规模的新的国内可再生能源产业
- 内部储能使同等规模的太阳能设备（光伏，槽式，直接蒸汽）的年发电量翻了一倍。与同等规模的设备相比（如青海100 MW太阳能发电系统），可发电453 GWh。
- 使用零化石能源大幅度减少温室气体排放。与光伏太阳能、槽式太阳能、直接蒸汽发电及风电不同，这是唯一可行的可再生能源作为基本负荷电力的解决方案。
- 中国西部的太阳能资源和高海拔为熔盐塔技术提供了理想场所，不像槽式直接蒸汽技术需要增加天然气
- 结合CSP和PV的混合太阳能项目拥有可再生能源基本负载最低成本，并且可以完全替代煤电。
- 独特的附属服务能力可以支持电网稳定性、安全性和可靠性

50个SolarReserve混合项目电站每年可以生产6300MWh，相当于20个500MW煤电站，或者四分之三个三峡工程，具零环境影响以及巨大的固定成本减少

CRESCENT DUNES 太阳能项目

能够日夜利用太阳能的解决方案，使太阳能成为煤、石油、天然气、柴油和核电的可行的替代燃料



Crescent Dunes 项目亮点

士鲁巴, 内华达州

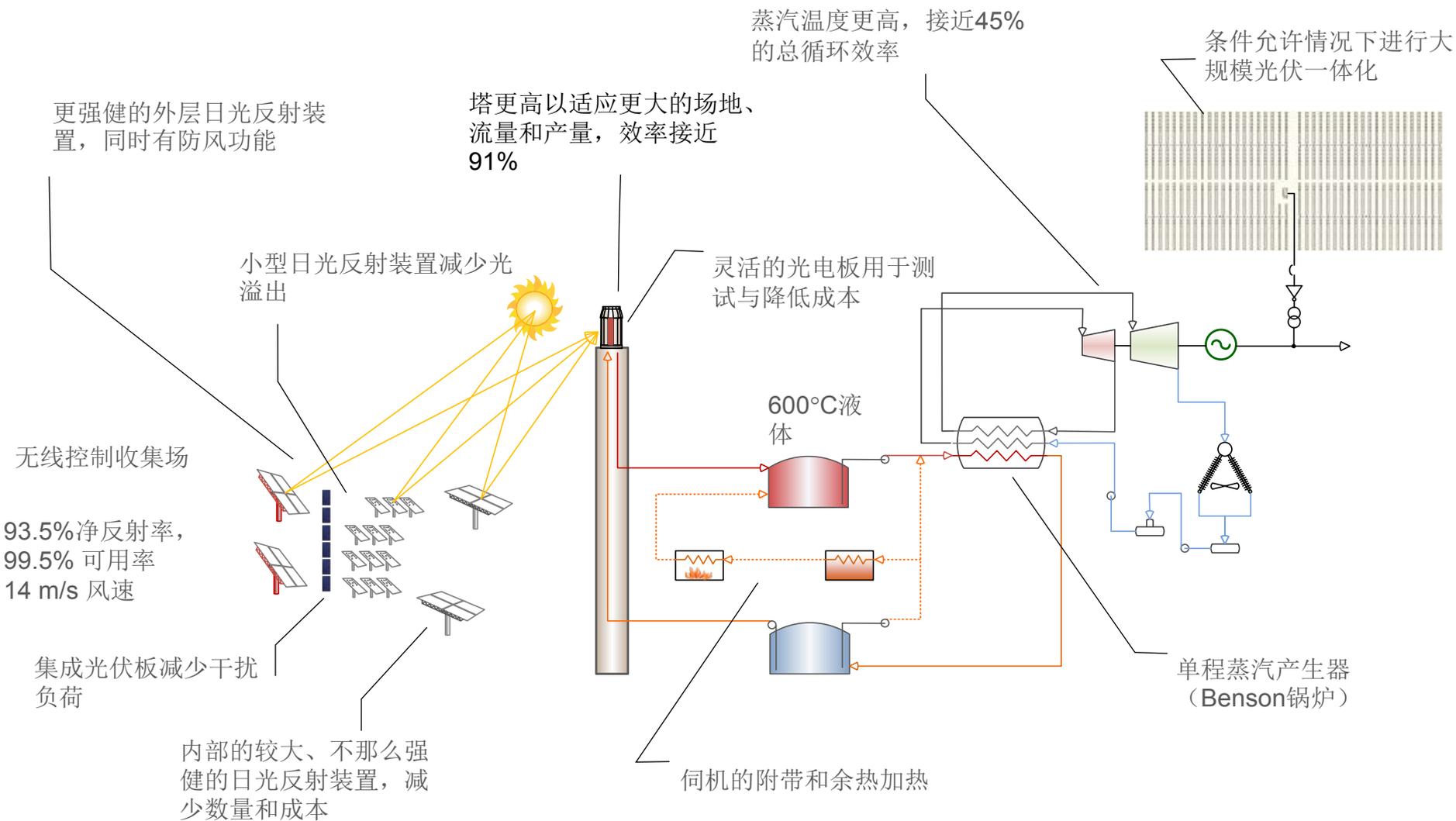


- **技术:** SolarReserve所有的太阳能光热与存储技术能够实现日夜提供可靠的所需的能源
- **发电:** 110 MW容量, 每年可向内华达州能源市场输送超过500,000 MWh的电力
- **存储:** 市场领先的能源存储技术, 提供10小时全负荷电力
- **股权投资:** ACS Cobra和Banco Santander私募股权2.6亿美元
- **债务融资:** 债券由美国能源部贷款保障项目支持
- **购电商:** 与内华达能源签署25年的电力合同。内华达能源是

内华达最大的电力公司, 以固定电价购买所有电力, 电价每年增长1%并与世界燃料价格脱钩

Crescent Dunes 110 MW Solar Energy Project

SolarReserve混合电站配置图解



全球第一个CSP与PV结合的太阳能园区

Lesedi, Jasper和Redston项目

Postmasburg, 南非海角北部

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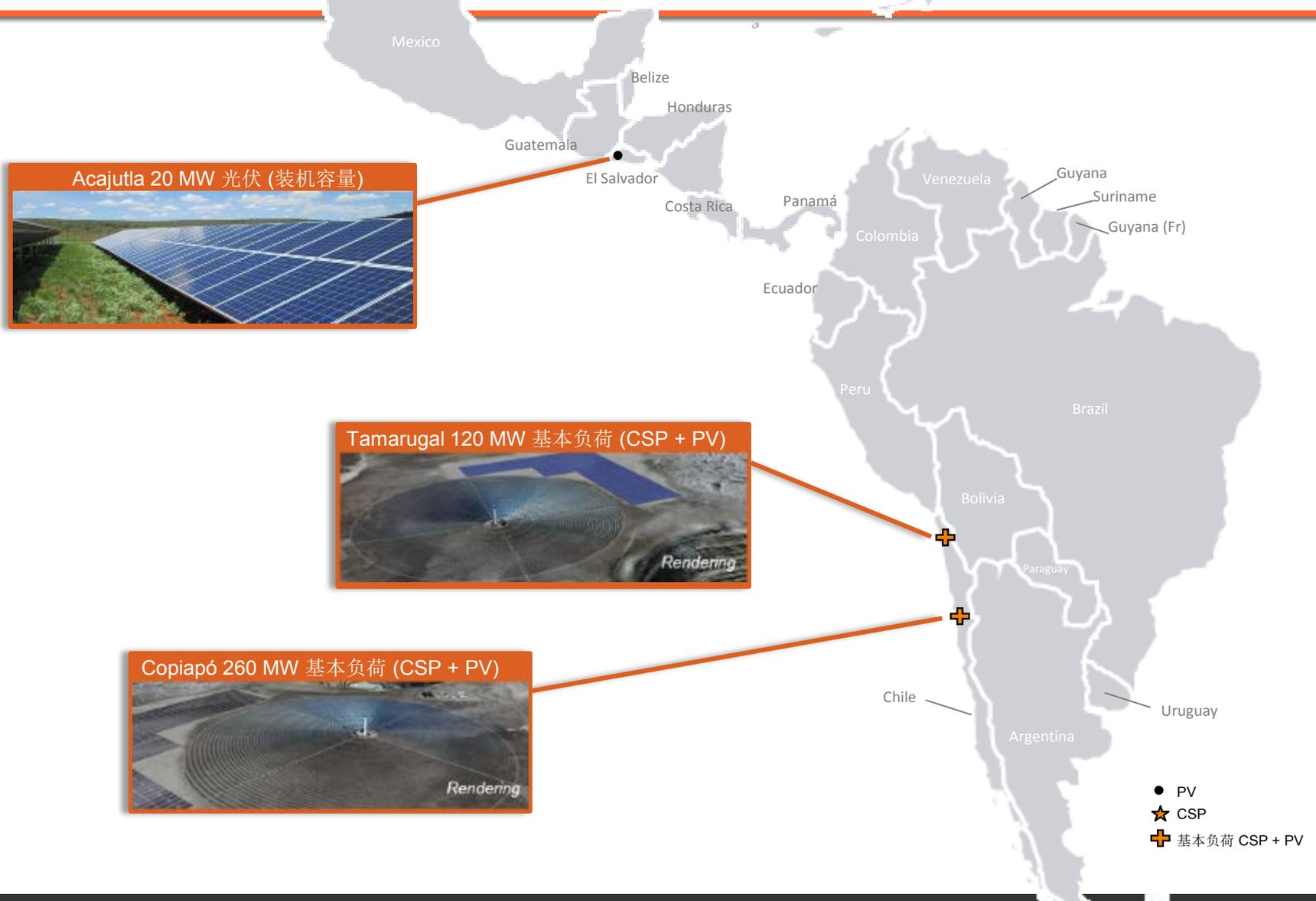
Size: 100 MW

Technology: Concentrating Solar Power (CSP) with molten salt energy storage

Electricity Production: 480,000 MW-hours annually

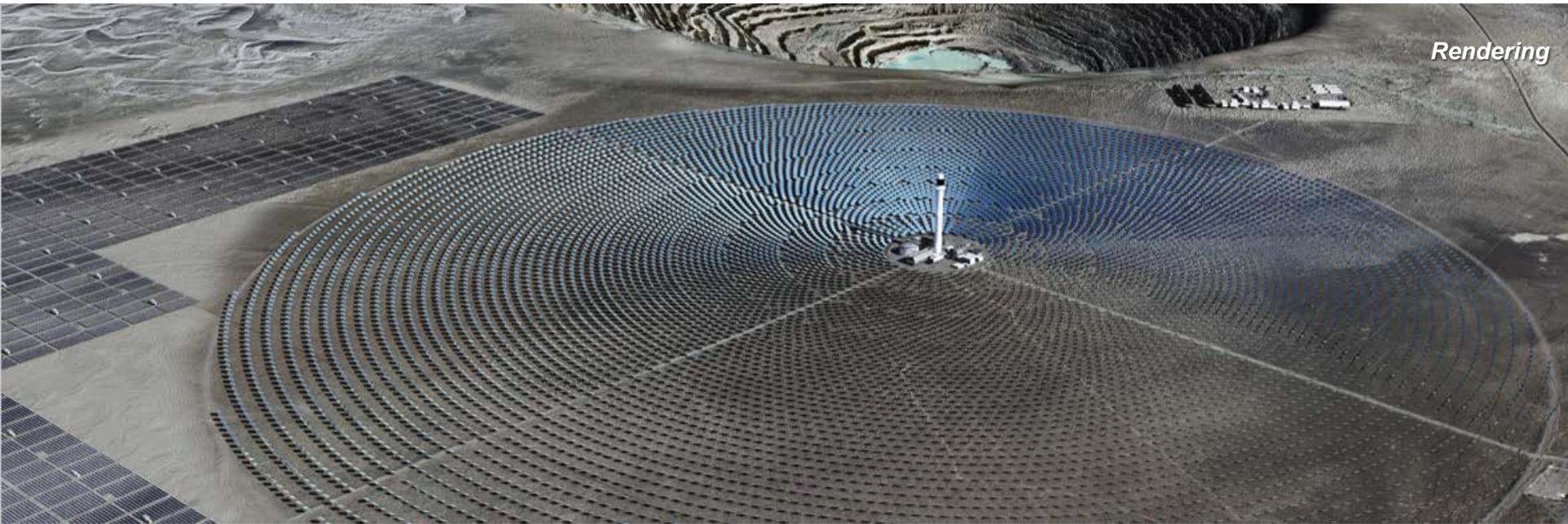
Homes Powered: more than 200,000 homes during peak demand, day and night

SolarReserve在拉丁美洲的先进开发项目



Copiapó 项目亮点

CSP和PV联合系统，提供可靠、成本有效的基本负荷电力



- 位置: 智利阿塔卡玛区域 Copiapó，在半导体集成电路（SIC）传输系统上
- 技术: SolarReserve所有的CSP塔技术，以及熔盐热能存储和光伏PV技术
- 项目细节: 两个130MW光热塔外加热能存储，以及150MW光伏，总共为260MW不间断电力
- 基本负荷电力: 和煤电厂的容量系数和可用比例同等运行
- 电力生产: 全天（24/7）260MW固定基本负荷，年产1700 GWh电力，可供560,000个家庭使用
- 存储: 14小时全负荷电力
- 采购完成: 预计2016年中期

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