

## The Future of Energy Storage

Malta Inc. Overview



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## Malta is a leading technology provider of electro-thermal, long duration energy storage (LDES) systems

Malta's differentiated product is positioned to win significant share of a 75 GW+ serviceable market opportunity (1)

#### **Enormous Need For Scalable Long Duration Energy Storage Globally**

- · Emphasis on energy independence in Europe
- Global regulatory and funding support, incl. IRA in North America
- Aggressive project targets in the Middle East increase the need for LDES
- Accelerating renewables penetration and fossil asset retirements

#### **Enabling the Energy Transition at Scale Requires Malta's Capabilities**





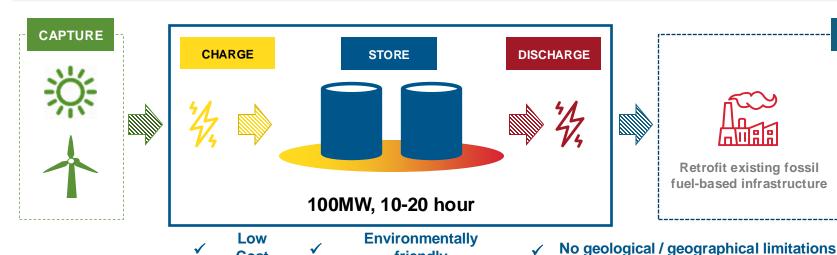


Ensures Grid
Reliability (Rotational
Inertia)



Supply Chain Already at Scale

Malta's proprietary and proven molten salt long-duration energy storage system provides a unique combination of capacity and duration for which there are no suitable technology alternatives





**Scalable** 

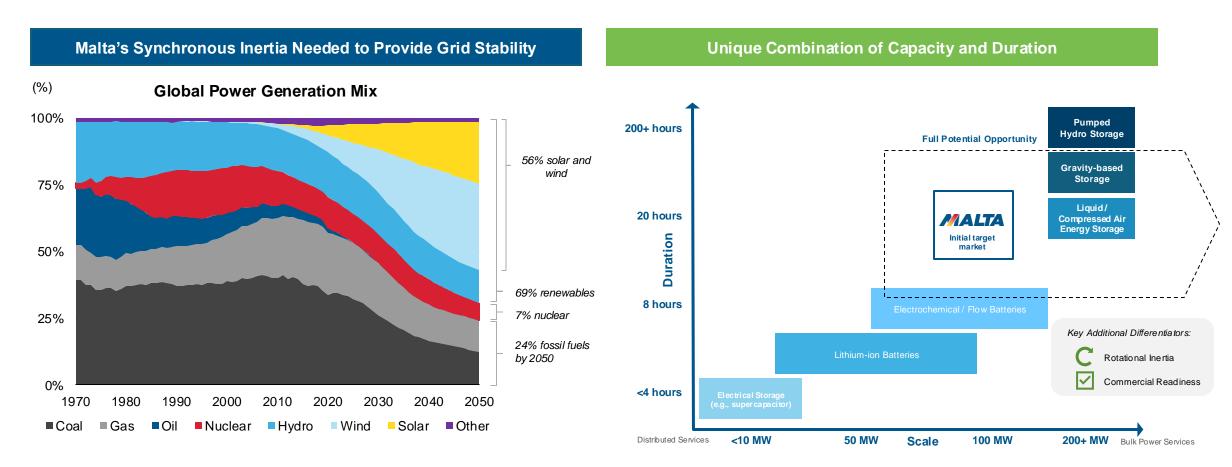
1. BloombergNEF; 2026-2030 cumulative estimate. SAM opportunity assumes \$350mm total revenue per 100 MW LDES system.

friendly



## Malta is unique in the LDES landscape

Malta can provide both <u>Long Duration Storage</u> and <u>Grid Reliability</u> services Operates at utility-scale – no other LDES technology can replicate what Malta can do, and where it can go, in this space.



Source: BloombergNEF.



## Malta Product Offerings

Malta's product line range offers flexible storage and grid reliability solutions for renewable power generation and the replacement needs of utility scale fossil gas and coal plants

#### **Use Cases**

### **Malta System Advantages**



#### **Fossil Asset Replacement**

- As large coal and gas plants retire, utilities need to replace the attributes from these facilities, including capacity, dispatchable renewable power and grid reliability services
- Malta can act as a like-for-like replacement for these retiring fossil assets

#### **Utility Scale**

Malta's facilities can range in capacity from 100 MW up to hundreds of MWs



### Flexible and Low-cost Storage

- Malta's duration sweet spot is 8 hours to 8 days provides the critical bridge from lithium-ion towards seasonal durations
- Can scale up duration at low incremental cost



#### Geologic / Geographic Flexibility

- Other LDES technologies of similar scale pumped hydro and CAES are highly geographically limited
- Malta facilities do not need caverns and have no siting limitations
- Malta can go anywhere



#### **Grid Stability Services**

- Reliability services are going away as fossil plants retire and renewables (solar, wind) and lithium-ion does not provide these services in a meaningful way
- Malta provides these services that are essential for grid stability as the energy transition continues



#### **Range of Offerings**

- Family of products offer differentiated operational capabilities and price points
- Malta provides a range of offerings tailored to customer needs



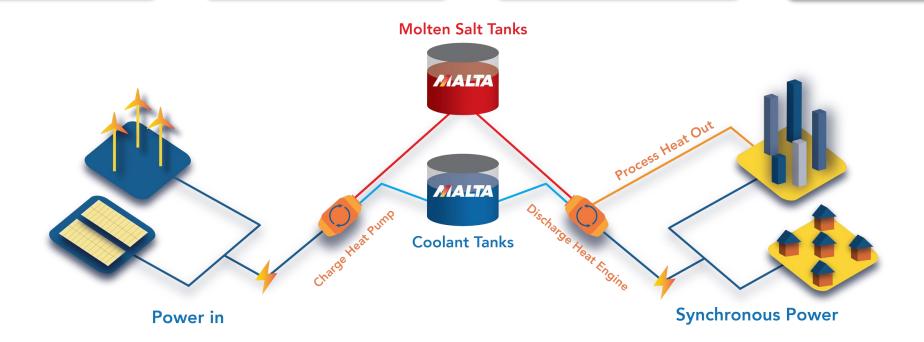
## Malta's Pumped Heat Energy Storage (PHES) Technology

Electricity-in, electricity-out PHES

Grid-scale (100+ MW) Molten Salt

Duration: 8 hours to 8 days

Optional industrial process heat output (120°C)



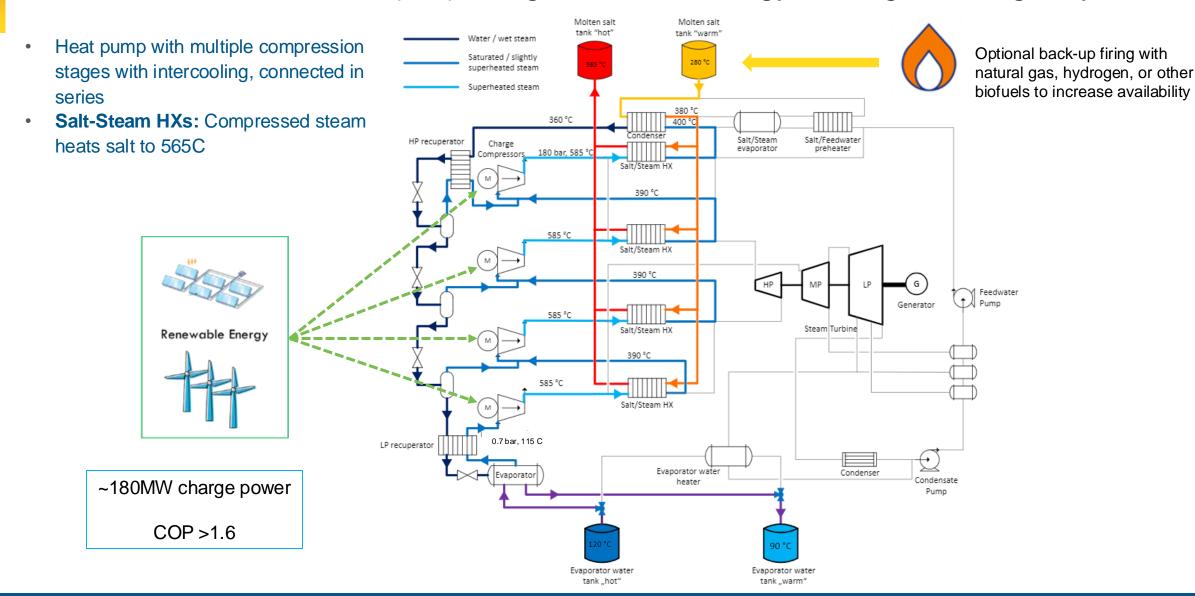
## **Technology Overview:**

Malta's Steam Rankine (SR) Pumped Heat Energy Storage (PHES) solution has a unique set of characteristics within long-duration energy storage technologies.

- √ Grid size (100-500+MW)
- ✓ Electricity-to-electricity (Electricity-to-Heat possible)
- ✓ Synchronous inertia (<u>same as equivalently rated steam</u> <u>turbine</u>)
- √ Long duration (10+hours) storage
- ✓ Industrial heat capability
- ✓ RTE >55%
- ✓ Ability to integrate with other steam generation assets
  - > Re-use of steam generation cycle in coal plants being retired
  - > Integration to new or existing CCGT plants



## Malta Steam Rankine (SR) Long Duration Energy Storage: Charge Cycle

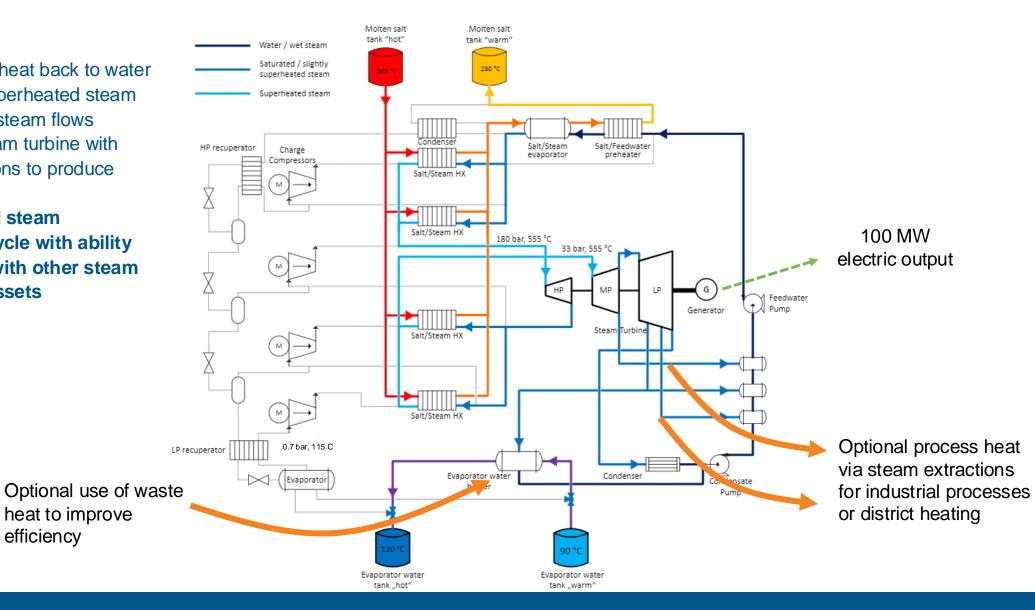


## Malta Steam Rankine (SR) Long Duration Energy Storage: Generation Cycle

- Salt transfers heat back to water to produce superheated steam
- Superheated steam flows through a steam turbine with multiple sections to produce electricity
- Conventional steam generation cycle with ability to integrate with other steam generation assets

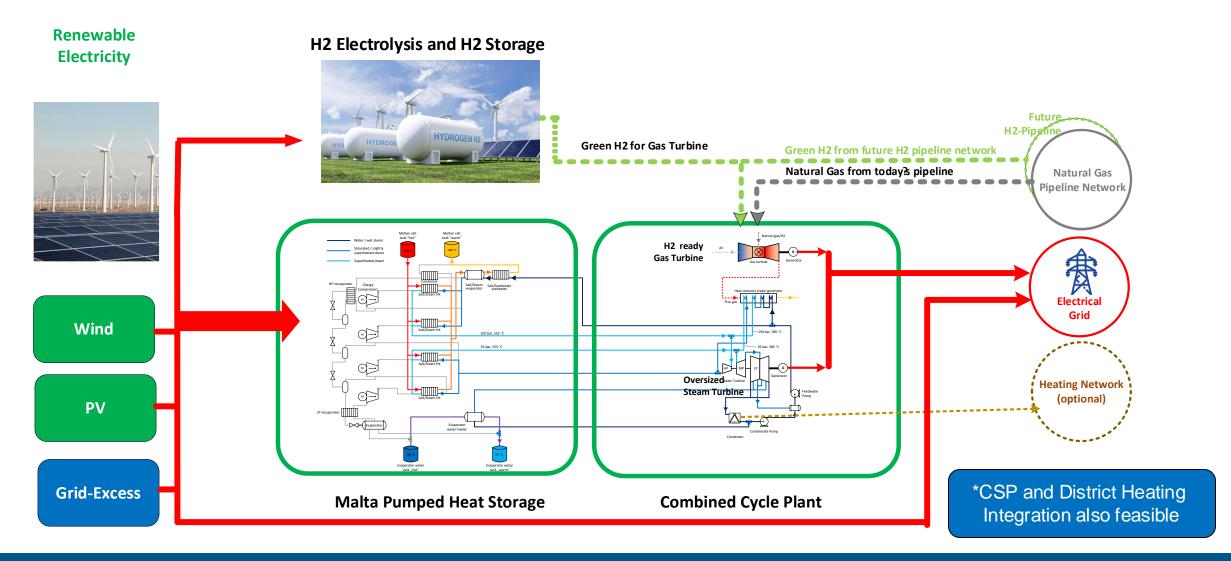
heat to improve

efficiency



1

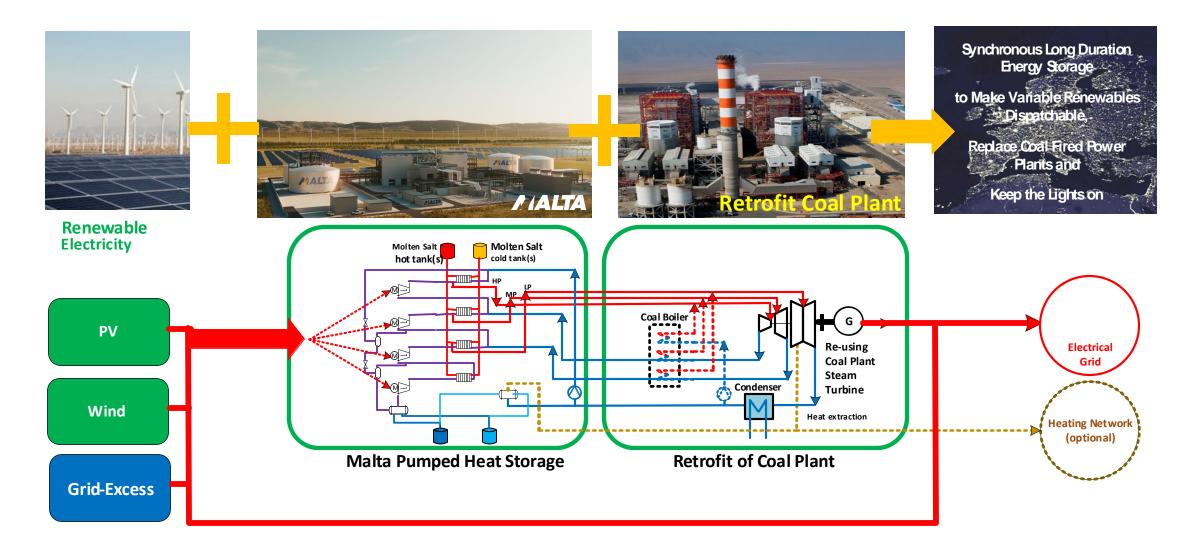
# Example: Decarbonize Gas Fired Combined Cycles with Malta SR PHES ...and prepare transition to Hydrogen Firing







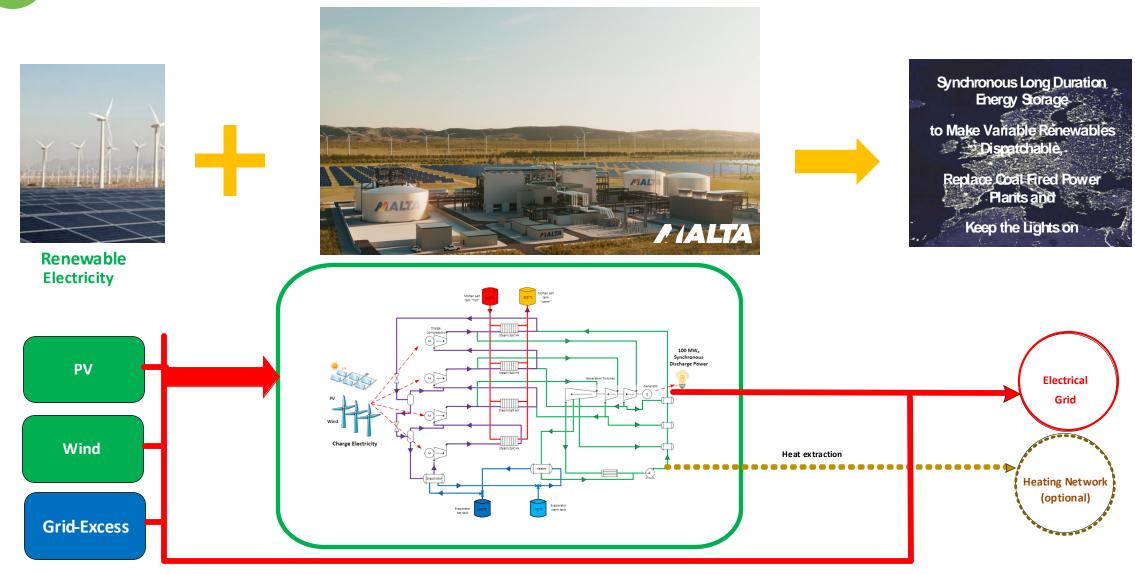
## Example: Optimized transition for coal plants with Malta SR PHES





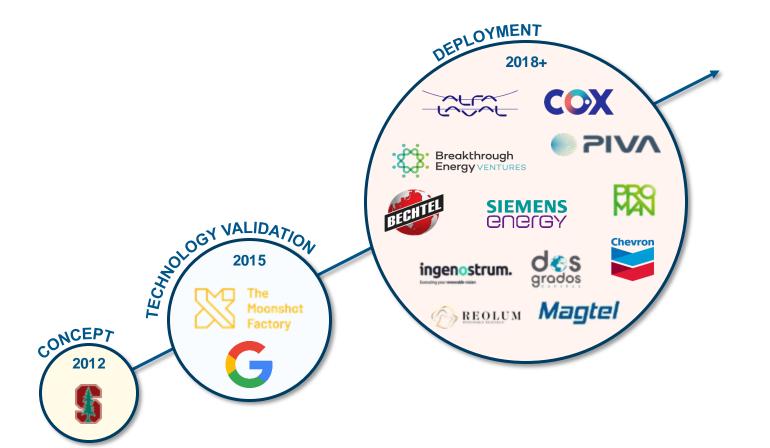
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### Stand Alone Malta SR PHES



### Malta is a leading technology provider of electro-thermal LDES systems.

Malta's molten salt systems store renewable energy for 8 hours to 8 days with multiple discharge applications







**Low-Cost** 



**Long-Duration** 

8 hours to 8 days



**Grid-Scale** 

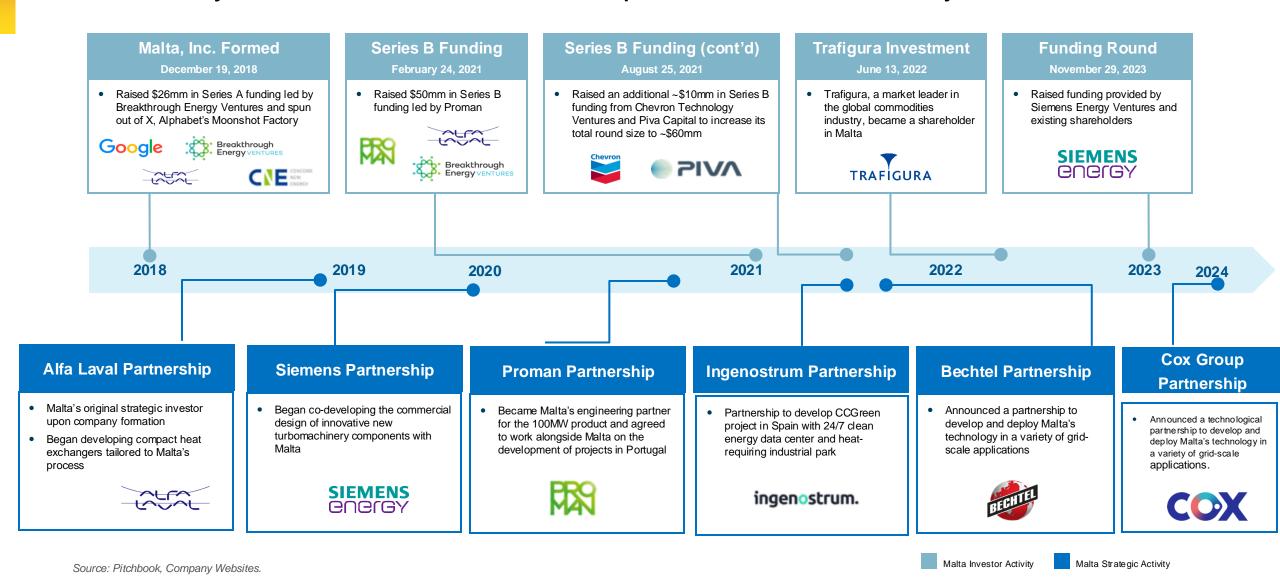
100 MW+ 50/60 Hz



**Multi-Application** 

Electricity, heat, inertia

## Funded by world-class investors and partnered with industry leaders





## Partnership Approach – Key Investors and strategics bolster Malta

Blue-Chip Financial Investors









**Technology Partners** 



Investor in Malta



Investor in Malta



Investor in Malta



**Independent Validation** 









**Deployment Partners** 









A robust ecosystem of blue-chip investors, technology and deployment partners provides strong validation and execution capability



# Malta Inc. Series-C funding announcement 02 December 23, COP28



Bill Gates
Christian Bruch (CEO-Siemens Energy)
Thomas Muller (President-Energy Division, Alfa-Laval)
Ann Mettler (VP Europe, Breakthrough Energy)



## Video Introduction of Malta's Technology:



https://www.youtube.com/watch?v=PXwFvOTPp18





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