



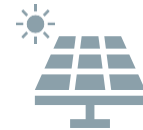
**Delivering solar hybrid
systems in Africa**

**Balama Mine,
Mozambique**

November 2021

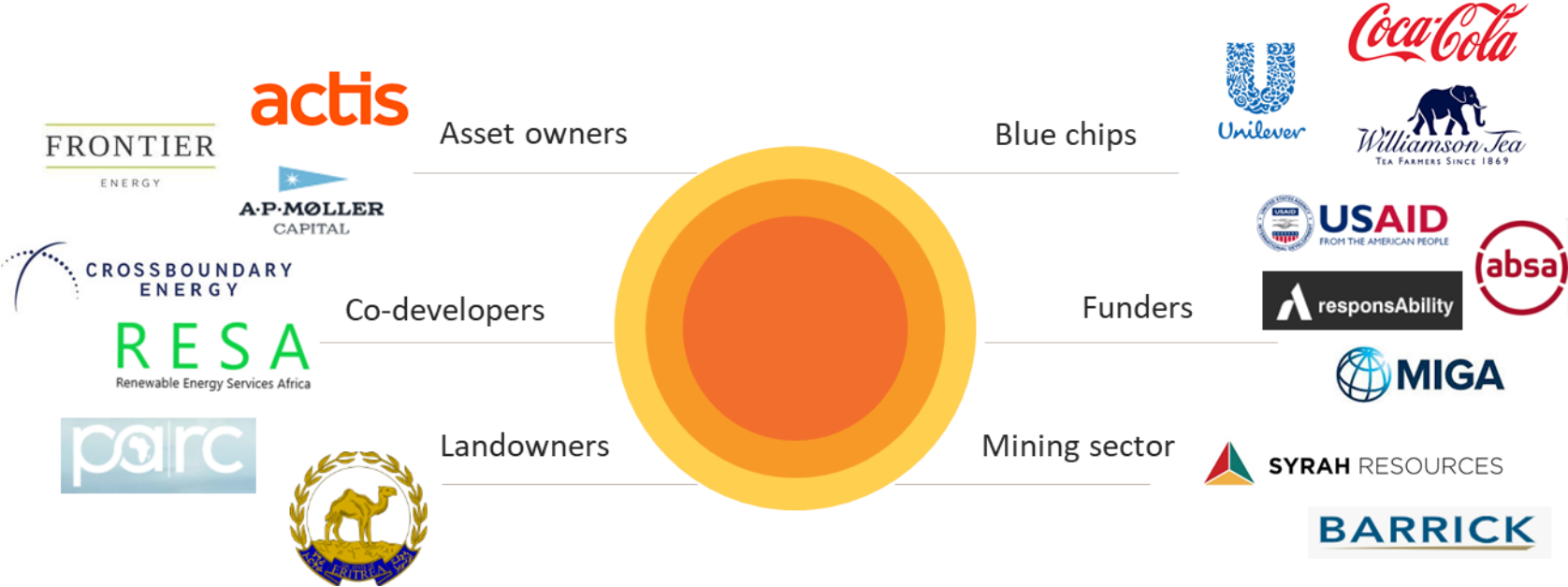
Solarcentury Africa – who we are and what we do

- **A leading fully integrated developer of solar & hybrid power plants**
- **One of the longest established solar companies around**
 - Solarcentury founded in 1998 and active in Africa since 2012
- **Focus on large captive power and utility scale projects, both on and off grid**
- **Unparalleled engineering capability**
 - Integrator of grid – LNG – HFO – diesel – hydro – wind – battery – solar PV systems
- **Technology and supplier agnostic**
 - Work with all Tier 1 battery and solar PV suppliers and technology types
- **Able to provide fully funded solutions under various commercial models**
- **Rapidly growing business committed to Africa**
 - Current African pipeline of over 60 projects representing some 2GW/1GWh
 - 35+ mining clients - several with peak demands of over 100MW



Solarcentury Africa - who we work with

Just a few examples:



The Balama Mine



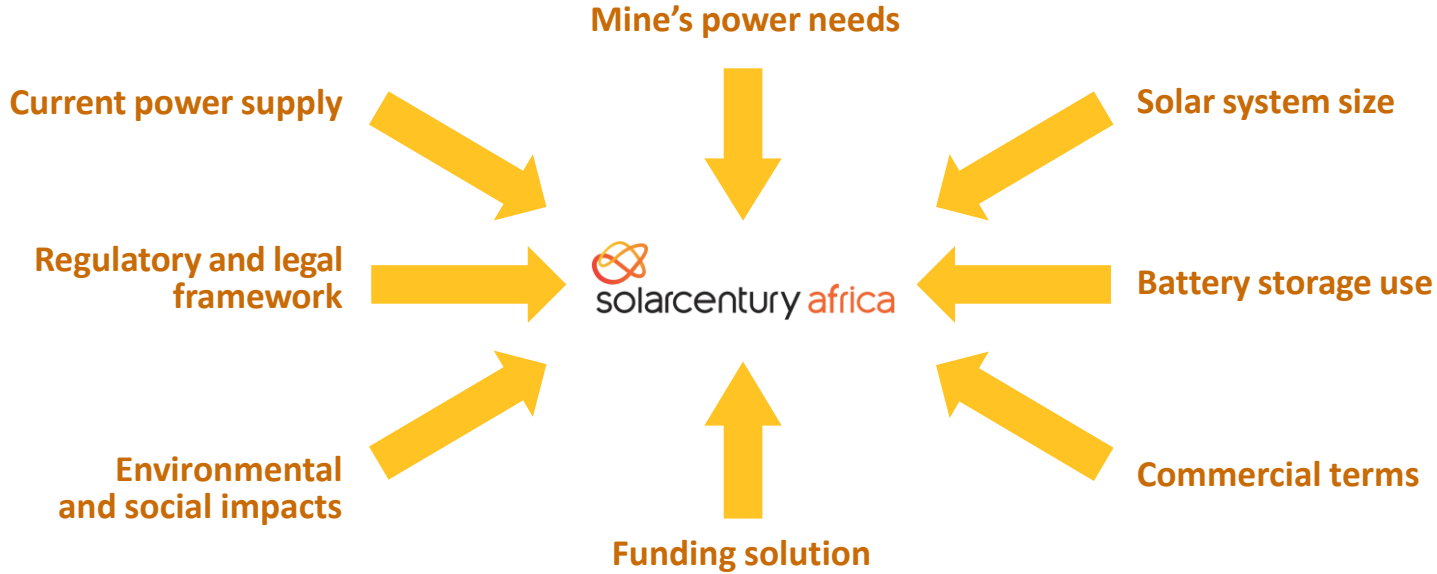
- Approximately 265 km west of Pemba in Cabo Delgado
- Leading Tier 1 graphite mine supplying high-grade natural flake graphite globally
- Commenced commercial mining in 2019 with a life of mine of c.50 years
- Graphite is a key component of lithium-ion batteries used in electric vehicles
- Owned and operated by Twigg, part of Australian-listed mining group Syrah Resources
- Strategy to become the leading global integrated producer and supplier of battery anode material to the growing EV battery market outside of China

What the hybrid system will deliver for Balama



- **Delivered and operational in 2022**
- **Greenest off-grid mine in Africa**
- **Fully funded solution**
- **Significant reduction in cost of power**
- **Less exposure to future fuel price increases**
- **Significant reduction in CO₂ emissions**
- **Less exposure to any future carbon taxing**
- **Strong ESG credentials for investors**
- **More 'green' graphite product, in line with increasing consumer demands in the end market**

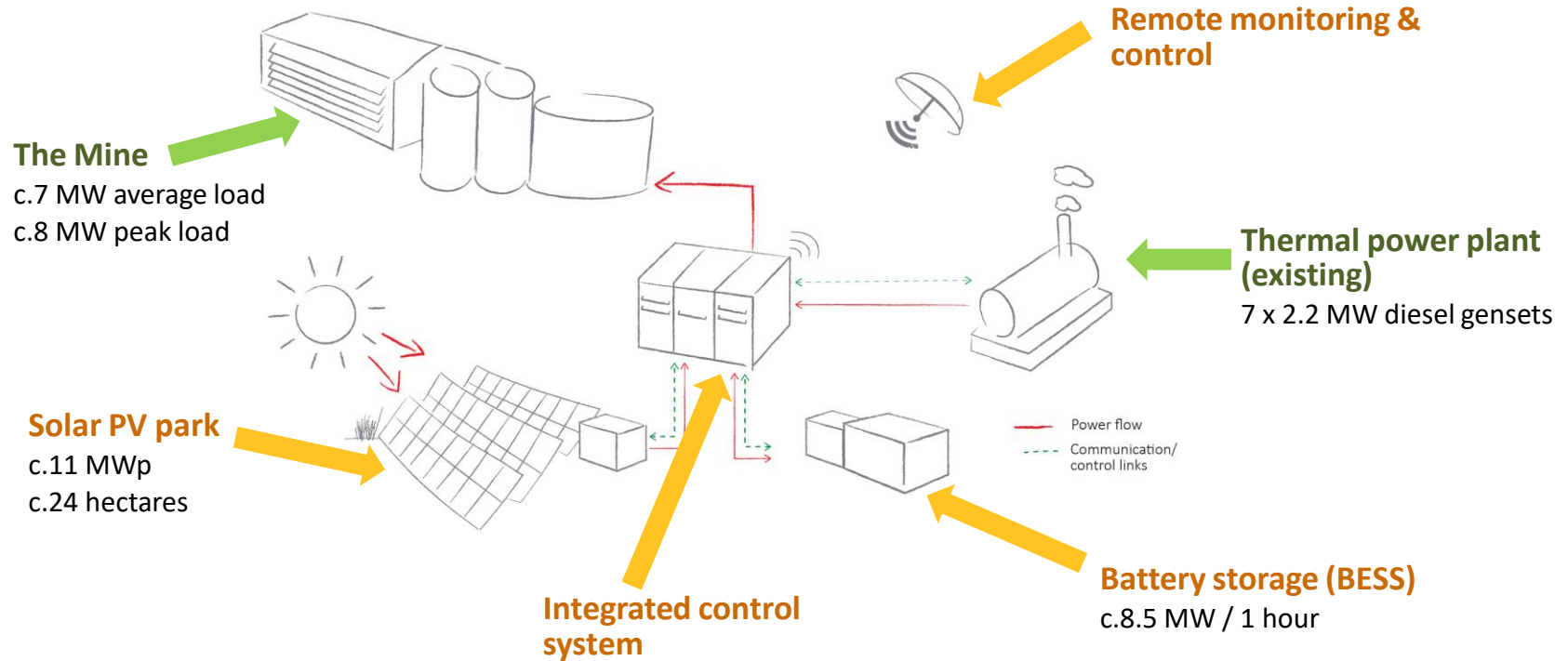
Multiple factors successfully addressed in developing the project



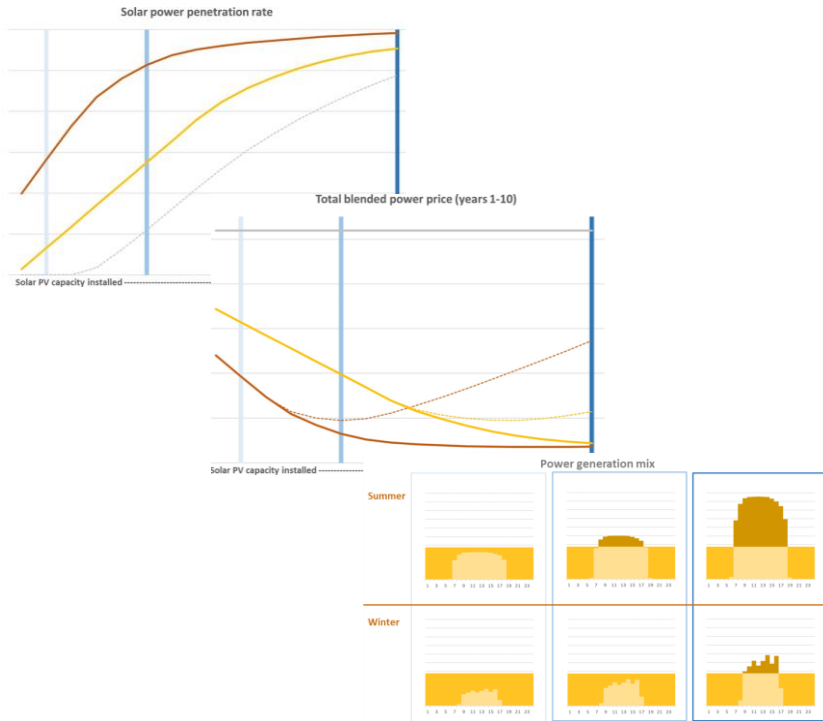
Trusted Energy Partner model

Worked closely with the Mine to deliver the best system for its needs

System designed to deliver robust power ...



... and optimised to best meet the Mine's aims for the project



- **Maximise use of cheap renewable power**
- **Minimise total blended power price**
 - Mine's power demand profile(s)
 - Its future power needs
 - Solar generation profile
 - Use of BESS
 - System funding cost
- **Reduce emissions**
- **Achieved average c.35% renewable power penetration over the year**
 - Up to 100% during peak daylight hours
 - Corresponding decrease in diesel consumption and CO₂ emissions
- **Scope for Mine to improve this by changing power demand profile**

