Saft Energy Storage Solutions

Augmentation strategy for your long term Solar PPA

Saft provides energy storage solutions designed to optimize your project's profitability and to offer you flexibility for ever evolving business needs

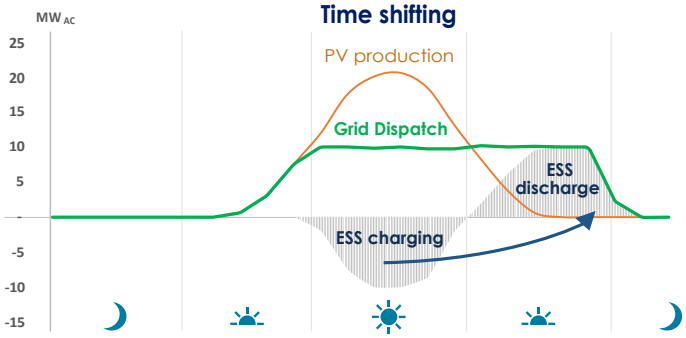
Your business case

You build a solar farm & you need an energy storage solution for load shifting with a reliable capacity over duration of your long term PPA

20MWp AC solar farm

20-year PPA,
including time shifting application

12MW/36MWh$_{AC\ at\ PoC}$
of usable storage required



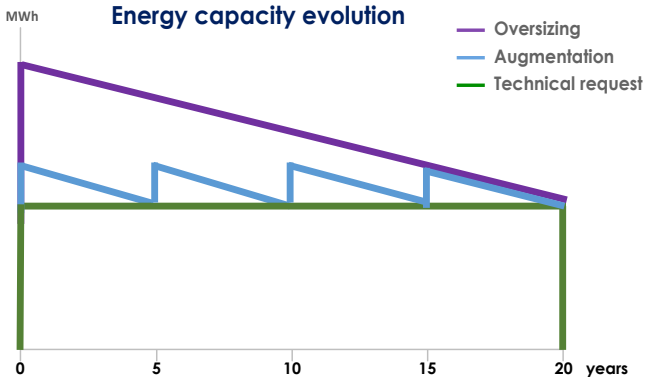
Our solution

Augmentation as an alternative to oversizing, enabling battery degradation compensation and future-proofing your system

Augmentation consisting in initial installation of 46 MWh$_{DC}$ (20 containers Intensium® Max High Energy with LFP technology) and subsequent augmentations (4,6 MWh$_{DC}$ x 3 times)

VS

Oversizing with installation of 60 MWh$_{DC}$ (26 containers Intensium® Max High Energy)



Your economic benefits

Improved profitability of your storage project thanks to reduced upfront costs, anticipated battery cost reduction and time value of money

Reduced initial capex

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Declining cost curves

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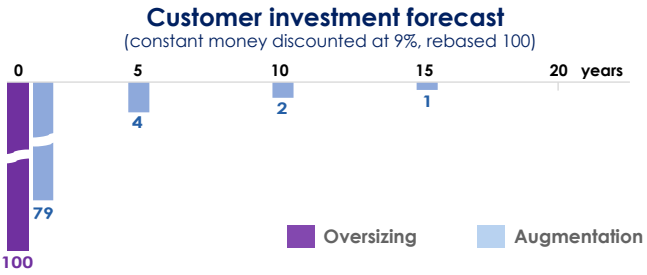
Storage project savings at NPV9: ~ 14%[1]



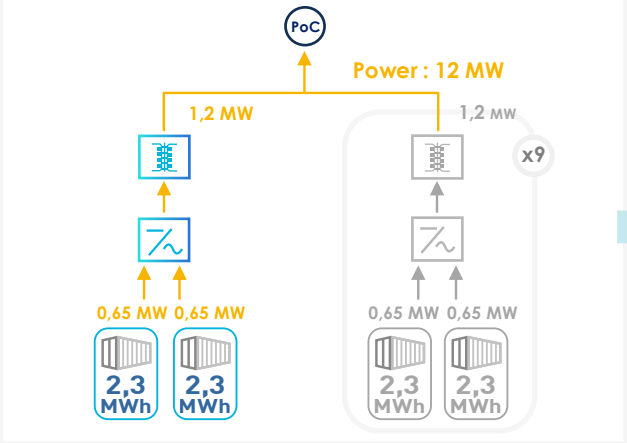
1 – Difference between augmentation and oversizing investments (present value of costs discounted at 9%).
Storage project savings may be more or less significant depending on project's size, scope, application, geographical remoteness etc.

Suggested technical approach

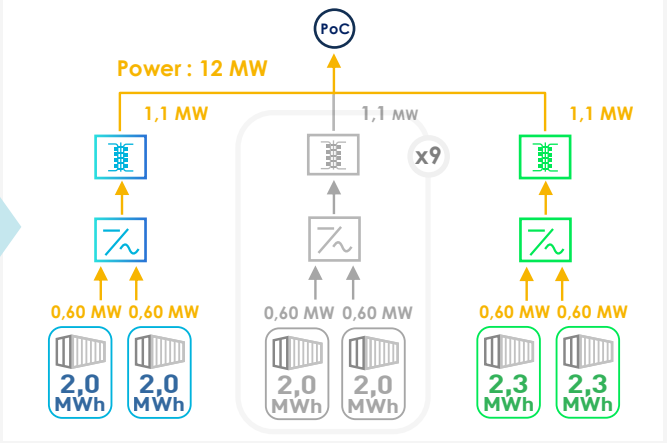
For this case, initial deployment with subsequent augmentation by addition of lineups as an optimized solution

Turning **challenges…**	… into **solutions**
Different currents in new and old lineups	System controller enables to manage power split
Different ageing patterns of old and new batteries	Case specific ageing simulation and dispatch algorithms ensure optimum asset use over life time
Increased number of parallel units to be managed	Scalable PMS allows plug and play extension

Initial set up in year 0



Two containers augmentation in year 5



Energy Y0: 46 MWh_{DC} ▶ **Energy Y4: 40 MWh_{DC}** ▶ **Energy Y5: 45 MWh_{DC}**

Requirement: 36 $MWh_{AC\ at\ PoC}$

Our strengths

In-depth understanding of electrochemistry, mastership of controls, modelling capabilities for designing full storage systems enable optimized string power management, resulting in:

- Homogeneous ageing of paralleled old & new battery units
- High reliability & efficiency
- Maximum availability of system power & storage capacity

You benefit from

- **Optimized initial planning and customized augmentation plan for your energy storage project**
- **Improved economics of your business case**
- **Subsequent technology performance improvements**
- **Future flexibility to adapt project needs over time**
- **Comprehensive consultancy and engineering study advisory to optimize full architecture of the system and project economics**

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Document N° 22140-0521-2 Edition: May 2021
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