

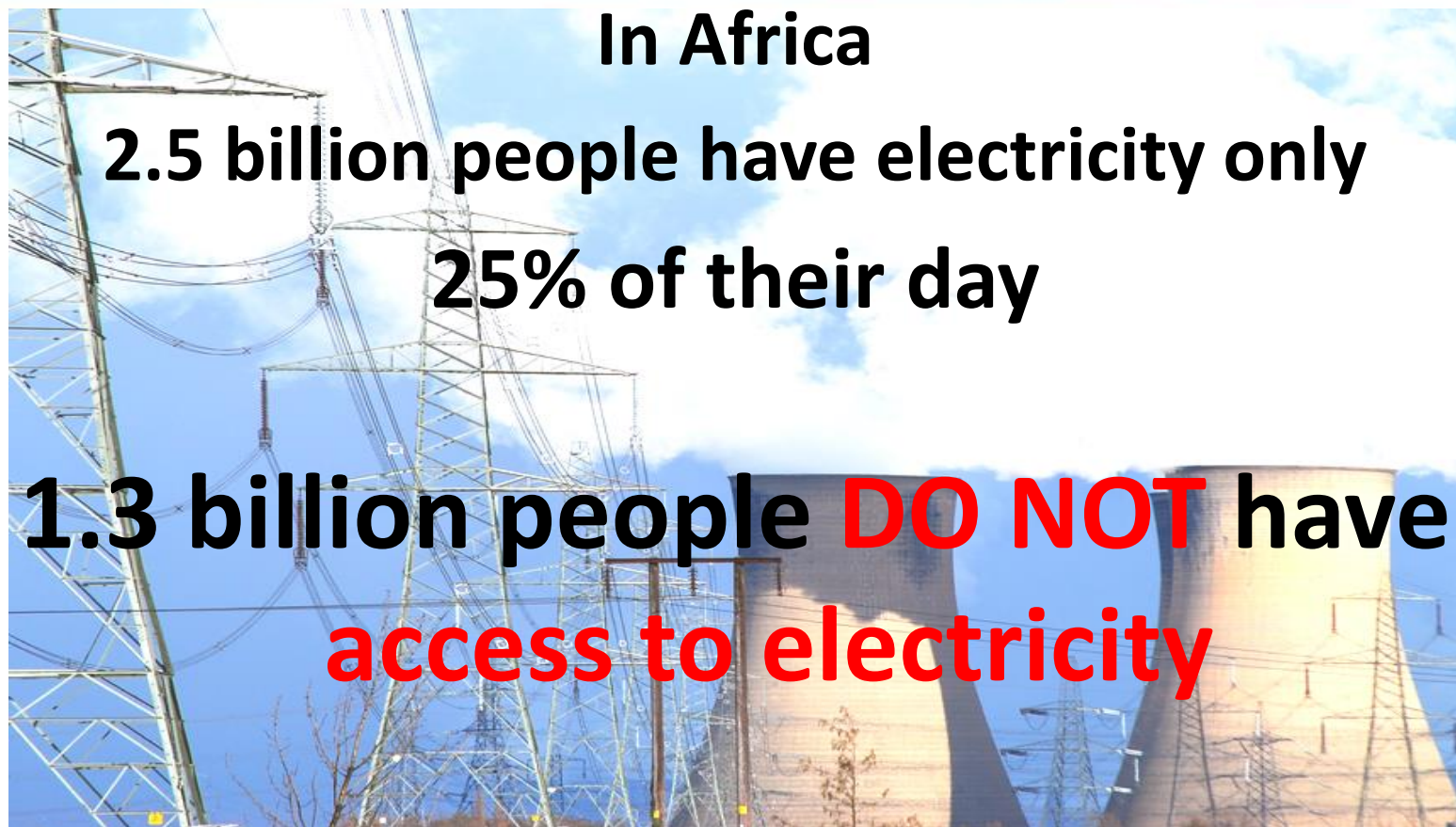


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Switch on Innovation



In Africa

**2.5 billion people have electricity only
25% of their day**

**1.3 billion people DO NOT have
access to electricity**

**The irony is that enough ENERGY falls upon the
earth in ONE HOUR than what the entire
planet uses in a day!**



Mission Statement

Addressing the energy, water supply and cost challenges that medium and large energy users face in the world today.

Value Proposition

LiGE produces Compressed Air Energy Storage Systems that provides large and medium energy users with the ability to store energy at low tariff and utilize the energy at high peak times.

Thus providing a cost-effective, clean, stable power; producing clean water through the process used.



Problem Statement

Medium and Large energy users depend on stable energy and water supply. A disruption in either directly affects their bottom line which impacts on their profitability.

With the power and water shortages in South Africa and Africa, Companies therefore:

- implement generators; and
- battery storage backup systems

Both of which are expensive and inadequate and a short term solution.

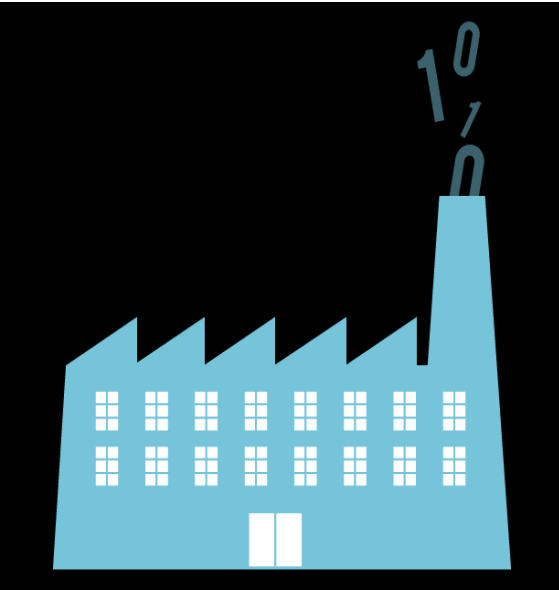


MAKING RENEWABLE ENERGY WON'T MATTER IF WE CAN'T STORE IT

Even an
unlimited
supply of
solar panels
is not
enough
without
good
storage



ARE YOU PAYING TOO MUCH ON YOUR ENERGY BILL!!



WITHOUT



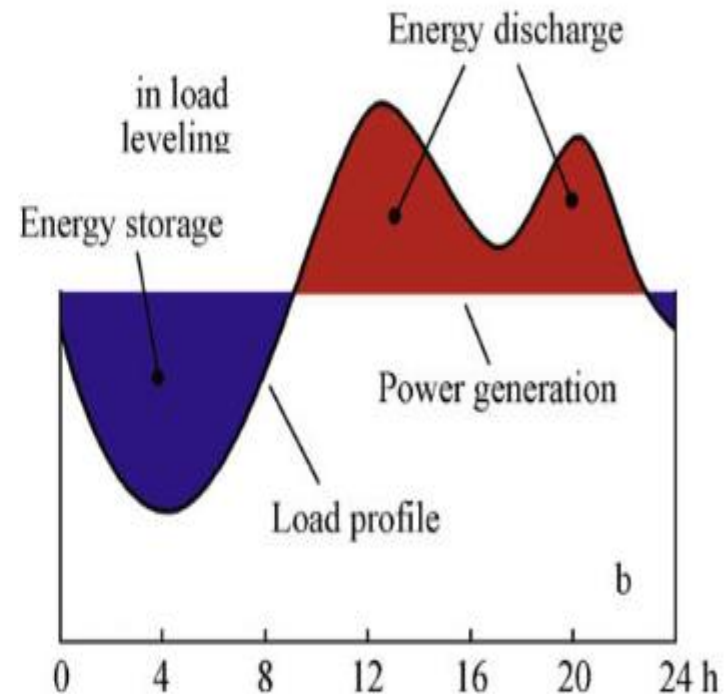
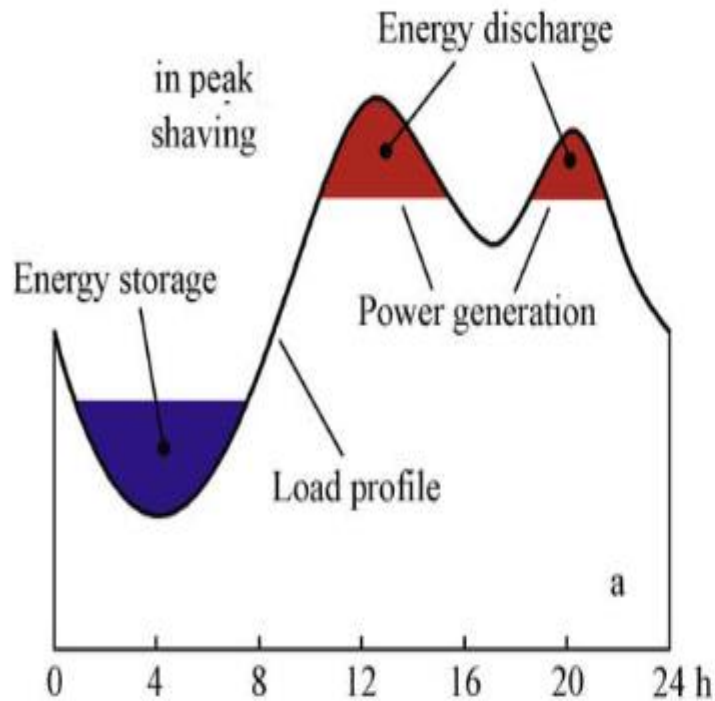
R500,000pm
During
Peak times

WITH



Storing energy
at night
60% saving

PEAK SHAVING / LOAD LEVELING



THE QUBE'S BENEFITS

Why would Customers buy from LiGE!

- Can store and deliver large amounts of energy in a short period
- Ideal for Peak demand/Peak Shaving
- Ideal for Load Levelling
- **Approximately 60% cost saving)**



THE QUBE'S BENEFITS

- Clean water generated during process
- Non-Toxic - No rare earth metals are used
- All the parts are recyclable
- Nothing to landfill
- A 30-year life span
- Low running costs
- Solar PV – must have storage



(5Mwh System – excess of 1,000 litres water per day)



THE QUBE SYSTEMS ARE AVAILABLE IN:

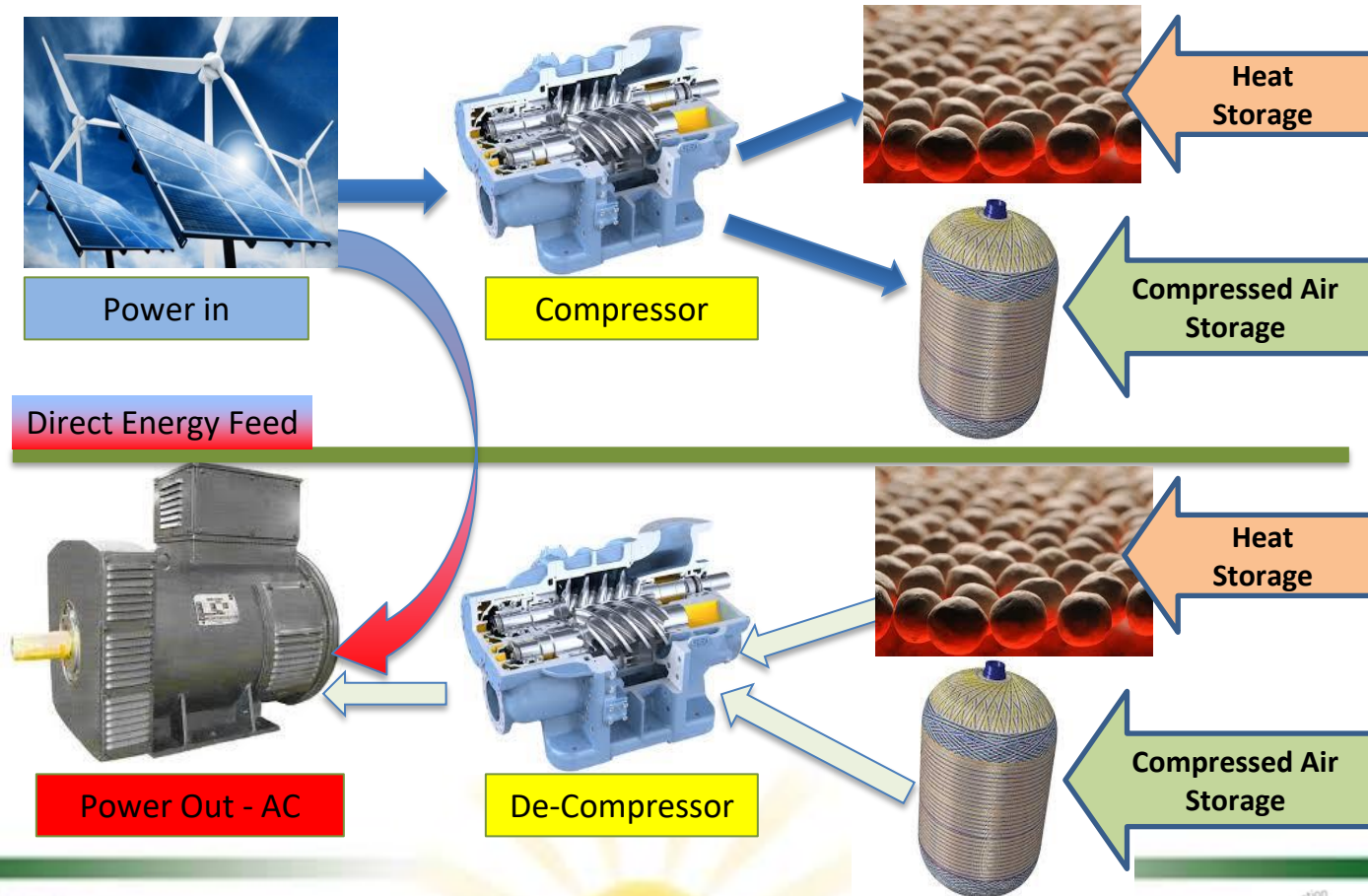
100Kwh, 500Kwh, 1Mwh, 5Mwh, 10Mwh,
20Mwh and 50Mwh Energy Storage Devices

Provide a maintenance contract for 5 years in
the event that any issues arise with the
operation of the devices.



TECHNOLOGY

Our patented method uses a hydraulic process to store energy



FIRST PROTOTYPE – 2013

Confirming the idea could work but might be expensive

We'd need 8,000 litres of oil

16,000 litres of pressure vessels space

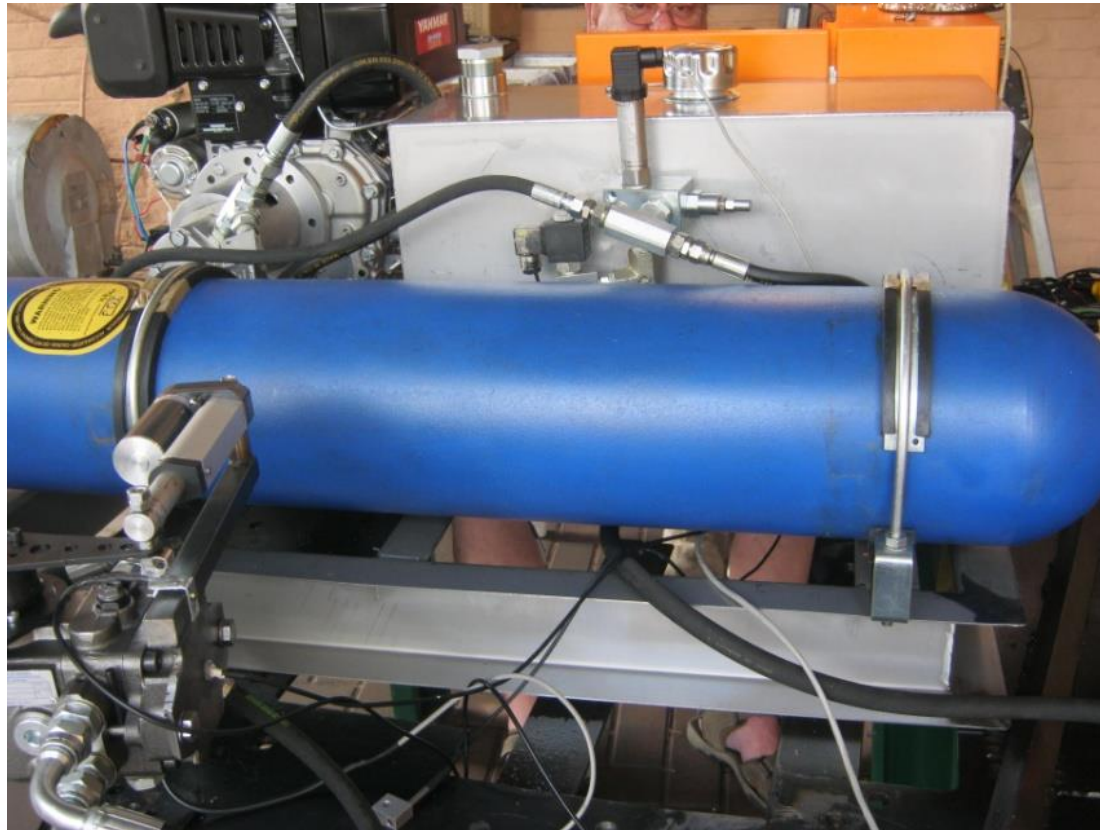


BACK TO THE DRAWING BOARD

**All this just for a 40kwh the cost
would be several million**

SECOND PROTOTYPE - 2014

Functional power test and
validation of pure hydraulic system



THIRD PROTOTYPE 2015 - 2017

Final modification and conversion to CAES resulting in:
Total volume of pressure vessel space - 1000 litres and
Oil - 60 litres for the 40Kwh System
Specialized pressure vessels used: explosion proof,
hybrid composite materials, chemically inert





LiGE

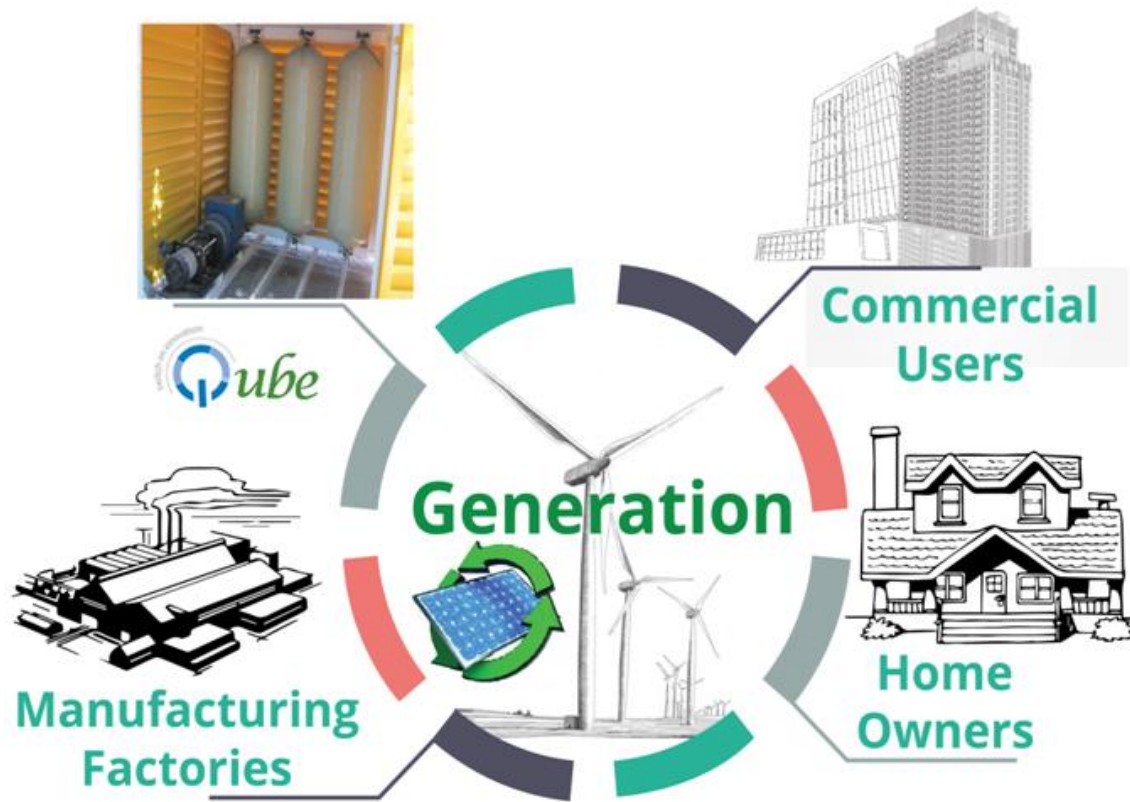
Testing since June 2016

LiGE QUBE – ROI 5-6 YEARS

Life-span	Description	Rand
30 years:	LiGE Qube	0.74 per KWh
5 years:	Battery systems	5.50 per KWh
5 years:	Diesel Generator	11,50 per KWh
Utility:	Business clients	2.50 per KWh



TARGET MARKET



From 40Kwh scalable to 50Mwh

PARTNERS

Strategic partners:

The Innovation Hub – business model development
Serebi – Manufacturing assistance

Supply and Value chain:

Axiom – engineering and unit fabrication
Experian – pressure vessels
Pro-Hydraulics – engineering drive systems



WHAT STAGE IS LiGE CURRENTLY?

Milestones achieved

- Two prototypes during 2012-2014 (funded by LiGE)
- Commercial prototype 2015-2016 (funded by LiGE and TIH R49,900 grant funding)
- Testing unit since June to September 2016
- Efficiencies increased
- Validated the pressure vessel methodology
- Improved power delivery times
- Joined a consortium with a view to marketing



Thank You



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WWF-SA 2015
Climate Solver
Award WINNER

