SYG

STRATEJİK & YENİLİKÇİ & GİRİŞİMLER

IMO CARES

ST KITTS BASSETERRE SEAPORT DECARBONISATION PROJECT

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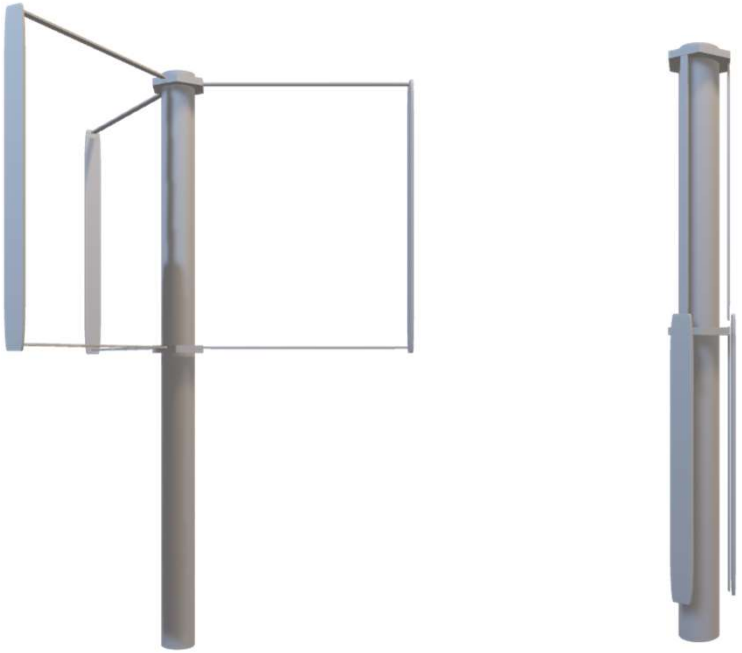
SYG TECH CEO

What is SYG TECH technology?

It is a VAWT type wind turbine with “storm protection” feature,

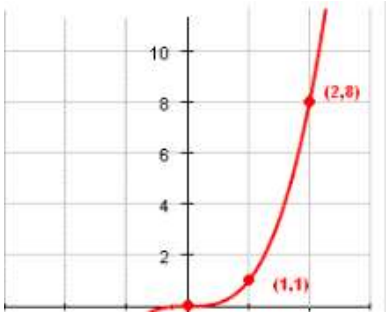
It closes the wings in such a way that the turbine turns into a “pole”.

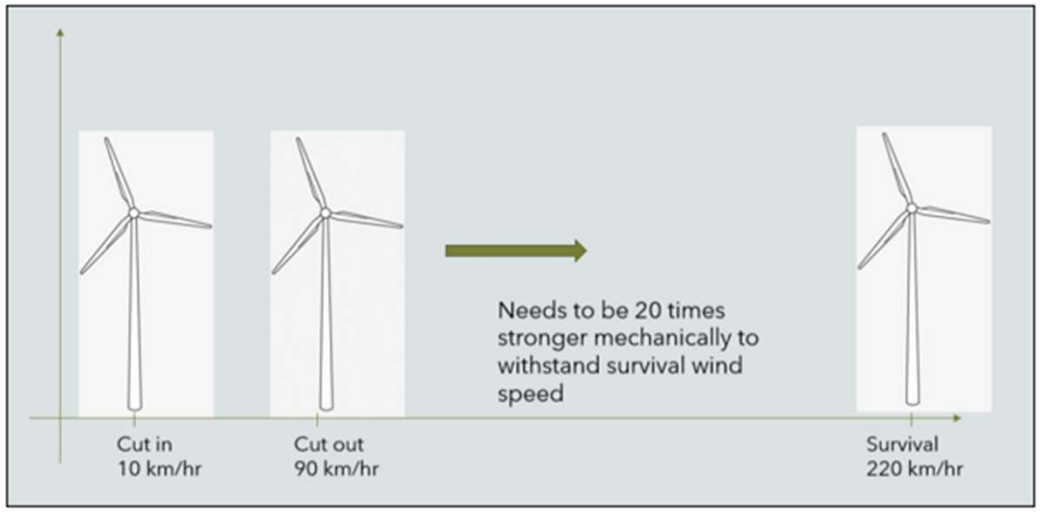


Wind turbines need storm protection!

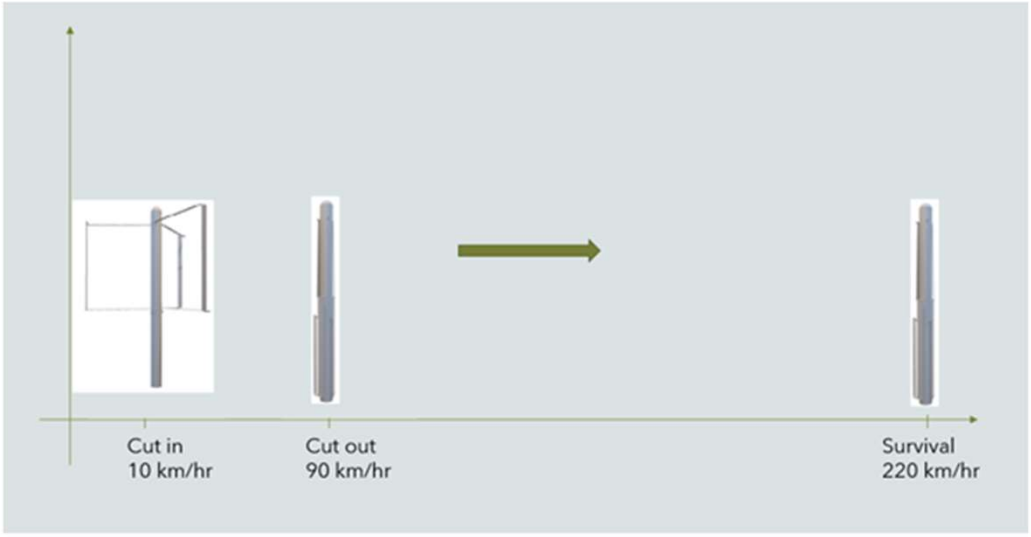
Why is it important?

WIND POWER= K * V^3



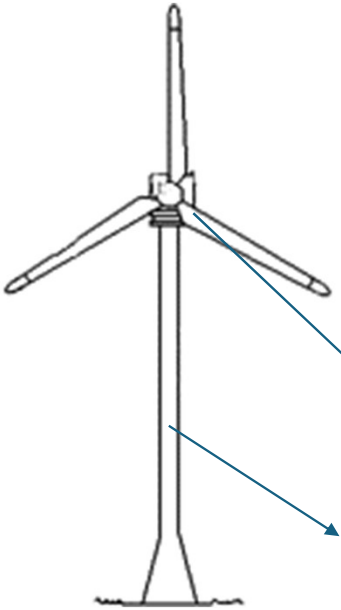


Classical HAWT technology turbine wind profile can not be reduced even if the propellers are feathered for minimum drag. Due to this, the components and foundation has to be built strongly.



New vertical axis turbine with storm protection can fold the turbine like an umbrella during storms. This reduces the profile of the turbine to a "pole". This reduces the structural strength requirements, weight and the cost.

Translates into Reduced Weight



50 KW

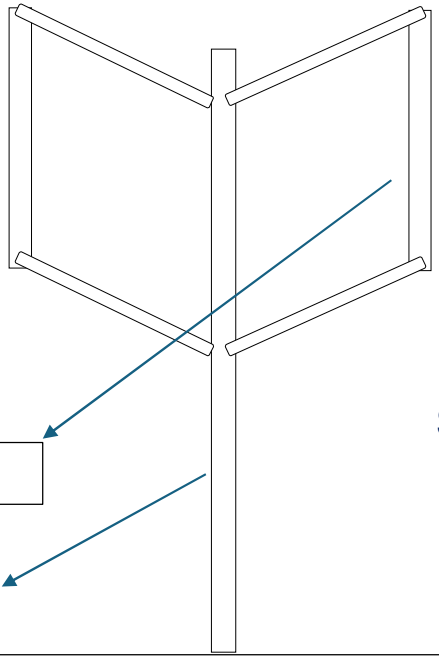
10:1 weight

CLASSICAL

3.7 ton

7.8 ton

Total weight with alternator: **11.5 tons**



SYG TECH

0.5 ton

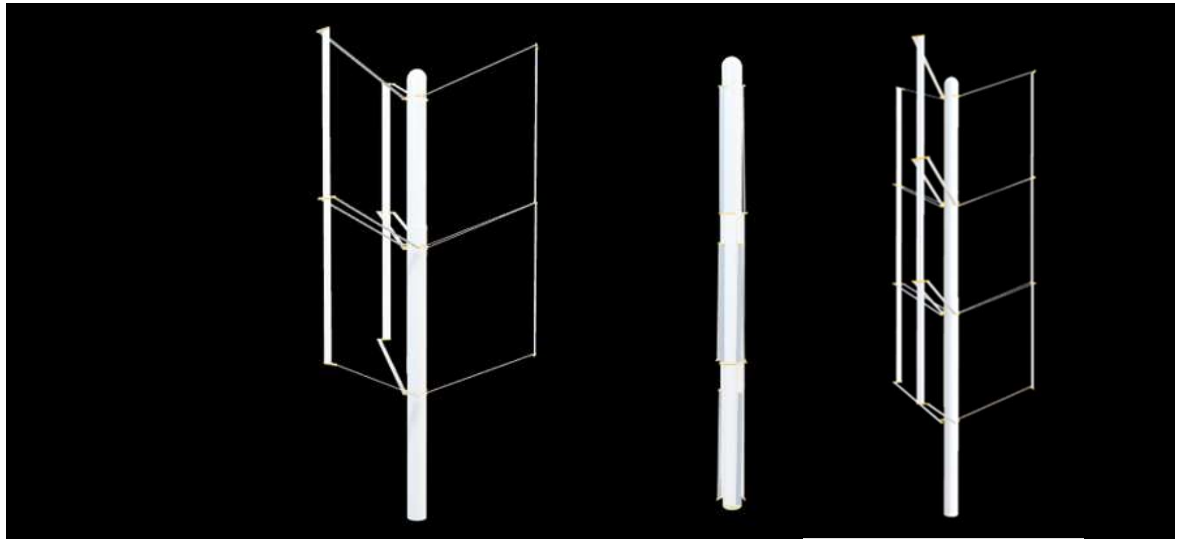
0.9 ton

Total weight with alternator : **1.6 tons**

FLAT FOOTED FOUNDATION

SCREW PILE FOUNDATION

What else?



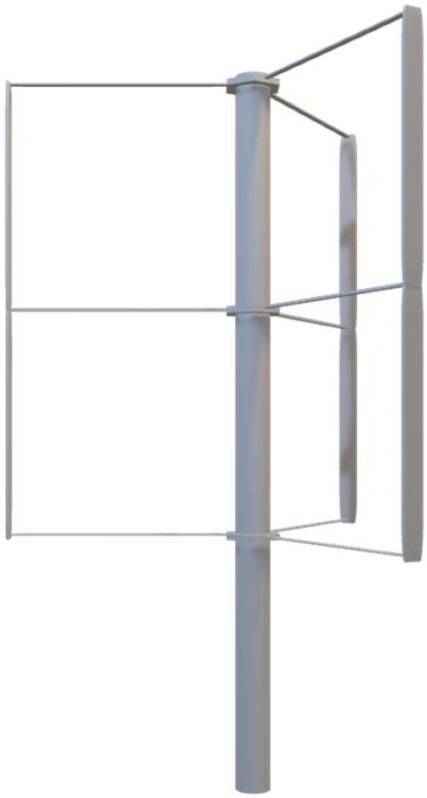
- MODULAR
- SCALABLE
- BIRD FRIENDLY
- QUIET

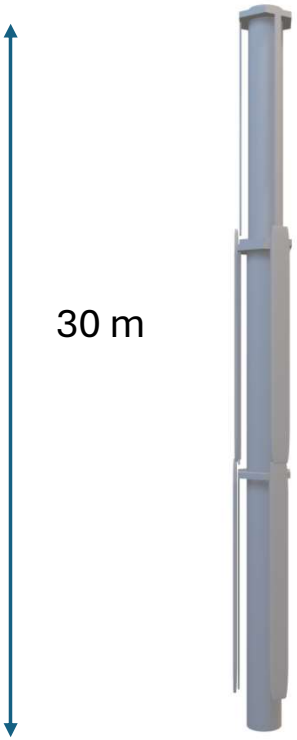
- Easy to transport
- Easy to install
- Neighborhood friendly

How do we use it in St. Kitts Basseterre Harbor project?

- Decarbonizing electrical power use of port facilities,
- Install SYG TECH Wind turbine + Storage near the SACASPA Sea Port HQ

The model and size





14 m

Folded mode

Tilt-down mode

OPERATIONAL

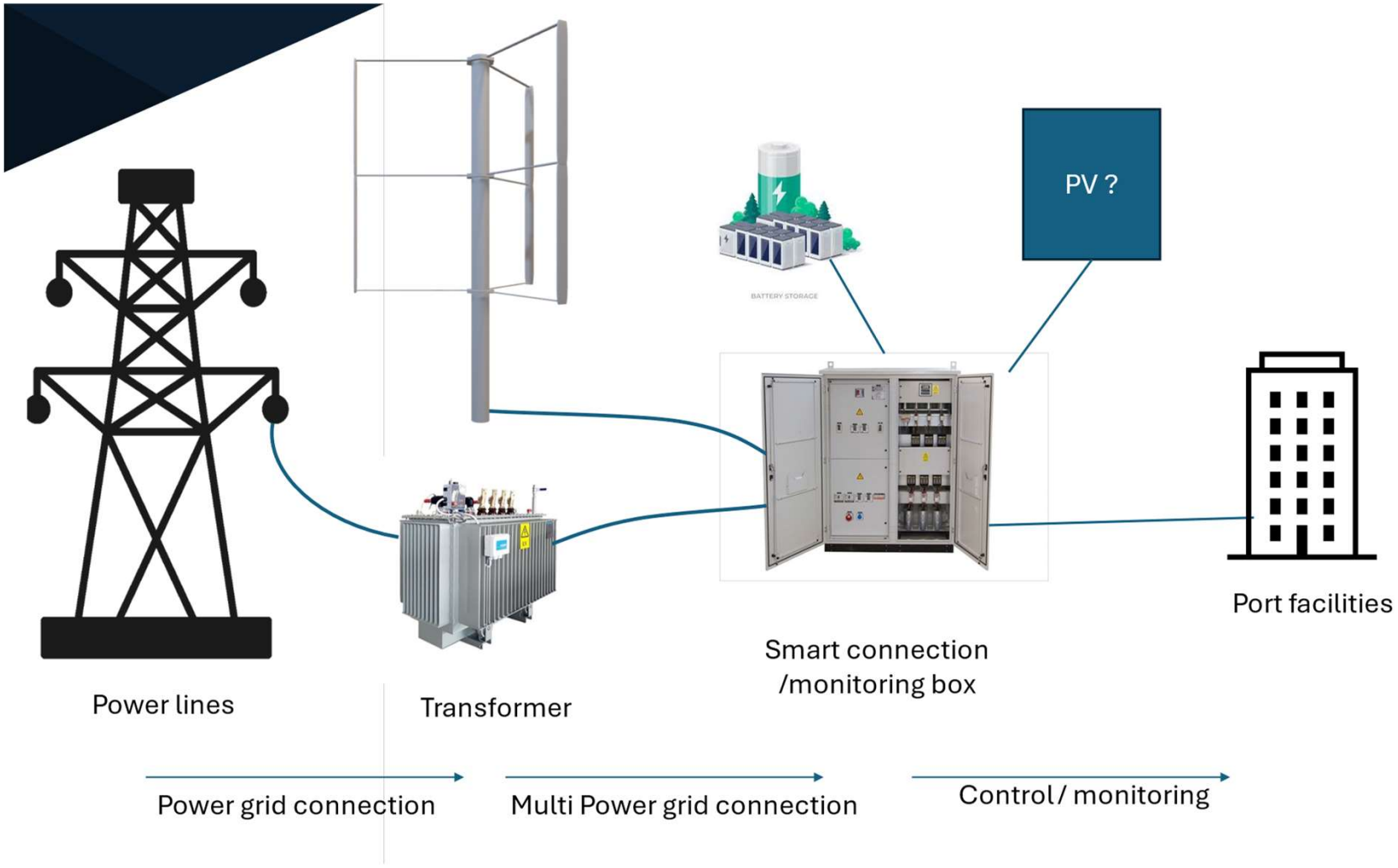
FOLDED MODE

TILT DOWN MODE

3D VIEW IN THE PORT

ALTERNATIVE HILL SITE NEAR PORT

Connection and Monitoring



Decarbonization potential

Option A

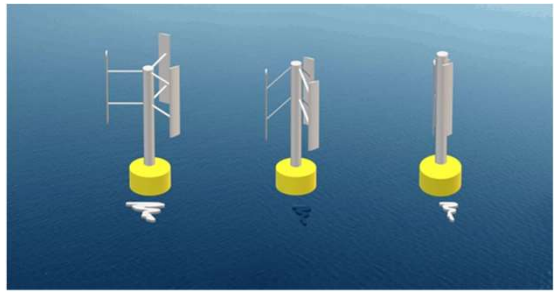
- Wind turbine + storage
- Meet 46% of the power needs of the SCASPA port
- Saves 141 tons of CO2e annually

Option B

- Wind turbine + PV + storage
- Meet 100% need
- Save 307 tons of CO2e
- CARBON NEUTRAL

SCALE-UP POTENTIAL - OFFSHORE

- MW-level Offshore Wind farms on a very innovative stable floating platform,

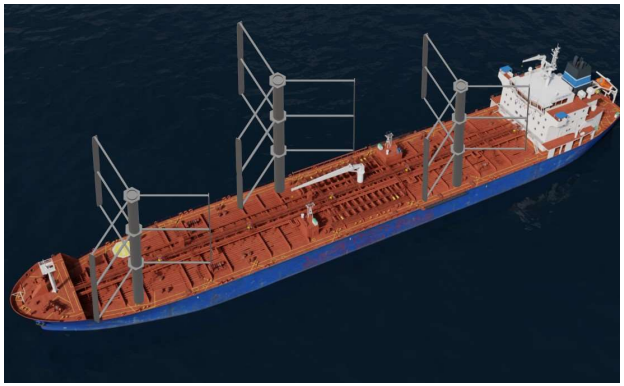


SCALE-UP POTENTIAL - DISTRICT HEATING/COOLING

- Direct wind-to-heat technology for climatization,
- 200 kW to district h/c for 2000 people
- Lower LCOE than Natural gas with a capacity factor 0.26

SCALE-UP POTENTIAL - ON-BOARD POWER GENERATION

- Modern sail,



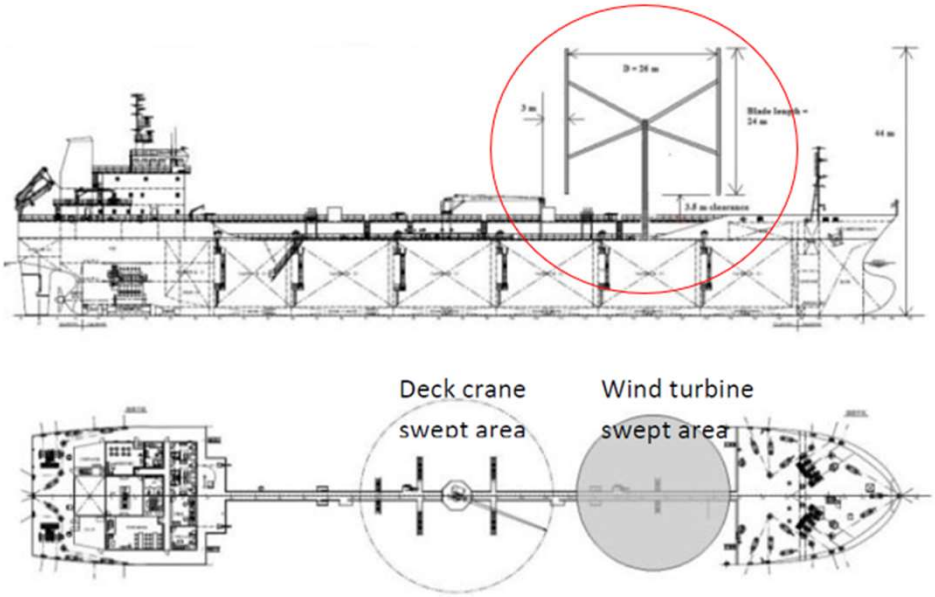


Figure 1: *LOA 144 meter tanker equipped with 200 KW VerticalWind wind turbine resulted in 38.69% savings of 38.69% in fuel oil and a reduction of CO2 emissions under normal seagoing conditions in a one-year study.*

We believe we can make a change

Thank You

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