

## visblue energy in the flow

#### Wind Energy Denmark 2019 1. October 2019

# wind benmark

### the problem and solution



provide wind turbine with own consumption



frequency regulation to the grid operator



transformation of fluctuating energy production into base load



peak shaving – charge the battery when energy prices are low – sell when prices are high





#### the team



Søren Bødker CEO



Anders Bentien Senior technical advisor



Adelio Mendes Senior technical advisor







Morten Madsen R/D engineer

#### the company our offices









#### the technology vanadium redox flow battery





#### our unfair advantage we provide a scalable solution











#### our unfair advantage essentially infinite lifetime





#### Plug in or find another power source

Your battery power is low (6%). If you don't plug in your computer soon, it will hibernate automatically.







#### our unfair advantage the battery has zero risk of exploding



#### **lead battery**





#### li-ion battery

#### our unfair advantage the battery is 99% recyclable







#### customised design



#### standard module













#### indoor



#### container

#### outdoor

#### **EuroWind project**





solar panels installed



2 batteries installed



10 kW and 80 kWh installed







#### **Livø** installation

- 10 people live on the island
  - solar panels installed (30KWh)
  - wind turbine installed (25kW)
  - 3 gensets installed
  - 5kW@40kWh battery installed







#### UN world goals





#### cloud solution



big data in the cloud

service



better use of the produced electricity



#### SUSTAINABLE CITIES AND COMMUNITIES



#### responsible production

#### cobalt

"Human rights activists have alleged, and investigative journalism reported confirmation, that child labor is used in mining cobalt from African artisanal mines"

#### vanadium

"....Many other methods (production) are also in use, in all of which vanadium is produced as a byproduct of other processes"







#### **Responsible Consumption and Climate Action**



buy back option

#### cost reduction of 60%















The most cost-effective solution for energy storage Our solution is totally safe and 100% recyclable VisBlue has the right team to do it We can boost the transition for renewable energy usage



#### Thank you!