

# Company identity card



Company Name: Blue Power Synergy

Address:

Seat: Nieuwstraat 12, 8450 Bredene

Construction yard: Oudenburgsesteenweg 31, hangar C16  
Ostend

Website: [www.blue-power-synergy.com](http://www.blue-power-synergy.com)

Creation date : 19/09/2016

Legal structure : Company ( BVBA)

Workforce: 1 fixed / 2 working founders / Interim 1-4

Share capital: Timmerman founders 83,3% Minority holders 16,7%

## Company value proposition:

Development, commercialisation, sale , services and support on renewable energy, energy storage and water purification systems.

Our specialisation and expertise lies on the synergy of the several above mentioned systems, to come to a best fit solution for our clients needs.

## Key figures:

	R&D + Demo units built: investment period			Start Sales
	2017	2018	2019	2020
Turnover	-1 232	-110 751	-231 782	+ 600 000 estimated (contract in progress of 700k)
Net profit	-2 300	-137 148	- 256 363	
Equity				
Workforce	0,5 + 2	0,5 + 3 + 1	0,5 + 2 + 1	1 + 2 + 2

Market : Energy & Water

Definition

Size : Too big for young company; need partners

Trend : Basic needs = always increasing market



# Blue Power Synergy

## Renewable Synergy:

### Energy generation



### Energy Storage



### Clean water





# Team

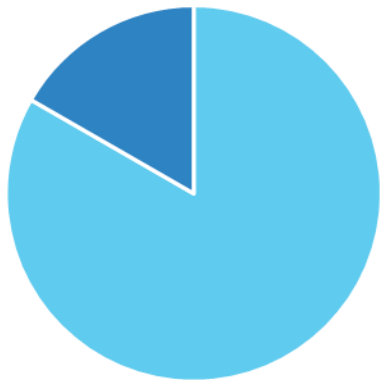
- Ing. Timmerman René CEO 37 years Project manager & committee president;  
Tractebel Engineering/ Engie
- Ing. Timmerman Yvon PM 10 years Project manager shipbuilding & renewables
- Ing. Goetghebeur Lien ING 5 years Engineer/ Master in food processing industry
- Casier MJ ADM +40 years entrepreneur



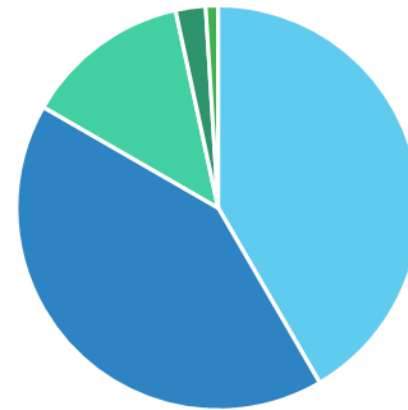


# Sharehold

- ▶ Timmerman René 41,6%
- ▶ Timmerman Yvon 41,7%
- ▶ Minority stakehold by 'silent' partners 16,7% (13,3 + 2,4 + 1 )



■ Timmerman Family  
■ Silent' partners



■ TR ■ TY ■ KDR ■ JH ■ CW





# The challenges



Pollution



Climate risk



Draught -



Logistics



Flooding & Fuel Theft



Draught or salinity - Agri



# Solution

Renewable based energy production, energy storage and clean water production systems for on the spot deployment.

- ▶ Personal approach: solution for client's specific case
  - ▶ Best fit based on local potential sources for energy or water
  - ▶ Innovative or classic systems based on preferences and local possibilities
  - ▶ Off-grid, micro-grid or grid connected
- 
- ▶ Our broad expertise in the whole range of renewable production, storage and water production makes us a one stop shop, possible of solving the entire problem, not just a part of it, in almost any location in the world. Our competitors usually know only their system, resolve only part of the issue, resulting in only moving the problem, not solving it.



# Products & Services

## Energy Production

### ▶ Innovative Systems

- ▶ Enreau
- ▶ Energy Container
- ▶ Tidal Energy
- ▶ Wave Energy

### ▶ Classic Systems

- ▶ Solar array
  - ▶ Land based
  - ▶ Floating
- ▶ Small to Medium sized Windmills
- ▶ Small Hydro-electric plants

*“Our Engineers start from your issues and will propose the best fit solution for you, taking into account available energy resources & local situation”*



# Products & Services

## Energy Storage

- ▶ Innovative Systems
  - ▶ Thermal energy Storage ; PCM based non Nitrates
- ▶ Classic Systems
  - ▶ Battery Storage

## Clean Water

- ▶ Innovative Systems
  - ▶ Enreau
- ▶ Classic Systems
  - ▶ Water purification container & stations

## Other products

- ▶ Dynamic Piles (Anchorage)
- ▶ Floating structures & Pontoon

*“Energy Storage is key to stable grid operation”*





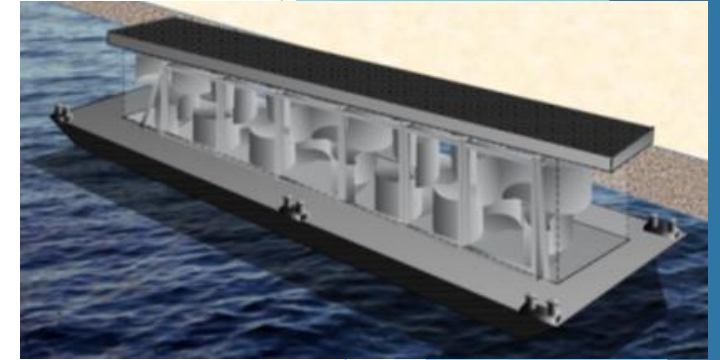
# Energy Production

## The All-in-1: Enreau

- ✓ Synergy between wind & solar
- ✓ Energy storage system
- ✓ Clean water delivery



40' Renewable fully Independent Energy / clean water facility



### Specifications:

- Average production: 150 to 300 KWh/day
- When equipped with desalination unit: 30m<sup>3</sup>/day of clean water
- For agriculture: 150 -200m<sup>3</sup>/day



*The Enreau unit has been attributed the “Solar Impulse Efficient Solution” Label and thereby joining the #1000solutions challenge*



- 6 Vertical wind turbines ( approximately 18Kw)
- 96m<sup>2</sup> of solar panels ( approximately 18Kw)
- Battery storage ( 48 Kwh - 96 Kwh)





# Energy Production

## Energy Container

- ▶ Combi: Wind + Solar + Storage
- ▶ Solar + Storage
  - ▶ 1 Container with E-storage inside and solar pannel coverage
    - ▶ Off-grid or micro grid
    - ▶ Grid connected
  - ▶ Charging station Electric Vehicles
    - ▶ Increased battery storage
    - ▶ 1 Container
    - ▶ 4 or 6 charging piles







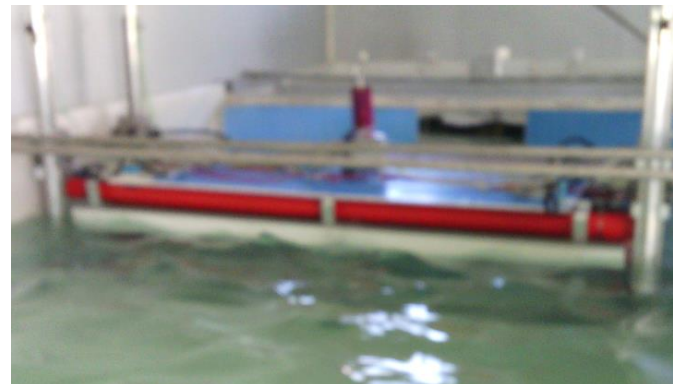
# Energy Production

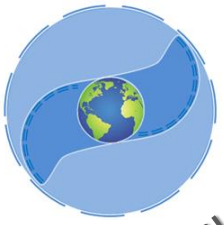
## Pure Blue Energy

► Tidal Energy



► Wave Energy

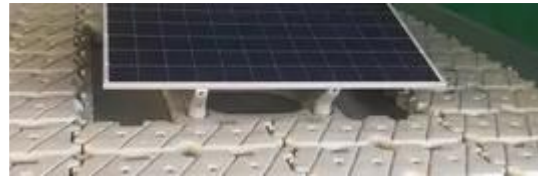




Classics

# Energy Production

- ▶ Solar array
  - ▶ Land based
  - ▶ Floating
    - ▶ Low on water
    - ▶ High on water
- ▶ Small to Medium sized Windmills
- ▶ Small Hydro-electric plants







# Energy Storage

## ▶ Innovative Systems

### ▶ Thermal energy Storage ; PCM based non Nitrates

- ▶ Safe system
- ▶ Environmentally responsible
- ▶ No desintegration
- ▶ 50Kwh -several MW
- ▶ Temperature range: 180° - 520°C



## ▶ Classic Systems

### ▶ Battery Storage





# Clean Water

- ▶ Purification for Drinking Quality
- ▶ Purification for Agricultural Application
- ▶ Purification for Processing Application

- ▶ Innovative Systems

- ▶ Enreau

- ▶ Classic Systems

- ▶ Water purification container & stations
    - ▶ Desalination
    - ▶ Purification contaminated water

Optional: Bottling Station





# Applications:

- Transition to renewables
- Power and/or water supply on the spot
- Places where there is no main power or grid connection
- Regions with water scarcity/issues
- Clean energy supply
- Clean drinking water supply
- Agricultural water supply
- Grid balancing
- ...





# About own innovative systems & developments

- ▶ Enreau: 1x 40' full scale pilot built with small desalination demo unit; 2018  
6 vertical rotors, 12,4Kwh PV installation, 37Kwh Energy Storage  
1x 40' full scale demo built without water production; 2019  
6 vertical rotors, 18 Kwh PV installation, 74 Kwh Energy Storage  
2x commercial 40' units with drinkwater production in construction 2020  
6 vertical rotors, 18 Kwh PV installation, 48 Kwh Energy Storage  
30m<sup>3</sup>drinkwater/day
- ▶ Thermal Energy Storage: PCM non nitrates      Prototype tested, next step  
commercial pilot installation
- ▶ Wave energy: Wave tank tests done, Next steps: prototype construction







# The Market: Energy

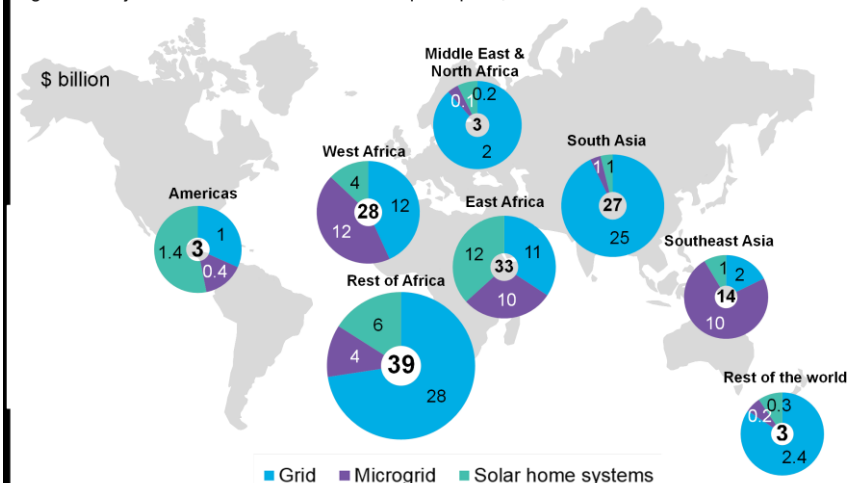


- Off grid & micro grid (2013 200M\$/Year rising to 12B\$/Year by 2030)  
20% of the world population has no access to electricity  
90% of the new energy demand comes from emerging economies
- Unreliable grids (Example Brazil: 1472M\$ in 2017)
- Construction yards (genset market: 17,35B\$ in 2017 rising above 20 B\$ by 2020)
- Renewable energy in ports (500 to 750M€/Year)

*Around 10 000 Islands are dependant on fossil fuels*



Figure 3: Projected household electrification capital spend, base case scenario 2018-30



Source: Bloomberg NEF. Note: East Africa refers to the six countries of the East African Community. Numbers may not add up due to rounding.





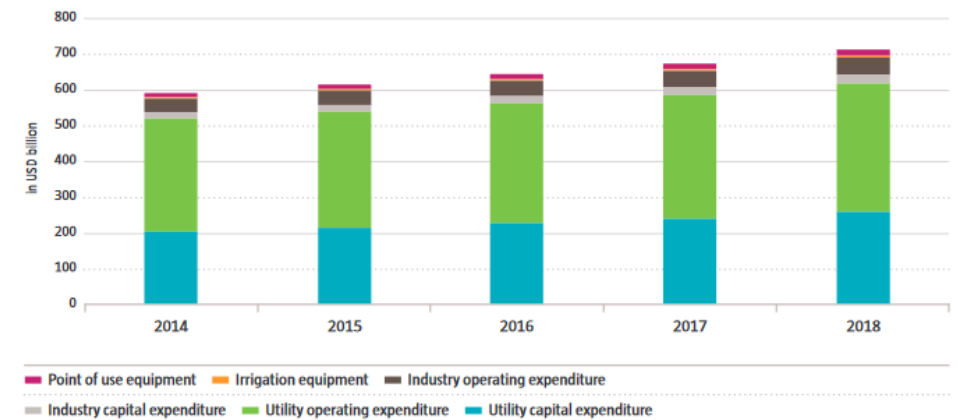
# The Market: Water

***11% of the world population has no access to clean water supply***

- 1. Water treatment companies off-grid & micro-grid
- 2. NGO's & aid organizations
- 3. Governments
- 4. Emergency response teams & organizations:
- 5. Military logistics departments:  
    *Safe and secure water supply without sound*
- 6. Backup system



Figure 17: Global water market



Source: GWI, RobecoSAM

***Market opportunities related to the water sector are expected to reach USD 1 trillion by 2025***

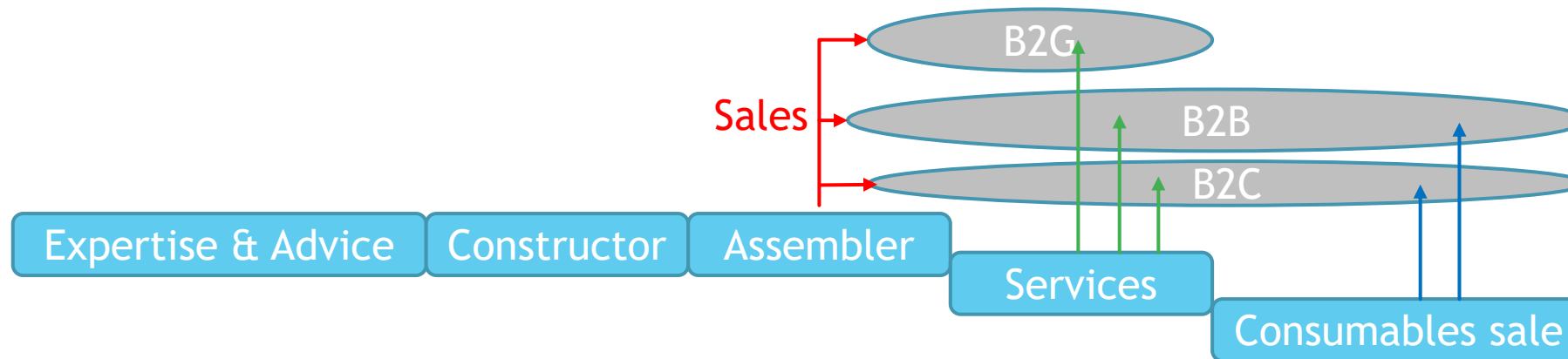




# The MARKET

- ▶ Positioning in the value chain:

- \* Expert (Service of best fit solution)
- \* Sales of units (infrastructure supplier, producer & assembler; details slide 25)
- \* Services contractor for maintenance and operational support
- \* Once company has enough own funds:
  - Sales of energy & water from own units
  - Energy brokerage with own energy power banks



- ▶ Regulatory constraints:

- \* Container based models have no infrastructure permits needed and have strategic advantage over competitor's fixed structures.



# SEGMENTATION - POSITIONING



- ▶ Target audiences:

- ▶ For Sales: Governments, communities, companies & big land owners.
- ▶ For energy & water: Companies, communities & general population

- ▶ Customer benefits:

Government: Responsible for energy & water availability, reliable source, good ROI, no dependency on fuel supply/availability.

Communities: Need for energy & water for population, reliable source, good ROI, no dependency on fuel supply/availability.

Companies: Need for energy & water for production, reliable source, good ROI, no dependency on fuel supply/availability.

Big land owners/ resorts: Need for energy & water for own consumption, reliable source, good ROI, no dependency on fuel supply/availability.



# COMPETITION

Competitor	Cleantech	Safe	Availability of resource	Price/ ROI	Remarks
PV installers	YES	YES	Good availability daytime, Needs storage system for 24/7	ROI 5-10 years	Rarely knows systems outside PV scope
Small scale wind	YES	YES	Good availability in some regions, Needs storage system for 24/7	ROI 7-15 years	Rarely knows systems outside wind scope
Lithium powerbank	NO: Rare resource	NO	No power generation medium, storage system	ROI NA (2 to 3x to expensive for a ROI)	Combustion risk in hot regions; Not suited for development regions
Diesel genset	NO: FUEL (CO2+NOX)	YES	In developed regions YES, Developing regions: Problematic	Low base cost, Expensive fuel	Emission norms restrictions
LNG genset	NO ; LNG= greenhouse gas; CO2 + NOX	NO	In developed regions +/-, Developing regions: Problematic	+/- base cost, +/- cost fuel	Gas as fuel dangers in hot regions, Not suited for development regions
H <sup>2</sup> genset	NO ; H <sup>2</sup> as fuel: more NOX than diesel per Kwh ;	NO	In developed regions: Rare, Developing regions: None	ROI NA High base cost High fuel cost (system 6x too expensive for a ROI)	Joule Thompson ignition effect, extreme volatility & high detonation risks,
H <sup>2</sup> cell	YES	YES	In developed regions: YES, Developing regions: Rare	ROI 7-15 years	Not suited for development regions
BPS Systems	YES	YES	YES, systems adapted to client needs	ROI 4-15 years depending system	1 stop expert for Energy, storage & clean water



# COMPETITIVE ADVANTAGES

- ▶ Long-lasting and defensible advantages over the competition
  - ▶ Technology:
    - \* As we continuously innovate and have our experts knowledge ahead of others, we can deliver and propose better suitable systems to our clients.
    - \* Own technologies, all in 1 systems and improvements on classics for higher efficiency and faster ROI
  - ▶ Business:
    - \* Cleantech energy production, energy storage & clean water markets are in full expansion and will keep growing as the need will keep increasing.
    - \* Basic necessities market = Always need
    - \* Sale of water & energy from own units in future: re-occurring business model of basic necessity







## ECONOMIC MODEL / INCOME MODEL



- ▶ Present your model to generate income

### Engineering project service:

Assessment of site: Expenses +15% + Expert @ 80-100€/h

### Units:

20% margin today; as production costs lower 25-30% margin

### Water & Energy from own units:

ROI 3-5 years; Life expectancy system: 15 years renewal of electronics & PV;

Main structure, wind blades and some large components: 30+ years

In some model regions bottled water as sales product from own stations ROI: 2years

### Servicing contracts:

On components: 10-15%

Remote monitoring: 10 000€/year & site (20% margin) + electronics 5000€ (1x7-10years) 10%margin

Intervention on spot: expenses 10% + rate 100€/h



# INDUSTRIALIZATION

- ▶ Describe your industrial strategy (internalized, externalized, etc.)
- ▶ First units were fully built inhouse in EU

Current units have some components built inhouse as the rotor & pontoon modules, most components are built by specialized subcontractors. This allowed cost to drop, especially some of the components now built outside EU. Assembly and finish is done inhouse. For future production as the company grows the plan would be to assemble in local company hubs per continent and have most components built at very competitive prices.

Once the company is big enough to own a construction hub in low-cost countries this will give back full control of production chain and result in more profit.

- ▶ Delivery times of components vary with holidays and “pandemic situations”.  
The current cycle of building an Enreau is 4-5 Months; Multiple can be built in parallel lines. If all components built outhouse, inhouse assembly can be done in less than a month per unit per assembly line.





# SALES CHANNELS

- ▶ We just started our commercialisation in 2020  
The networks used:
  - \* Professional networks & events (FIT, blue cluster, G-STIC, ...)
  - \* Professional exhibitions (National and international)
  - \* Direct contacts
  - \* Indirect contacts through suppliers with existing networks (Engie, Members of Chamber of commerce, General electric,.. )
- ▶ We are currently looking for partners with international network

In our funding need we foresee the hire of a sales expert.





# FINANCIAL INFORMATION

Medium case	2021	2022	2023	2024	2025
Units Sales	10	20	35	75	100
Turnover	1,4 Million	3 Million	6 Million	12 M	16 M
Extra jobs	+5	+5	+ 7	+12	+8
Extra jobs (in euro)	220 000	280 000	310 000	540 000	420 000
Total jobs	5	10	17	29	37
Total jobs (in euro)	220 000	500 000	810 000	1 350 000	1 770 000
Profit before investment (€)	300 000	620 000	1 200 000	2 650 000	4 000 000
Investments (in euro)	690 000	410 000	690 000	1 500 000	3 000 000
Regional fund support	450 000	225 000	300 000	500 000	1 000 000
Marketing	100 000	100 000	100 000	200 000	200 000
General costs	100 000	100 000	100 000	250 000	250 000
Net Profit (€)	-140 000	235 000	610 000	1 200 000	1 550 000
Cumulated +/-		95 000	705 000	1 905 000	3 455 000
Holding worth (own units)	830 000	1 320 000	2 150 000	3 950 000	7 550 000



# FUNDING

- ▶ In our R&D fase (2016-2019) We secured 625 000 € of Subsidies for the development of the enreau & thermal energy storage system. About equal ammount of private funds from Timmerman founders were allocated.
- ▶ For our growth we are looking for:

Usage		Year 1	Year 2	Year 3	Total
EU department	Work capital	100 000 €	-	-	100 000 €
	Warehouse rent	25 000 €	25 000 €	25 000 €	75 000 €
	Staff	60 000 €	60 000 €	60 000 €	180 000 €
	General costs	25 000 €	25 000 €	25 000 €	75 000 €
OC department	Work capital	100 000 €	-	-	100 000 €
	Warehouse rent	25 000 €	25 000 €	25 000 €	75 000 €
	Staff	50 000 €	50 000 €	50 000 €	150 000 €
	General costs	25 000 €	25 000 €	25 000 €	75 000 €
Overall sales	Sales manager + budget	100 000 €	100 000 €	100 000 €	300 000 €
Total Costs					1 350 000 €
Own units	Construction costs	690 000 €	410 000 €		1 100 000 €
Total Investment					2 450 000 €

- ▶ For the construction of own units: Some of the units would be for developing regions; In those cases funds for construction can be obtained from specialized regional development funds (up to 70% of investment)





# PROTECTION OF INNOVATION - INTELLECTUAL PROPERTY

For unpatented developments studies are done with NDA's in place with every partner of knowledge institute used.

Enreau has patents in place:

- ▶ Holders: Timmerman René & Yvon
- ▶ What element (s) does the patent (s) relate to?

We use both technical patent as design patent to maximize protection against copy





## CONCLUSION

- ▶ The market & possibilities are huge, too big for any young innovative company to exploit it on its own, partnerships are needed for good market penetration.
- ▶ Why Industria? As John Cockerill group and their partners represent a large group with an existing network it would be an ideal partner. Our innovations, expertise's and off grid/microgrid market targeting complements the branches of the group and makes it a perfect match. The group sales network and industrial connections would make it possible to quickly expand the company and achieve a great market segment.





## Contact:

Project Manager & Founding partner:

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