

## Midsized wind turbines for mini grids and islands

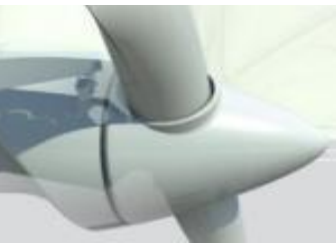
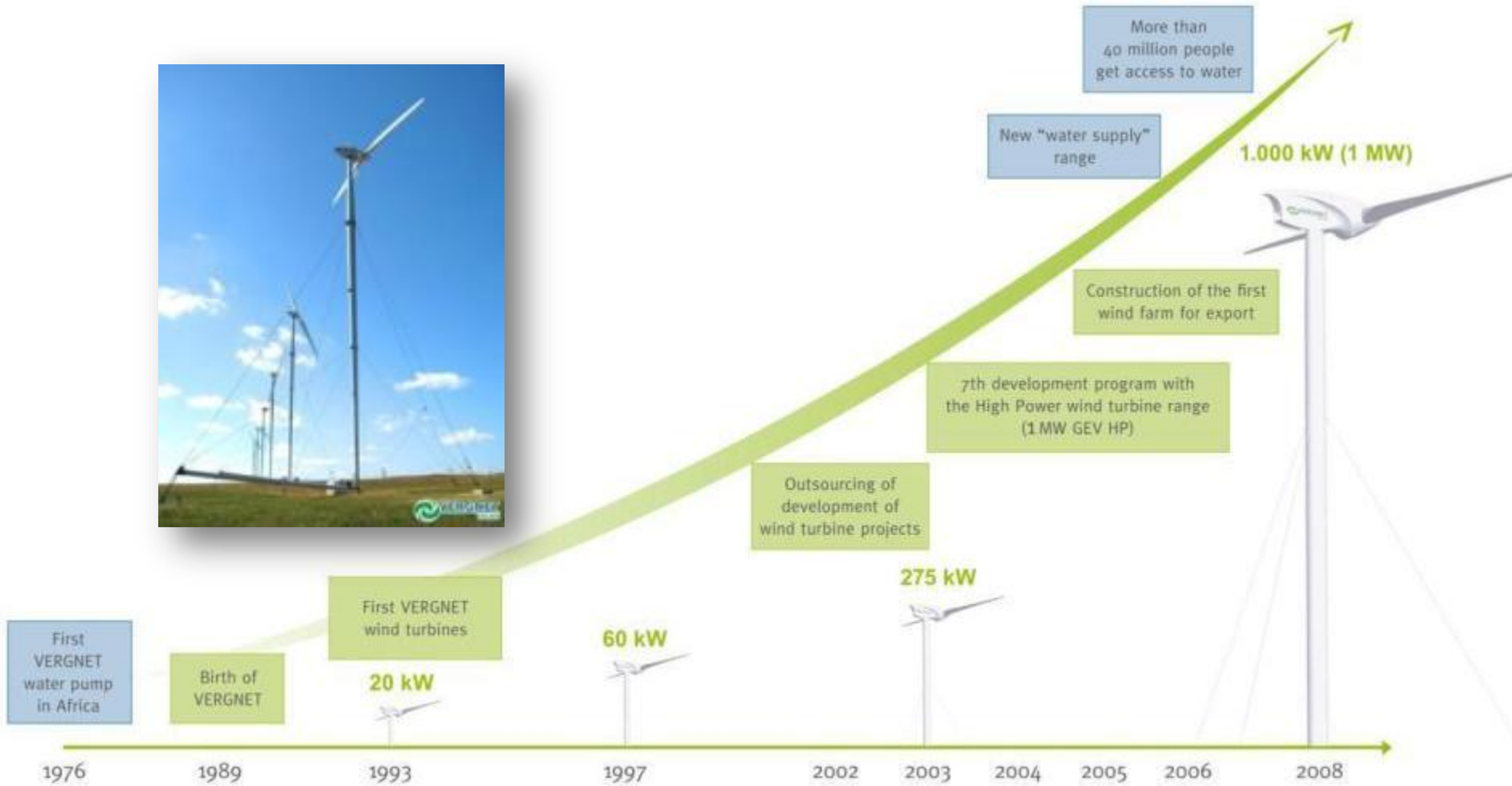
Wind with a vision



**Renewables and Islands Global Summit**

**Malta – September 2012**

# Company history



*The design of our wind turbines is  
inspired by islands!*

Wind with a vision

# Our presence in Islands – Carribean



From The Guadeloupe to Cuba, Nevis, Bahamas...  
we hope Dominican Republic, Jamaica...





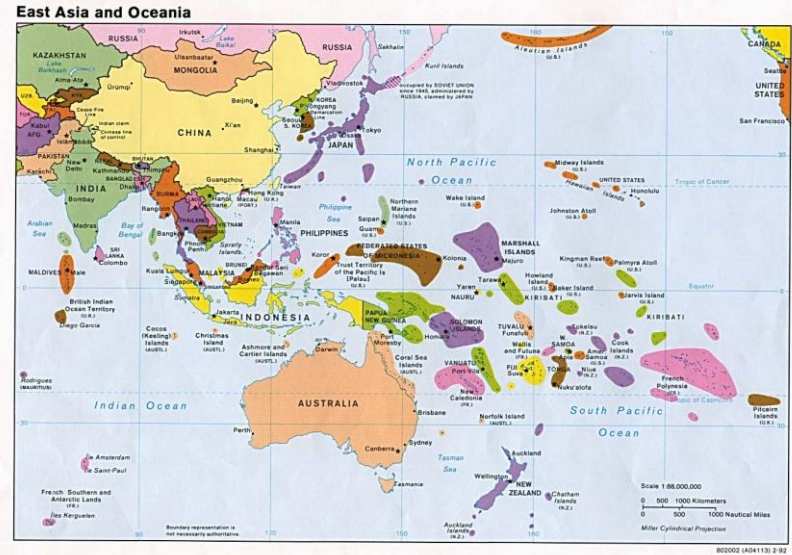
# Our presence in Islands – Pacific



From New Caledonia... to Fiji, Vanuatu, Australia, Japan... we hope soon Tonga, Guam...

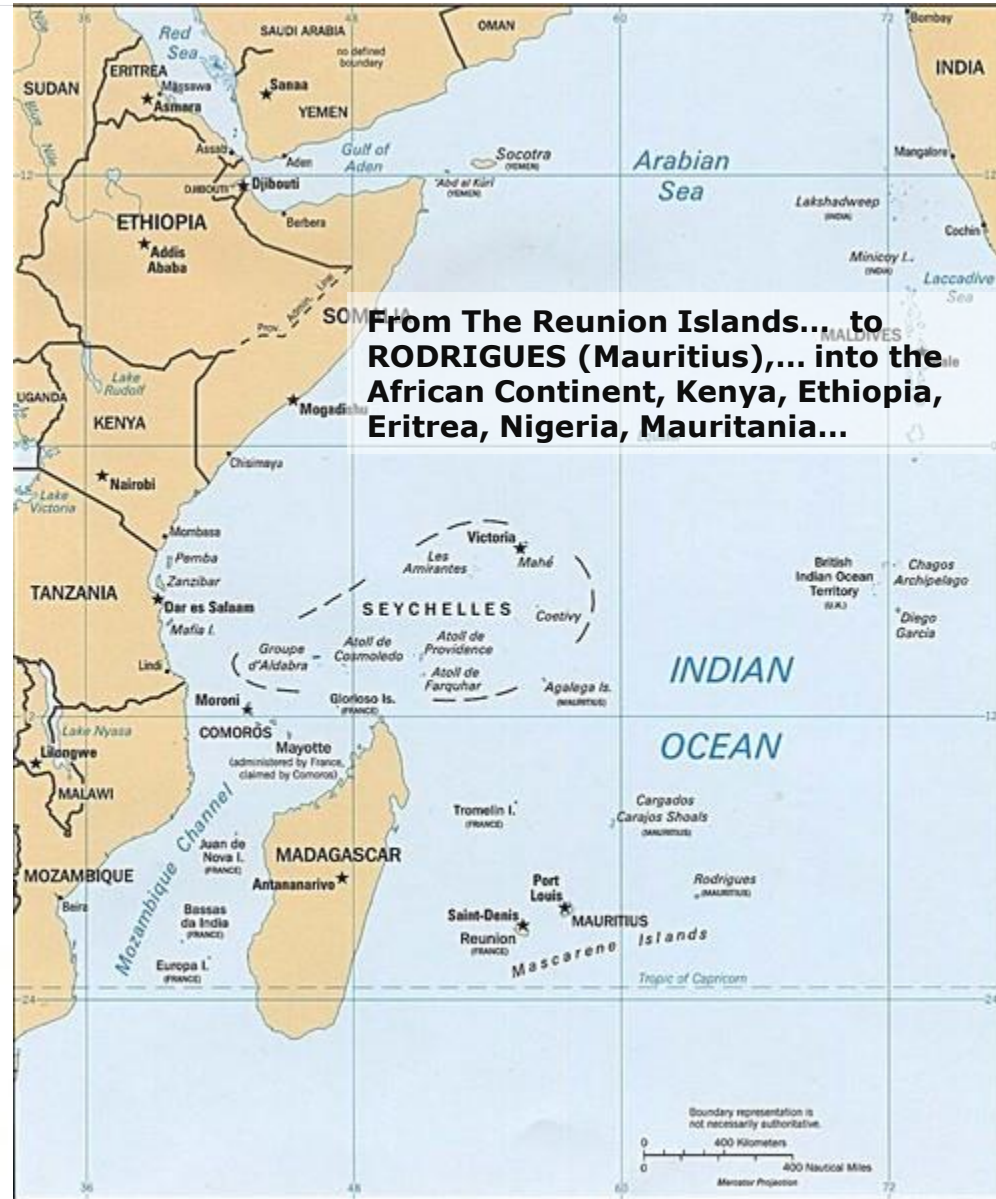


11 GEV MP Devil's Point Wind Farm - Vanuatu





# Our presence in Islands – Indian ocean



From The Reunion Islands... to RODRIGUES (Mauritius),... into the African Continent, Kenya, Ethiopia, Eritrea, Nigeria, Mauritania...



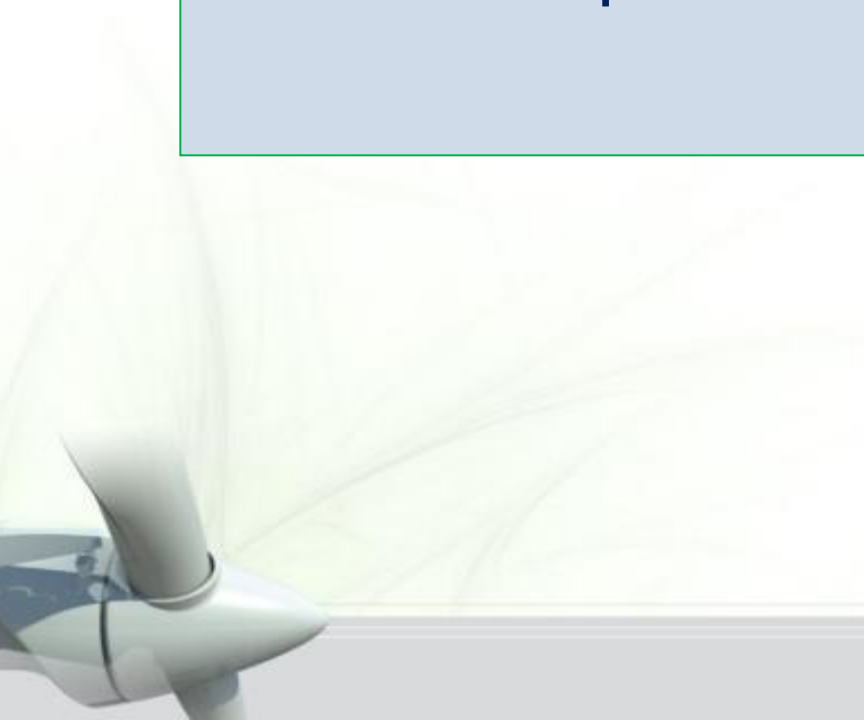
*What can you (political responsible) do for both of us?*

Wind with a vision

# Go into it!

## Lack of credible information concerning the wind resource.

- A resolution should be taken to make an effort on it:
  - It'll help to plan and take good decisions.
  - It make it possible de develop project faster.





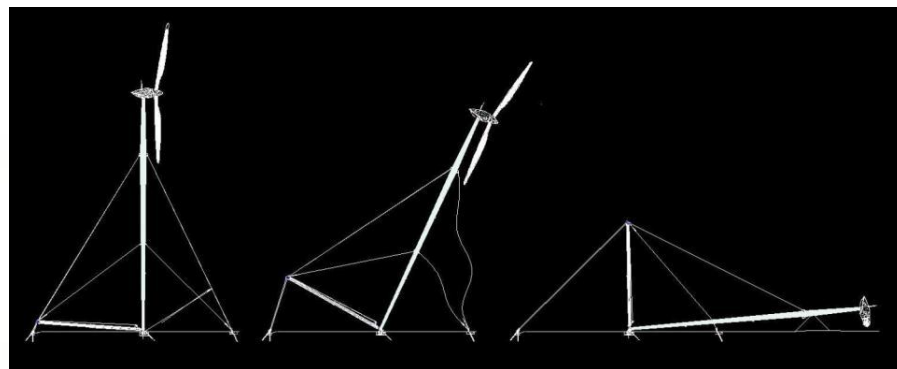
*What can we do for you?*

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**Develop adapted solutions:**  
➤ Design Wind turbines for islands

# Design the right machine for specific use

## GEV MP 275kW




➤ More than 400 installed worldwide

# Design the right machine for specific use



Ground-level maintenance



Easy to transport



Easy to install





# The Oak and the Reed (fable of Jean de la Fontaine)



## *The Oak and the Reed*

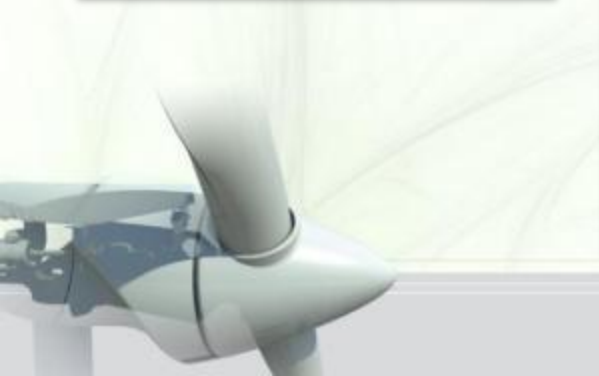
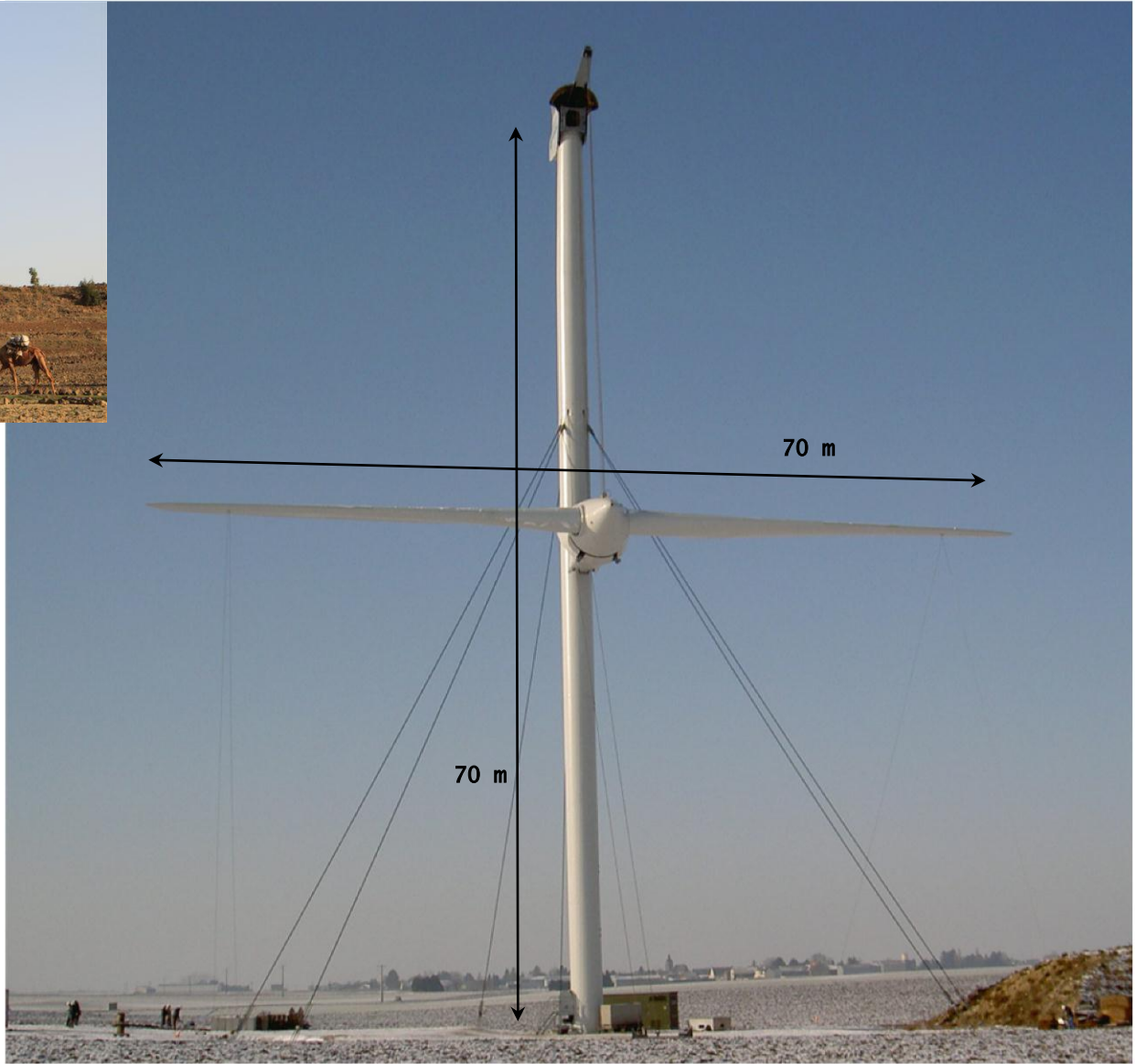
....  
"Your compassion", replied the Reed  
"Shows a noble character indeed;  
But do not worry: the winds for me  
Are much less dangerous than for thee;  
I bend, not break. You have 'til now  
Resisted their great force unbowed,  
But beware.

As he said these very words  
A violent angry storm arose.  
The tree held strong; the Reed he bent.  
The wind redoubled and did not relent,  
Until finally it uprooted the poor Oak  
Whose head had been in the heavens  
And roots among the dead folk.

## *le Chêne et le Roseau*

...  
- Votre compassion, lui répondit l'Arbuste,  
Part d'un bon naturel ; mais quittez ce souci.  
Les vents me sont moins qu'à vous redoutables.  
Je plie, et ne romps pas. Vous avez jusqu'ici  
Contre leurs coups épouvantables  
Résisté sans courber le dos ;  
Mais attendons la fin. "Comme il disait ces mots,  
Du bout de l'horizon accourt avec furie  
Le plus terrible des enfants  
Que le Nord eût portés jusque-là dans ses flancs.  
L'Arbre tient bon ; le Roseau plie.  
Le vent redouble ses efforts,  
Et fait si bien qu'il déracine  
Celui de qui la tête au Ciel était voisine  
Et dont les pieds touchaient à l'Empire des Morts.

# Even for bigger use, a 1 MW turbine with a liftable nacelle



*Do you think you (...) can do more for us?*

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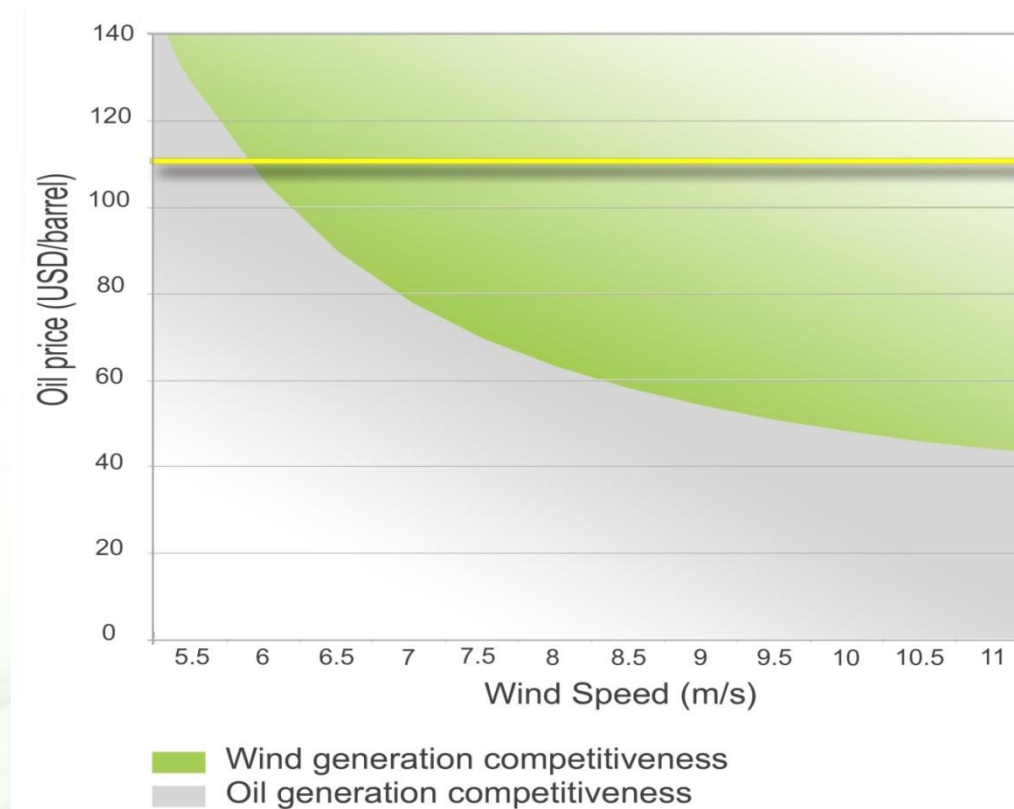


# Wind is cheaper than oil ! It should not be difficult to develop it.

60 USD / barrel : wind energy becomes cheaper than oil

80 USD / barrel : wind energy turns out to be very profitable for our clients

100 USD / barrel : anymore doubts ?



# Take the right decision

## ☻ Clarify the electricity price (true price policy)

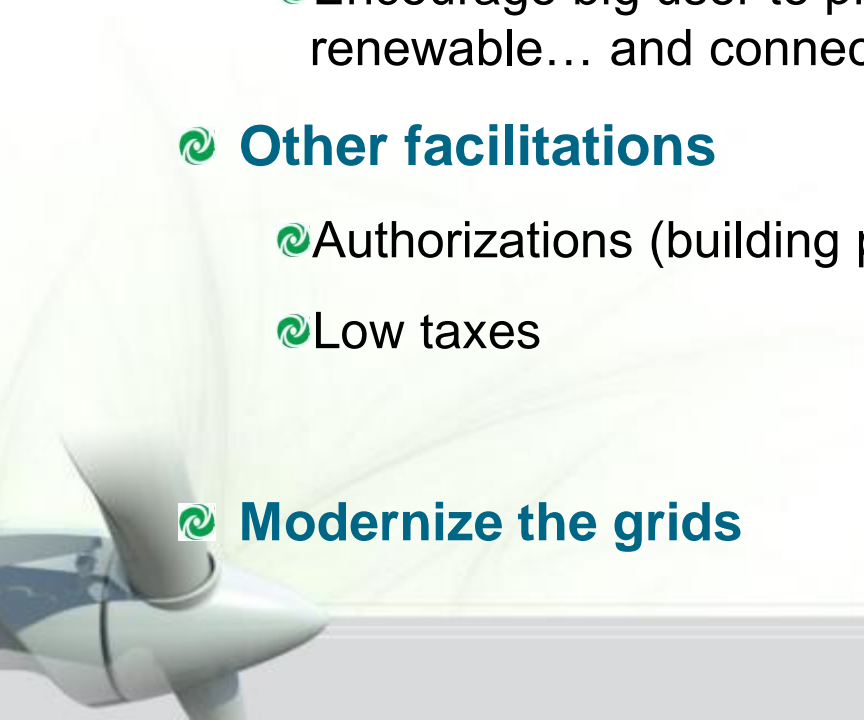
## ☻ The framework

- ☻ A tariff in competition with oil electricity, this cannot be difficult)
- ☻ Encourage big user to produce they own electricity with renewable... and connect it into your grid

## ☻ Other facilitations

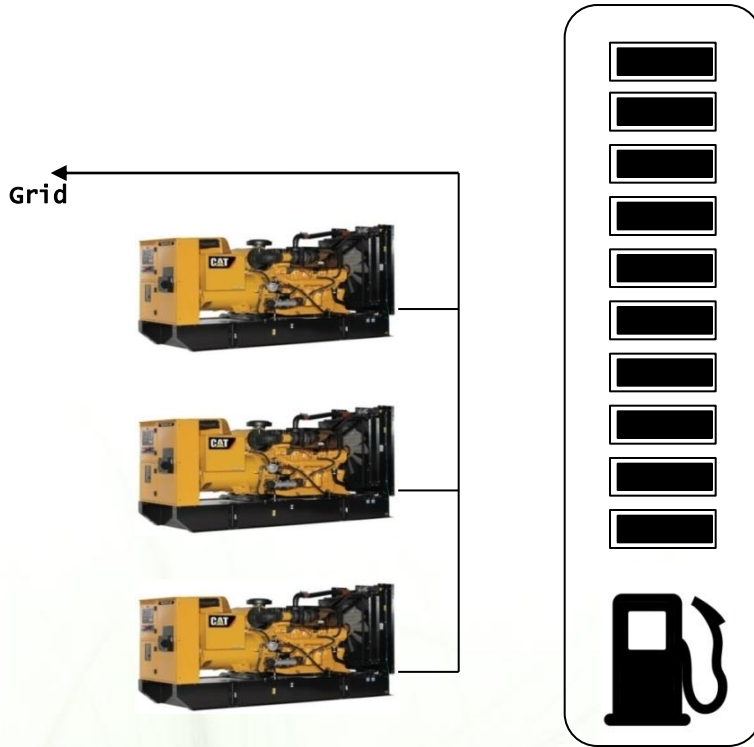
- ☻ Authorizations (building permit, etc...)
- ☻ Low taxes

## ☻ Modernize the grids

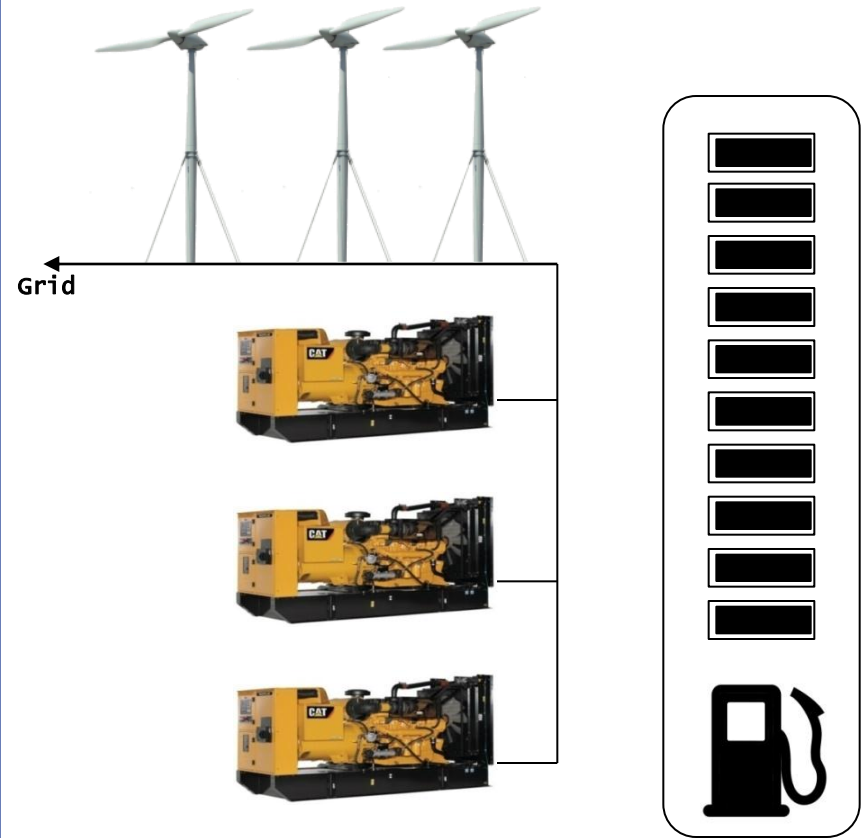


# The target

## PRODUCTION ENSURED BY GENSETS



## PRODUCTION ENSURED BY SWINGS



J	F	M	A	M	J	J	A	S	O	N	D
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Over a year,  
more than 30% savings  
with 7.5 m/s wind speed



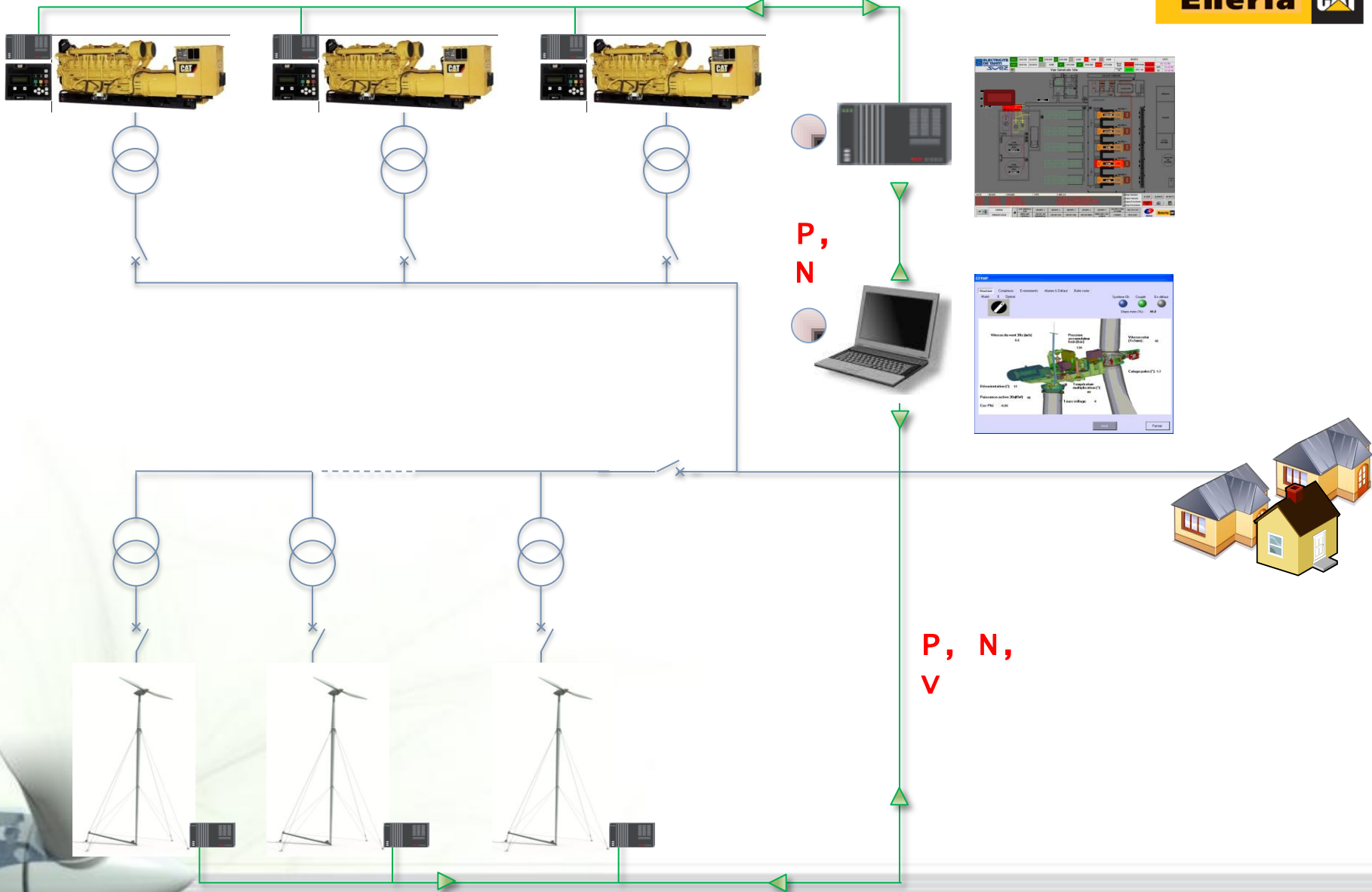


*Do you think we can do more for you?*

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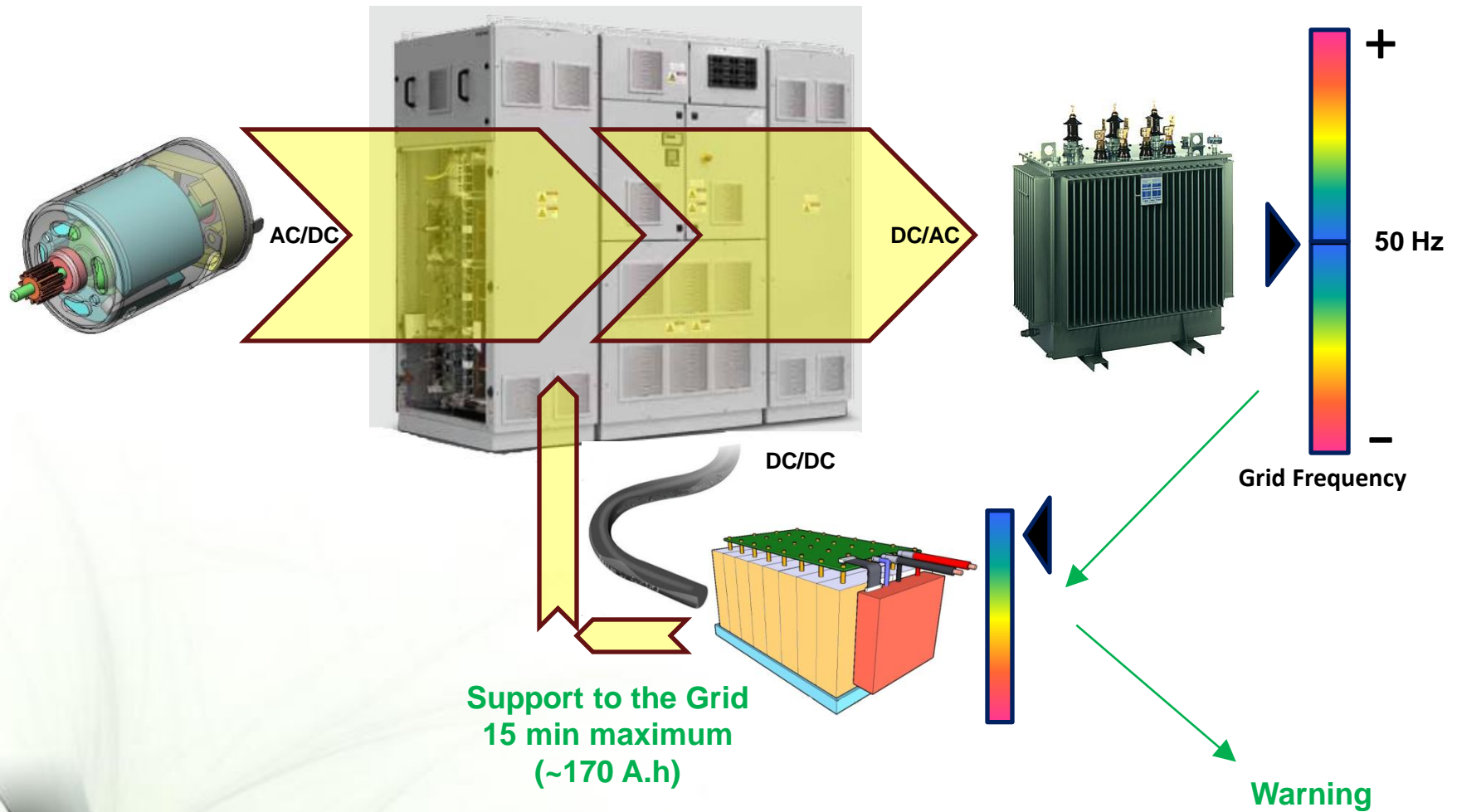
*Electrical Integration*

# The way to facilitate the integration



# Storage solutions

## VERGNET's Storage & Prediction Concept







Thank you!

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**Butoni Wind Farm - Fiji Islands**