

The wind energy development and the bearded vulture

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Environmental issues of land wind facilities



Corsican Multi-Annual Regional Energy Plan (MAEP) (Programmation Pluriannuelle de l'Énergie de Corse)

The law of 17 August 2015 on the energy transition for green growth created Multi-Annual Energy Plans. The MAEP establishes the priorities for public action (including local government) regarding energy policy in the next decade, shared in two 5-year periods. It must cover aspects relating to:

- Guarantee of the security of supply;
- Improvement of energy efficiency and reductions in primary energy consumption, especially fossil fuel consumption;
- Promotion of the use of renewable energies (RE) and recovered energies.

The decree of 18 december 2015 defined the main energy objectives and action priorities in Corsica for 2015-2018 (first period) and 2018-2023. It has been updated by the decree of 30 June 2023.

Currently, a subsequent 5-year period (2024-2028) is going to be added (targets already approved by Corsican assembly ; *NB : the regions are leaders of communities on energy issues*).

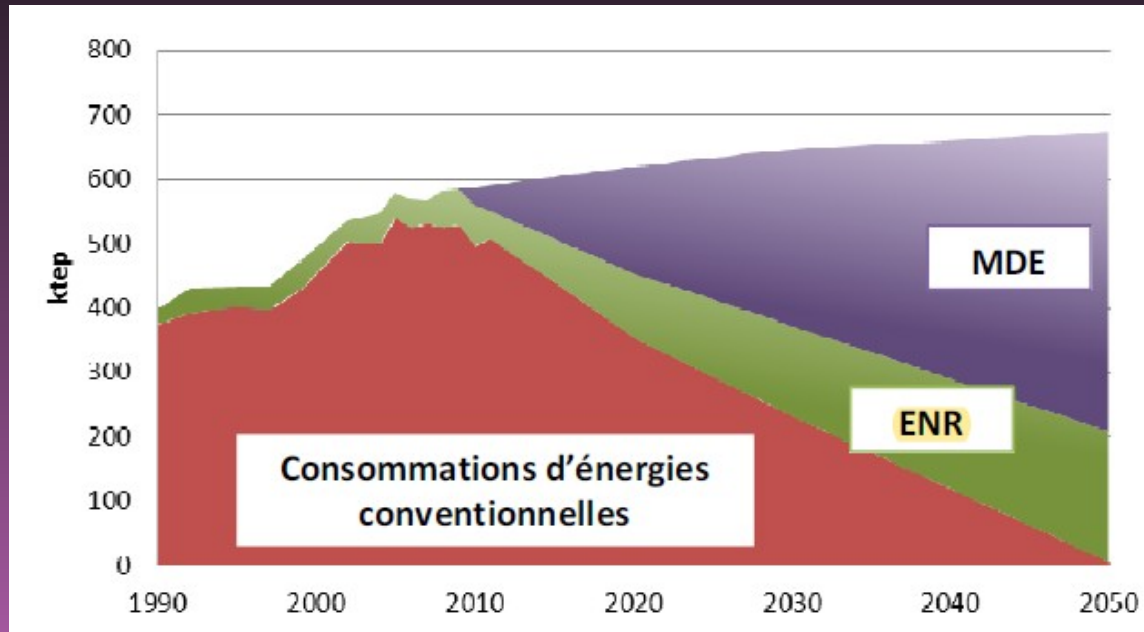
Corsican Multi-Annual Regional Energy Plan (MAEP) (Programmation Pluriannuelle de l'Énergie de Corse)

The guidelines laid down in the MAEP are part of the international and European framework (Paris Climate Alliance) and the national framework : i.e. the National Low Carbon Strategy and the National Climate Plan adopted in July 2017 which aim to achieve carbon neutrality across all sectors by 2050.

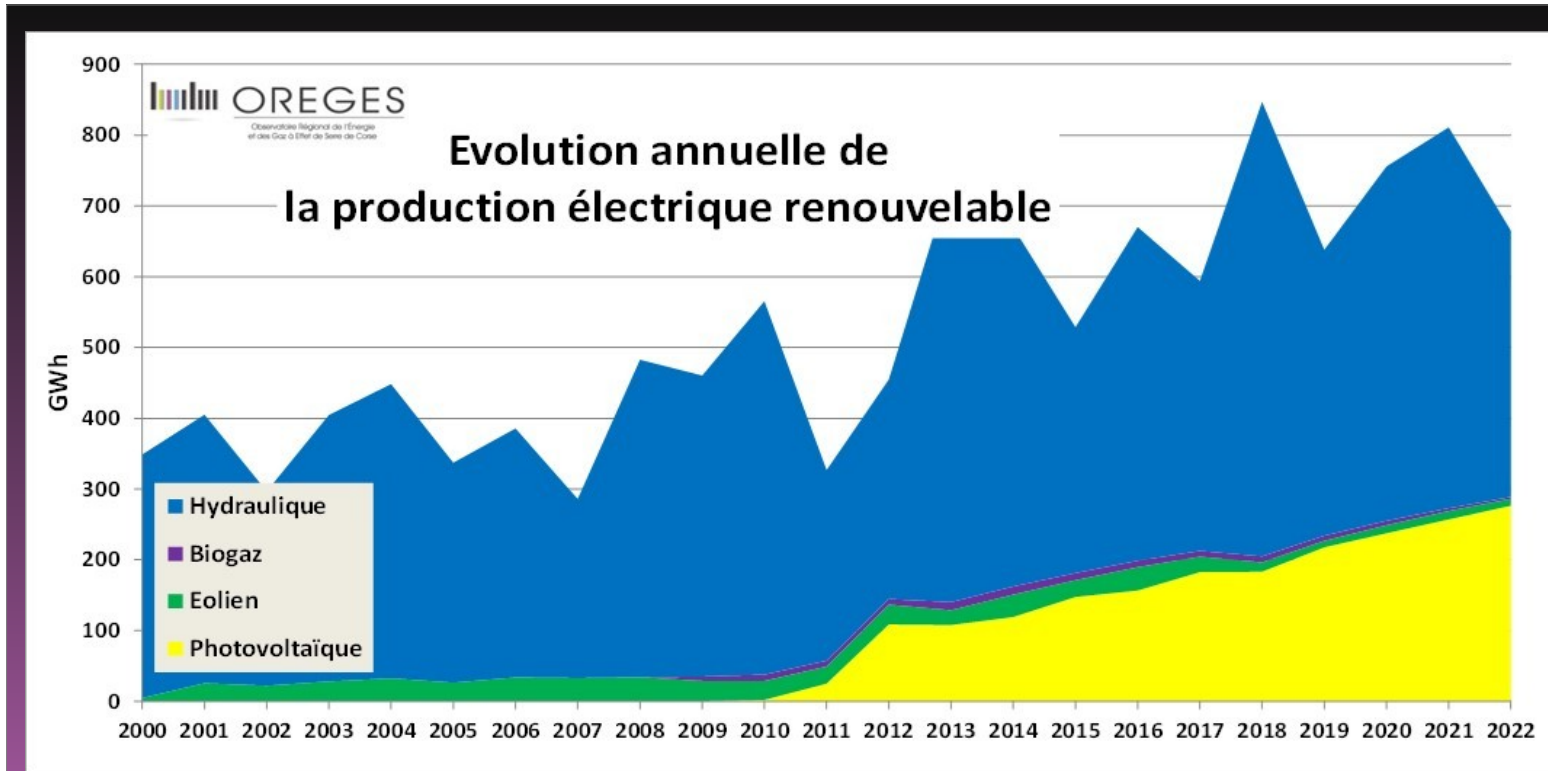
In Corsica, the commitment to this long-term climate goal (carbon neutrality in 2050) has been made by the local government since 2013 through the Regional Climate-Air-Energy Plan (SRCAE).

Corsican Multi-Annual Regional Energy Plan (MAEP) (Programmation Pluriannuelle de l'Énergie de Corse)

The figure below summarises the target for carbone neutrality (SRCAE, 2013) : in particular, a reduction (75%) of the final energy consumption as a result of energy management measures.



Progression of the real electric mix (2000-2020) by energy vector



The goal of diversifying the electric mix still stands, to keep a robust and carbon free electric mix in long term. For this reason, it should be based on complementary energy sources.

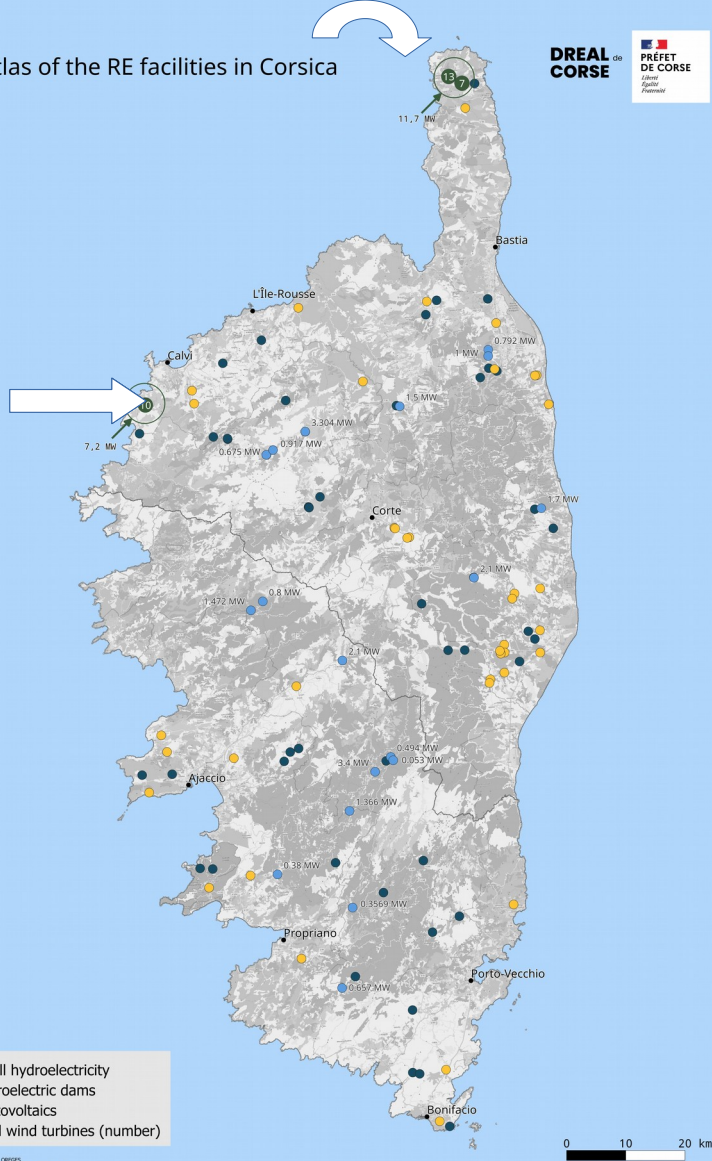
Objective of increasing wind power generation capacities and measures to achieve it (MAEP)

- Last wind farms authorized/commissioned in 2006 in Corsica (+ repowering/renewal)
- However, the MAEP objectives correspond to an increase of 50 - 75 MW capacities by 2028 (= 4 facilities)
- Main issues in Corsica = potential impact on biodiversity (avifauna and bats) and landscape
- Somme recent measures to achieve the goal (since 2020) :
 1. A national atlas superimposes wind speed data and maps of "exclusion constraints".
 2. Mandating both the recycling of the constituent materials of wind turbines during their dismantling and the dismantling of their foundations.
 3. Launching innovative solutions experiments to reduce light pollution.
 4. Establishing a precise and airtight protocol to measure noise levels generated by wind turbines.

Atlas of the RE facilities in Corsica

( regional distribution of existing land wind farms)

<https://macarte.ign.fr/carte/1X3jxe/Carte-En-R-Grand-public>



Mapping the maximum regional supply potential of land wind energy



Harmonised methodology for national atlas

- **Spatial planning is the main tool to integrate environmental considerations into the design of facilities at an early stage.** For this reason, the Ministry has provided a mapping of the regional supply potential for wind energy.
- The map is not compulsory ; moreover, it does not replace the authorization to operate or the building permit. Nevertheless, a mandatory approach based **on existing legislation** has been implemented to classify each issue.
- The energy demand has not been taken into account (on the contrary, **wind speed data** has been included).
- The areas defined in the national map/atlas are based on existing and available data and identified on a public portal.

The constraints and issues to consider

Landscape and cultural heritage

Local landscape guidelines

Biodiversity and environment

Transition and buffer zones of Man and the Biosphere Programme (MAB) (Vallée du Fango), European green and blue infrastructure programme (TVB), birds inventories...

Landscape and cultural heritage

Protection under Historic Monuments (+500 m buffer), outstanding heritage sites (SPR), UNESCO World Heritage Sites...

Biodiversity and environment

Old-growth forests, sensitive natural areas, RAMSAR sites, land acquired by the Conservatoire du Littoral...

Others

Military aviation training areas, radars sensitive areas and airport protection buffers... ..

**Non-
restricted
areas (but :
impacts
evaluation +
mitigation
hierarchy)**

**Protected
areas :
derogations
are required**

The constraints and issues to consider

Landscape and cultural heritage

The coastal Law

Biodiversity and environment

Biotope protection orders, central zone of Man and the Biosphere Programme (MAB) (Vallée du Fango), biological and regional nature reserves/parks...

Others

Proximity to homes (500 m), to sensitive facilities (300 m buffer around CIPE facilities)

Sitting of wind turbines strictly prohibited by legislation pieces

Patrimonial birds of prey / raptors taken into account (red list ICUN)

🕒 **Bearded Vultures - *Gypaetus barbatus***, critically endangered in Corsica, concerned by a national action plan currently being rewritten and a life Gyprescue programme

🕒 **Golden eagle - *Aquila chrysaetos***, endangered in Corsica, concerned by a regional action plan

🕒 **Osprey - *Pandion haliaetus*** endangered in Corsica, concerned by a national action plan

🕒 **Northern Goshawk - *Accipiter gentilis***

🕒 **Red kite - *Milvus milvus***, near threatened in Corsica and concerned by a national action plan

🕒 **Peregrine Falcon - *Falco peregrinus***

NB : Other protected species -Griffon Vulture (*gyps fulvus*) and bats- can be affected by wind farms.

The threshold values for bearded vultures condition

1-4 days
of sightings
recorded
in a square*

23 km buffer around the
nest sites

15 km buffer around the
food availability areas
(« charniers »)

5-14 days of sightings
recorded per square*
Home range « DV95 »*

15 km buffer around
the nest sites

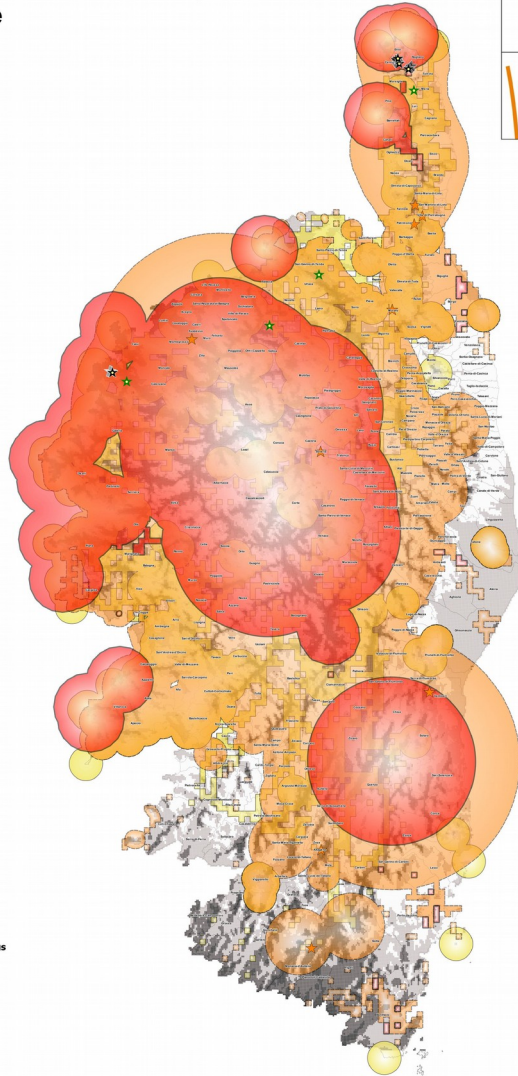
Home range « DV50 »*

> 14 days of sightings
recorded per square*

*The fieldwork was divided into 1km x 1km squares. The home range has been build from a set of location points/data collected throught GPS technology (6 individuals), and observations identifying the position in space of individuals.

Source : « *Rapaces patrimoniaux et développements de l'énergie éolienne en Corse* », CEREMA 2019.

Carte des sensibilités Rapaces en Corse



Patrimonial birds of prey map

Légende

- Enjeu moyen
- Enjeu fort
- Enjeu très fort
- Projets Éoliens
- ★ Existants
- ★ En cours
- ★ Abandonnés ou suspendus
- Gisements éolien
- 4.00 - 4.50
- 4.50 - 5.00
- 5.00 - 5.50
- 5.50 - 6.00
- 6.00 - 6.50
- 6.50 - 7.00
- Limites communales

CONCLUSION

- This map is an initiative to assess and mitigate wind energy's environmental impacts and lower costs for developers.
- **Sitting issues addressed during the planning process (AVOIDANCE) are the best way to protect species (Step 1) : cf. « red » zones !**
- Therefore spatial planning measures and zoning controls actions must be implemented by local authorities as soon as possible : the **law of 10 March 2023** defined **renewables acceleration areas (including land wind)**.
- *The revised RED Directive highlights the importance of thorough mapping for renewable energy projects by introducing new obligations for MS in Article 15.*



- Subsequently, **the environmental assessment studies to evaluate impacts of the project must take into account the relevant environmental receptors (birds, bats) : Step 2.**
- **Thereafter the procedures** includes detailed community dialogue, and measures to minimize or mitigate any impacts identified from the project (**REDUCTION**) in order to avoid **the use of derogations : Step 3.**
- It will allow the deployment of wind energy to grow in a more streamlined manner, knowing that there is still opportunities in Corsica:
<https://macarte.ign.fr/carte/1X3jxe/Carte-EnR-Grand-public>

Portail cartographique des énergies renouvelables

Accès grand public

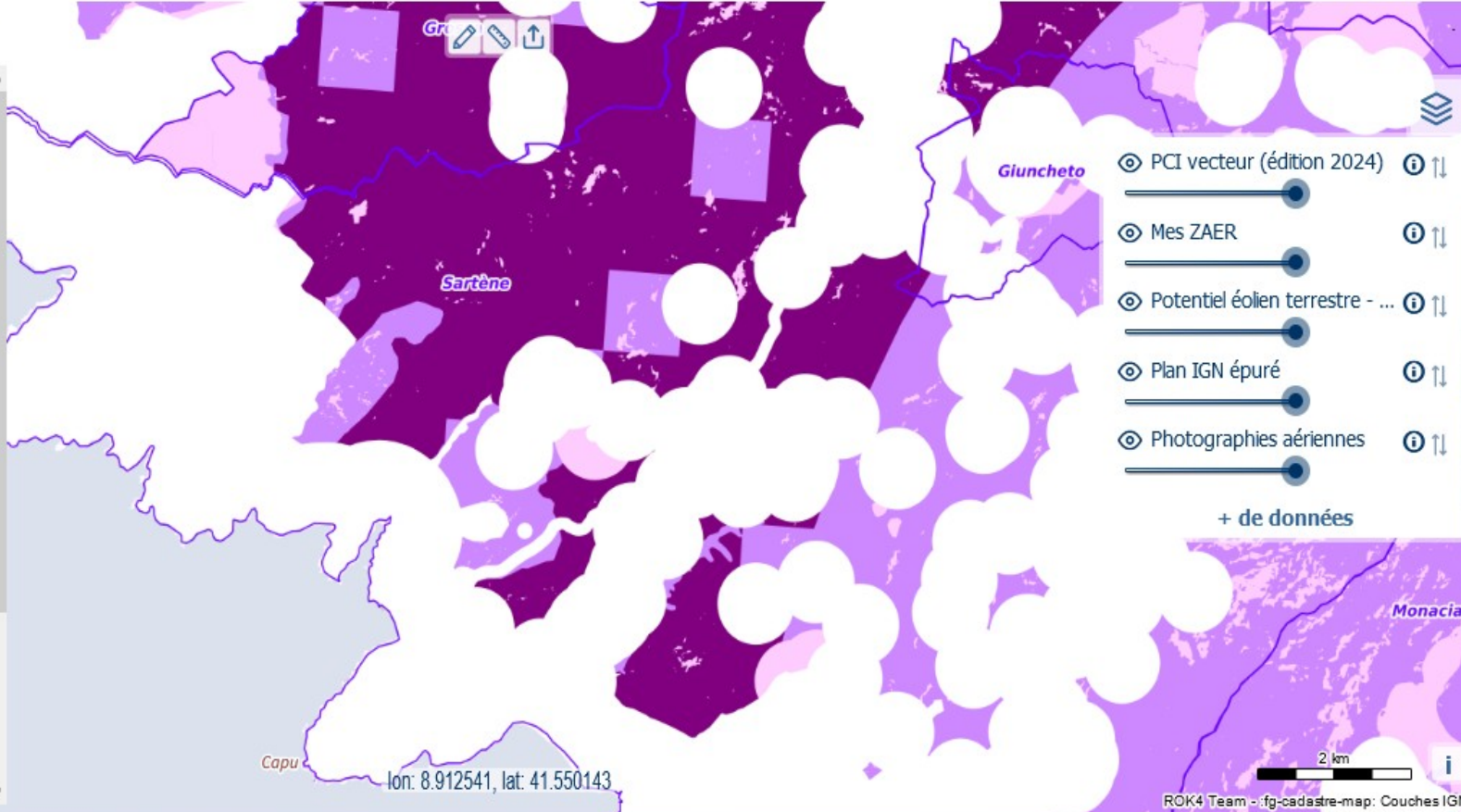
Légende

ZAER

- ZA Brouillon
- ZA Avis demandé
- ZA Arrêt demandé
- ZA Arrêtée
- ZA Refusée
- ZA en cours de Saisie

Potentiel éolien réglementaire

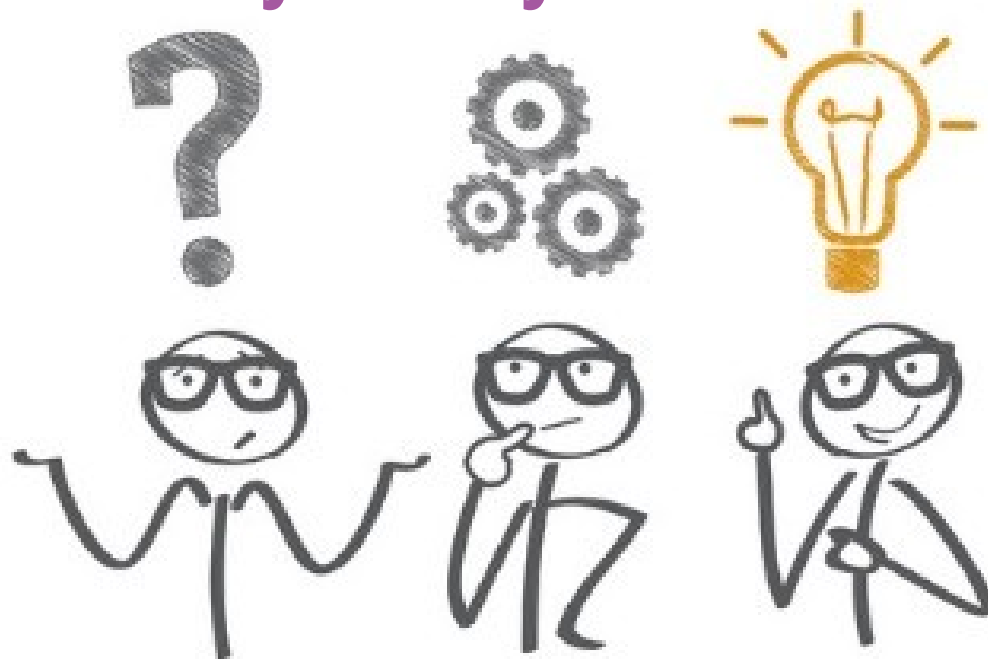
- Zones rédhitoires
- Zones rédhitoires liées au petit éolien
- Zones non potentiellement favorables (forts enjeux)
- Zones potentiellement favorables (sous réserve de prise en compte des enjeux)



- PCI vecteur (édition 2024)
- Mes ZAER
- Potentiel éolien terrestre - ...
- Plan IGN épuré
- Photographies aériennes

+ de données

Thank you for your attention !



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<https://www.corse.developpement-durable.gouv.fr/l-eolien-terrestre-en-corse-a2096.html>