

PHOTOVOLTAIC POTENTIAL OF WASTELANDS AND PARKINGS

“Évaluation du gisement relatif aux zones délaissées et artificialisées propices à l’implantation de centrales photovoltaïques”

Preliminary results





- Context
- Objective and perimeter
- Methodology and hypothesis
- Results



- Actual *multiannual energy plan* (PPE) : 18,2-20,2 GWp of PV in 2023 (~8,5 GWp today)
- Ground-based PV installation :
 - ➔ 35% of installed capacity in 2015 ; today's installation rate : ~50%
 - ➔ Most competitive market but large land use
- Regulation prevents PV installation on agricultural land
 - ➔ PV is only possible if agricultural production is maintained
 - ➔ Agricultural land not eligible in tender
 - ➔ Ongoing tender gives selection bonus for installation on wastelands and body of water

Artificialised areas are the best candidates

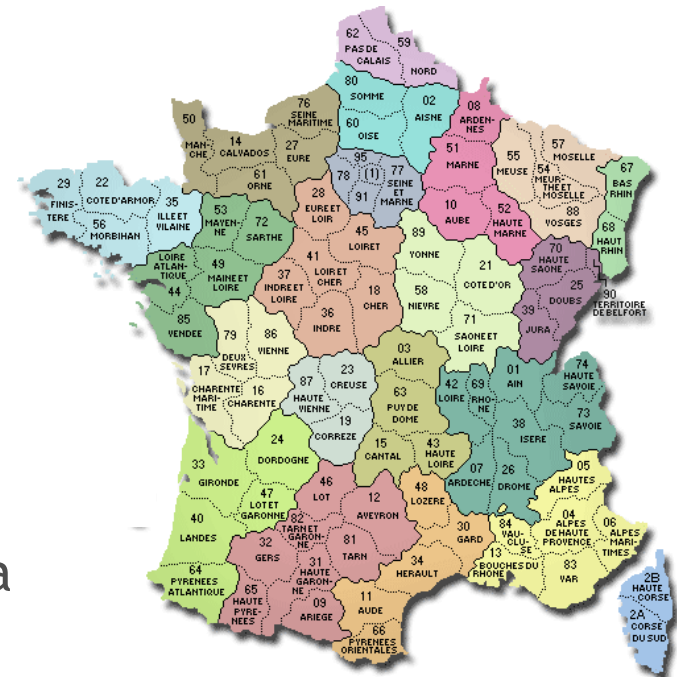
OBJECTIVE AND PERIMETER



- Objective : assessing the potential (MWp) of wastelands and parking lots for rehabilitation with PV

- Scope and perimeter

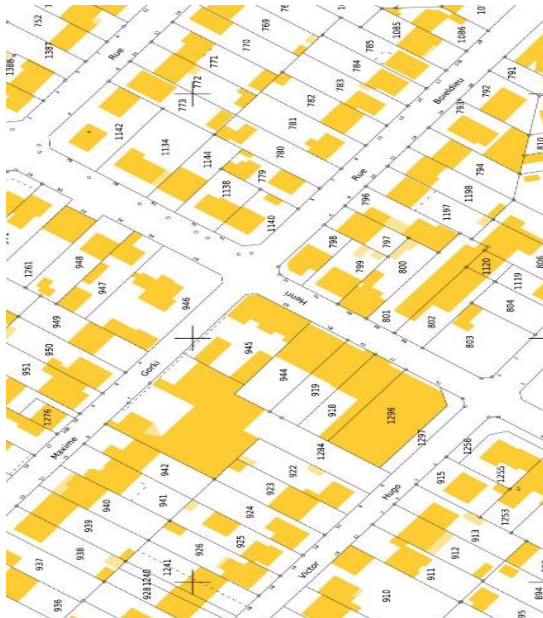
- ➔ Departemental scale
- ➔ Metropolitan France, including Corsica
- ➔ Power > 250 kWp
- ➔ Probabilistic methodology
- ➔ Cost issues related to wasteland reconversion not considered



Step 1 : Identify wastelands and parkings

1.

Identify
wasteland and
parkings



- a. Identify sites
 - Database *BASIAS* : Old sites with industrial and tertiary activities
 - Database *BASOL* : (potentially) polluted sites and soils
 - Database *IGN TOPO* : parkings areas

- b. Identify location and surfaces
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- **Uncertainties :**

- Wastelands types missing : airport, train stations, commercial buildings
- ~ 30% of remaining sites could not be located
➔ excluded
- ~ 25 % of potential sites have unknown activity statu

METHODOLOGY and HYPOTHESIS

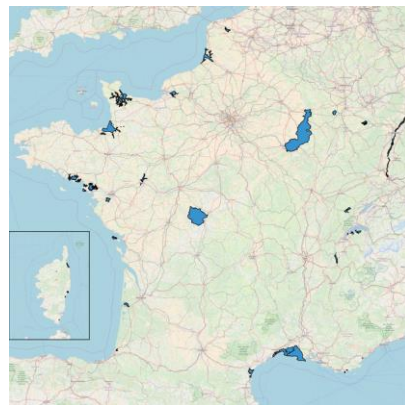


Step 2: Apply crippling filters to obtain « potential sites »

1. Identify wasteland and parkings



2. Apply crippling filters



- Power > 250 kWp
- Distance to high voltage grid : distance/power ratio < 4 km/MWp
- Contaminated soils excluded
- Agronomic and aquatic areas excluded (Corinne Land Cover)
- Restrictive administrative areas
 - Appartenance au Conservatoire du littoral
 - Parc naturels nationaux - zone coeur
 - **Zones humides Ramsar**
 - Zone de protection du biotope
 - Périmètre de protection immédiat d'un captage d'eaux pluviales
 - Réserve naturelle
 - Réserve de biosphère - zones centrales
 - PPR Inondation- zone rouge ou lit de cours d'eau

- 60% of sites

METHODOLOGY and HYPOTHESIS



Step 3: Apply handicap filters (probabilistic approach)

Available surface reduction



- 20%

- Proximité d'un aéroport
- Parcs naturels régionaux
- ZNIEFF 2

- 60%

- Zones Natura 2000 – conservation des oiseaux sauvages
- ZICO
- Réserve de biosphère – zones tampon
- Situé sur une commune concernée par la loi littoral
- PPR Inondation – zone bleue
- PPR incendies
- Occupation biophysique des sols (Corinne Land Cover) :
Roches nues, Végétation clairsemée, Tissu urbain continu,
Landes et broussailles

- 90%

- ZNIEFF 1
- Zones Natura 2000 – Habitat
- Appartenance à un conservatoire d'espace naturel
- Parc naturels nationaux – zone d'adhésion
- Périmètre de 500m d'un monument historique

Uncertainties :

- ➔ Some restrictive filters (administrative areas) could not be taken into account : PPR Miniers, PNA

1.

Identify
wasteland and
parkings



2.

Apply crippling
filters



3.

Apply handicap
filter



100 Wp/m²

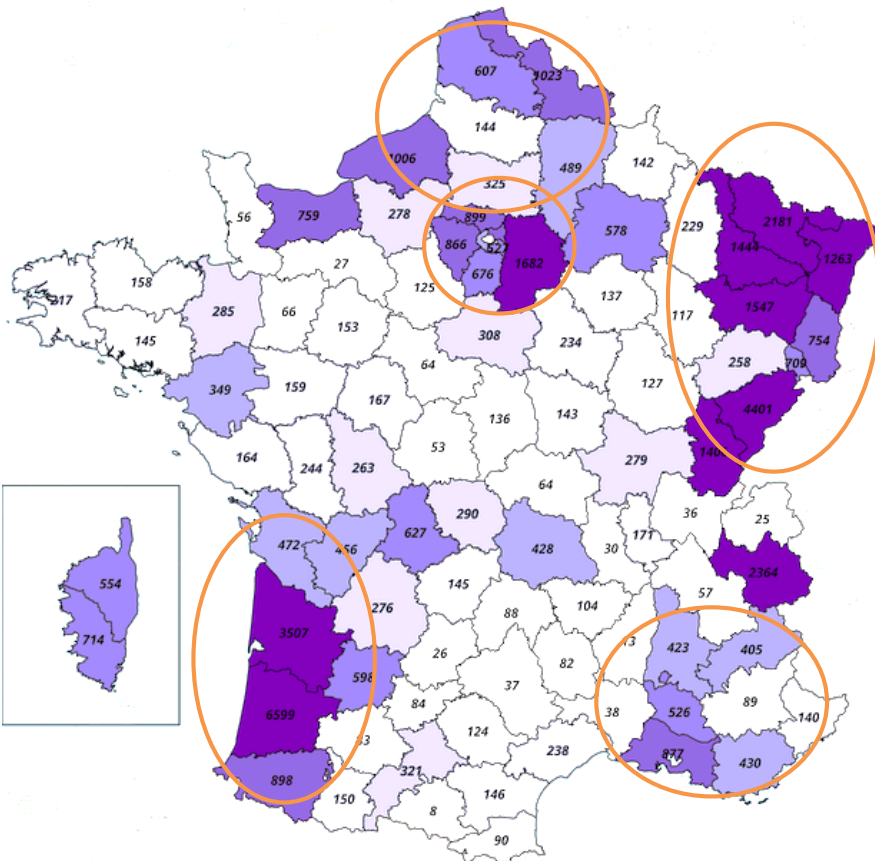
RESULTS



Departmental and national PV potential

Wastelands + parkings PV potential (MWp)

Large potential : 53 GWp

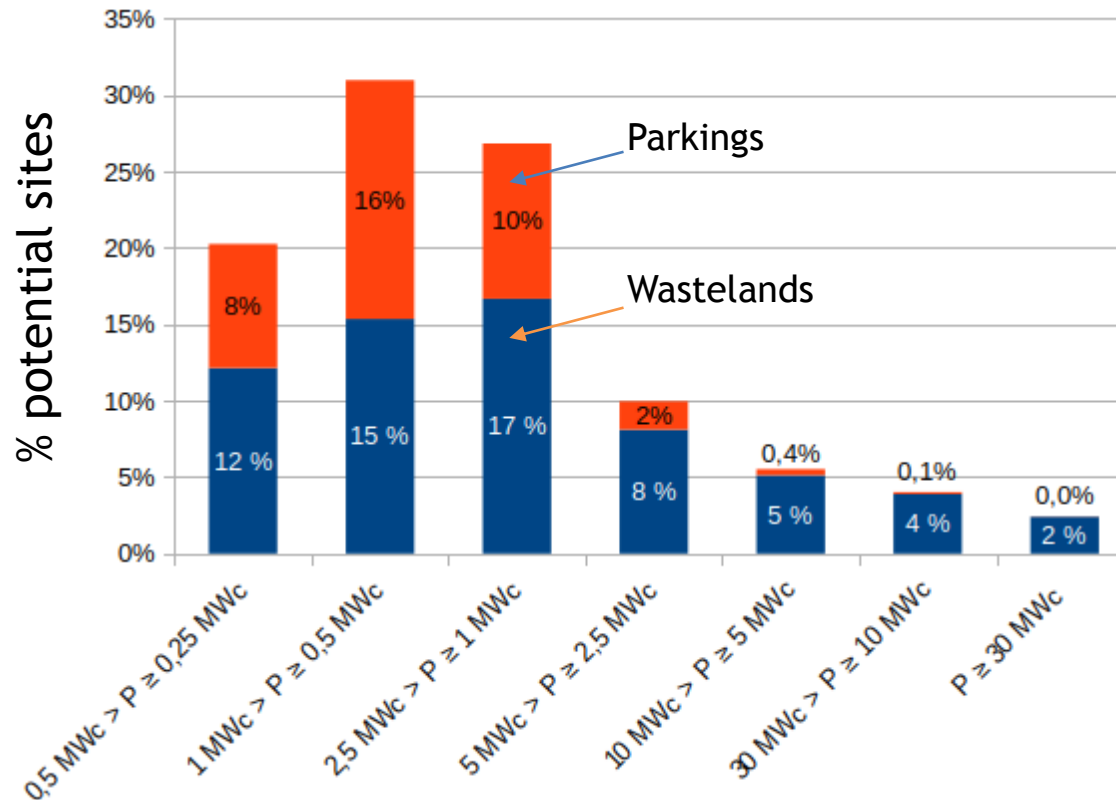


- 5 main regions gather a large potential part
 - ➔ Close from big urban areas
 - ➔ North and North-East related to old industrial areas
- 74 out of 97 departments have potential > 100 MWp
- Only 4% of potential sites have no handicap filter

RESULTS

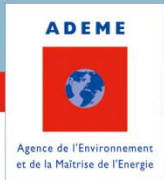


Potential sites power statistics



80% of potential sites have power < 2,5 MWp
2/3 wastelands (92% of potential) and 1/3 de parkings (8% of potential)

CONCLUSION



- Objective : Assess PV potential on wastelands and parkings
- Despite uncertainties, a **large potential is identified: 53 GWp**
- 74 out of 97 french department have potential > 100 MWp
- **80% of potential sites have power potential < 2,5 MWp**
- 2/3 wastelands (92% of potential) and 1/3 de parkings (8% of potential)
- Few potential sites with no handicap filter (4%)
- Report coming soon ...



Thank you for your attention

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