



Office franco-allemand pour
la transition énergétique (OFATE)

21 mai 2019

Conditions
for successful
recycling

Association pour le
le **D**émantèlement,
le **R**ecyclage,
le **R**econditionnement
et la **R**evente
d'éoliennes ou de composants

PRESENTATION



Association, **Dismantling**, **Repackaging**, **Resale**, and **Recycling**.



Consortium of complementary companies:

Maintenance and expertise of wind farms

Inspection and certification services

Trading wind turbines components

Materials recycling



Our mission and ambition : Improve your wind investments

Integrated services

(Recycling, supply chain, expertises, and legal)

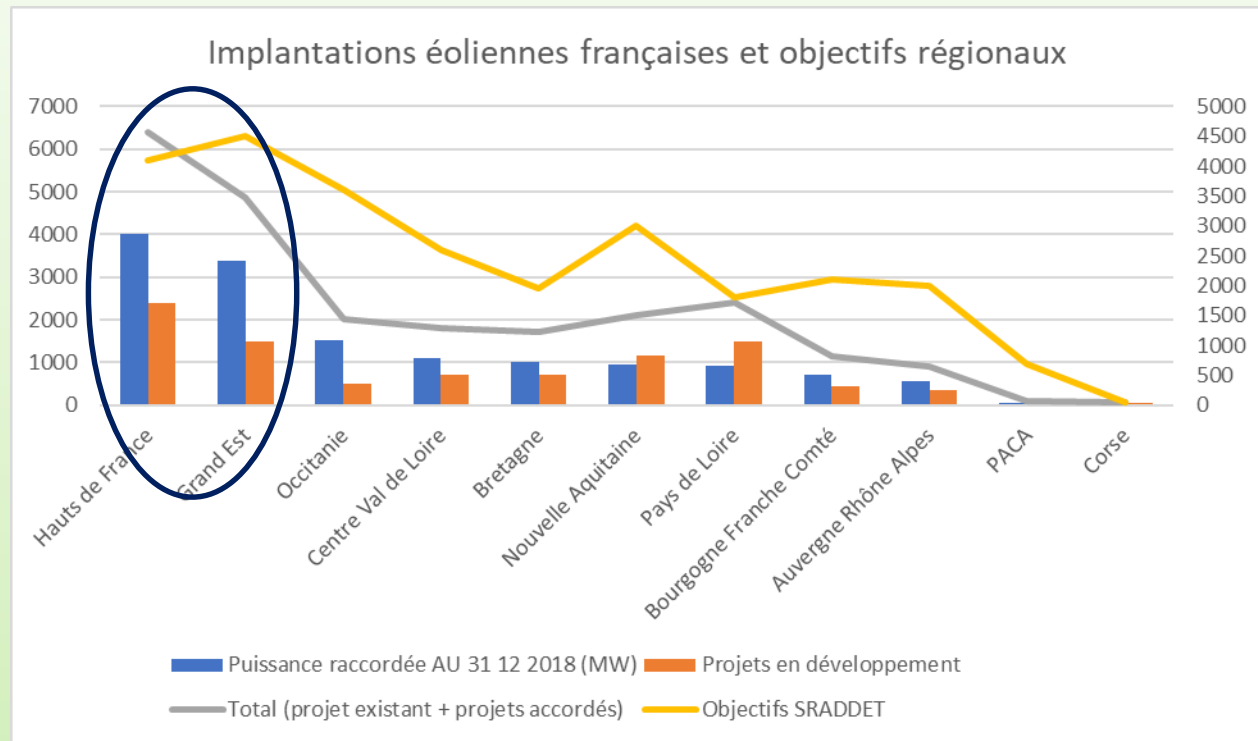
20 years of experience in wind energy



WIND POWER AND REGIONAL DEVELOPMENT SCHEME



50 % of the French wind farm is located in the northeast quarter of France



Sources : AD3R, mai 2019

EVOLUTION OF MATERIAL FLOWS



Increase in volumes of concrete for wind decommissioning by **30 % in 3 years**

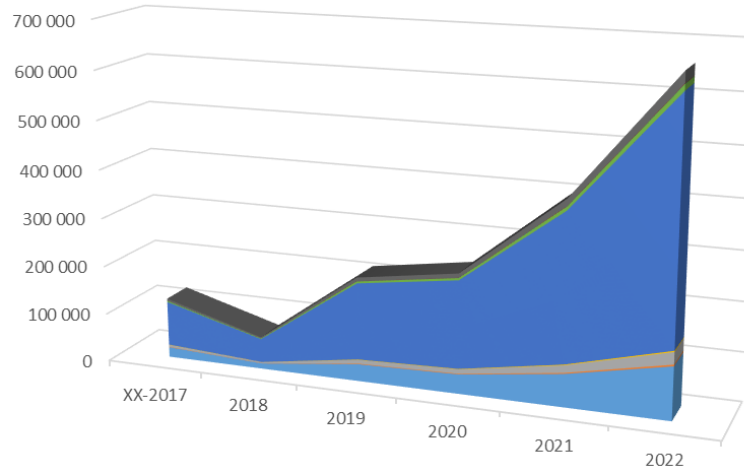
should reach 500,000 tones in 2022



Regional tools : career plans, waste management plans

Reinforce recyclability goals

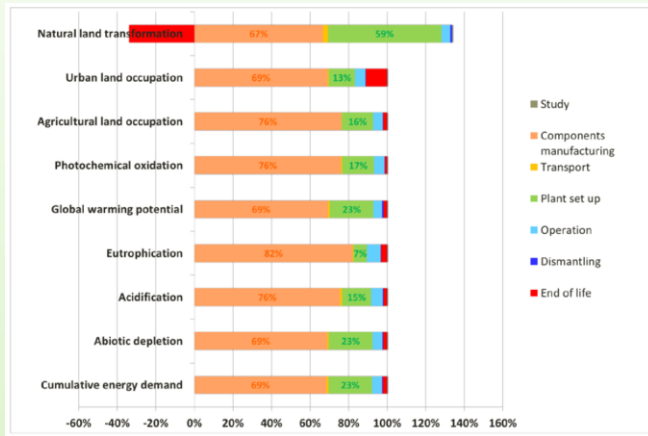
Evolution des flux de matières brutes issues des éoliennes en France



	XX-2017	2018	2019	2020	2021	2022
■ Acier fondations	4 442	2 359	7 583	8 639	14 494	23 394
■ Cables	127	67	217	247	414	668
■ Huile	85	45	144	165	276	446
■ Composites	2 327	1 236	3 972	4 525	7 592	12 254
■ Béton	91 791	48 756	156 709	178 548	299 547	483 476
■ Aluminium	423	225	722	823	1 380	2 228
■ Fonte	4 653	2 471	7 944	9 051	15 184	24 508
■ Cuivre	635	337	1 083	1 234	2 071	3 342
■ Acier et Fer	20 516	10 897	35 025	39 906	66 949	108 058

■ Acier et Fer ■ Cuivre ■ Fonte ■ Aluminium ■ Béton ■ Composites ■ Huile ■ Cables ■ Acier fondations

ENVIRONMENTAL IMPACT OF FONDATIONS

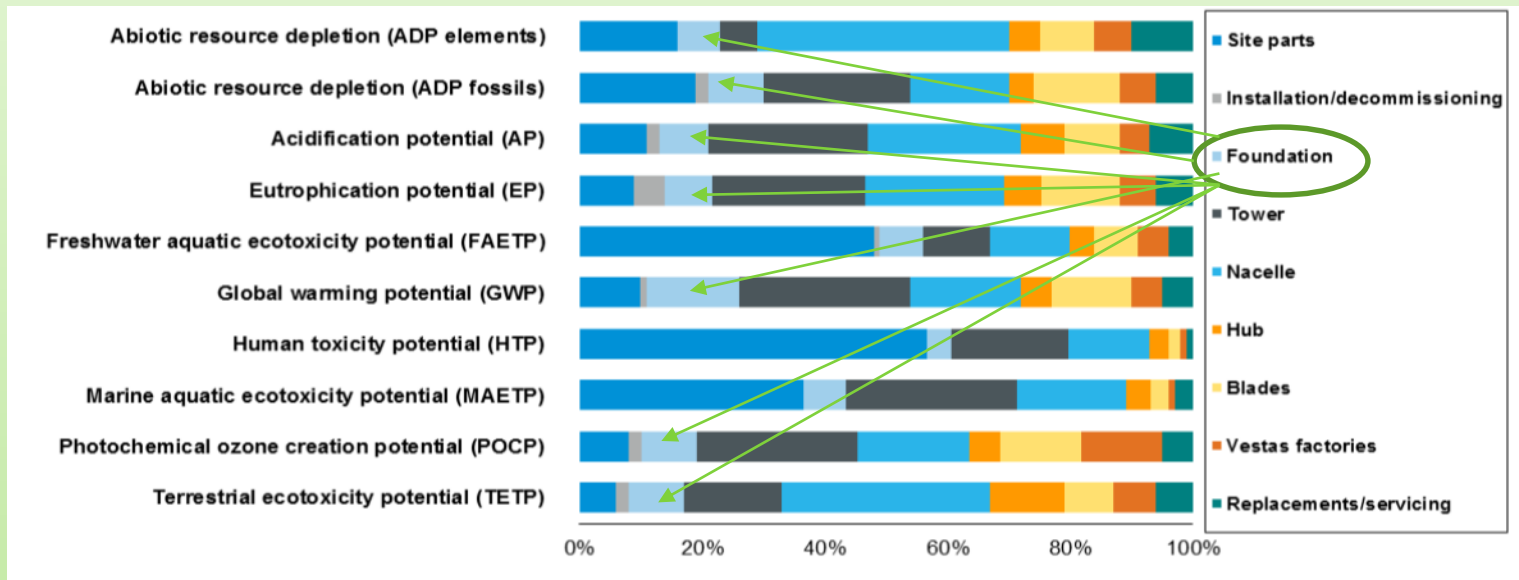


Source : Etude RESCOLL et VALOREM, 2014



The production is the stage that shows the most impacts.

Secondary impacts the building of the foundations



CONCRETE RECYCLING



French context

20% substitution of natural chippings with gravel recycled in concretes subject to common exposure classes




European context

In Germany : the best-performing GBRs are used with substitution rates ranging from 25 to 45%

In Denmark : the incorporation rate is 30% for GBR sands, and 100% for GBR medium and coarse gravel

In the Netherlands : the substitution rate of 50% is possible for all exposure classes

The use of GBR becomes an interesting option from the point of view of LCA



AD3R helps owners and investors during acquisitions or any other transaction that involves a change of ownership.

Our specialized technical team has valuable experience in evaluating a wide range of projects, covering all technical aspects of wind projects.

We base our interventions on our knowledge and experience.

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