

EC consultation meeting
Preparation of a guidance document on
hydropower development and Natura 2000
8th July 2015

**Planning instruments to balance
hydropower development and
protection or restoration of aquatic
environments in France**

**Selection of preserved rivers and preparation of
trends**

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The commitments agreement for the development of a sustainable hydropower

- 2008 : round table on the development of sustainable hydropower in compliance with aquatic environments restoration
- Aim of this conference : elaborate an agreement on mutual commitments to achieve that compliance.
- Two objectives have to be achieved : the development of plus 3TWh of annual production by 2020 and 66% of surface water bodies in good status in 2015.
- Signed in June 2010 by the Minister, representatives of local elected authorities (specially of mountain areas), all the representatives of all producers, several NGO's (WWF, SOS Loire Vivante-rivernet, ANPER-TOS, Nicolas Hulot Foundation, the IUCN, the North Atlantic Salmon Fund) and the national committee for professional fresh water fishing.

The commitments agreement for the development of a sustainable hydropower

- **1st issue : to put hydropower on an ongoing progress.** shared research into the environmental integration, develop labels, enhance monitoring and control of plants
- **2d issue : to modernize and optimize existing plants within a sustainable development approach.** Working for the effective implementation of the regulations on minimum flow raising by 1 January 2014 or fish-pass obligations. Renewal of concessions process will be used to improve both energetic and environmental performance.
- **3d issue : the removal of the most problematic obstacles to ecological continuity.** Removal of Vezins-La Roche qui Boit on Selune, alternative for the plant Poutes on Allier river, national program for ecological continuity restoration funded by water supply agencies' aids
- **4th issue : to develop an “high environmental quality” hydropower** Minimum effect on environment : through the equipment for production of existing dams and the optimization and refurbishment of existing hydropower plants. Construction of new plants must be sought and identified preferentially in areas where few environmental stakes exist and avoid the areas of rich biodiversity, in coherence with the classifications of water courses (“no go” rivers and “continuity” rivers)

A long history of rivers' protection relative to hydropower or dams

- **1865** : first law that imposes **fish ladders on new dams** on « classified rivers »
- **1984** : **fish ladders on existing dams** within 5 years after the publication of the list of concerned species
- **1980** : a law provides a classification of rivers **where no new hydropower can be built** (to balance simplifications to deliver authorizations for new small hydropower plants)
- **2006** : a law provides the **revision of these old classifications to ensure compliance with WFD objectives**

A long history of rivers' protection relative to hydropower or dams

Revision of the lists of protected rivers in 2 new lists :

- **List 1 is a list of protected rivers against new dams (no-go rivers or “preserved rivers”).**

Construction of any new obstacle to continuity can't be authorised whatever the use concerned & existing dams must ensure ecological continuity at the moment of renewal of their license

- **List 2 is a list of rivers where continuity restoration on existing dams is a priority (within 5 years)**

On these rivers, existing dams must be managed or equipped within 5 years, to ensure upstream and downstream fishes migration and a sufficient transfer of sediment.

New dams can be authorised if they ensure this continuity.

A long history of rivers' protection relative to hydropower or dams

Revision of the lists of protected rivers in 2 new lists :

- Lists have been set out in the 6 metropolitan districts and in Martinique between July 2012 and January 2015. Remains Corse and others overseas departments
- Both list 1 and 2 are automatically included in the “**green and blue infrastructure**” whose implementation is in process since 2012 on a regional scale. The aim of green and blue infrastructure is to restore and preserve land (green) and aquatic (blue) ecological continuity by reducing fragmentation of natural environments or habitats with special concern to migrating species.

A long history of rivers' protection relative to hydropower or dams

Revision of the lists of protected rivers in 2 new lists :

List 1 :

- Selection of rivers among three criteria :
 - high status rivers (some are also N2000 sites)
 - diadromous migratory fishes rivers (often also N2000 sites)
 - “biological reservoirs”.

“biological reservoirs” are stretches of rivers rich of aquatic species needed to achieve or maintain good ecological status by spreading in water bodies connected to these stretches.

~ between 25 et 30 % of watercourses

A long history of rivers' protection relative to hydropower or dams

Process for the identification of these “biological reservoirs” :

They must be pre-identified in the basin management plans

For that :

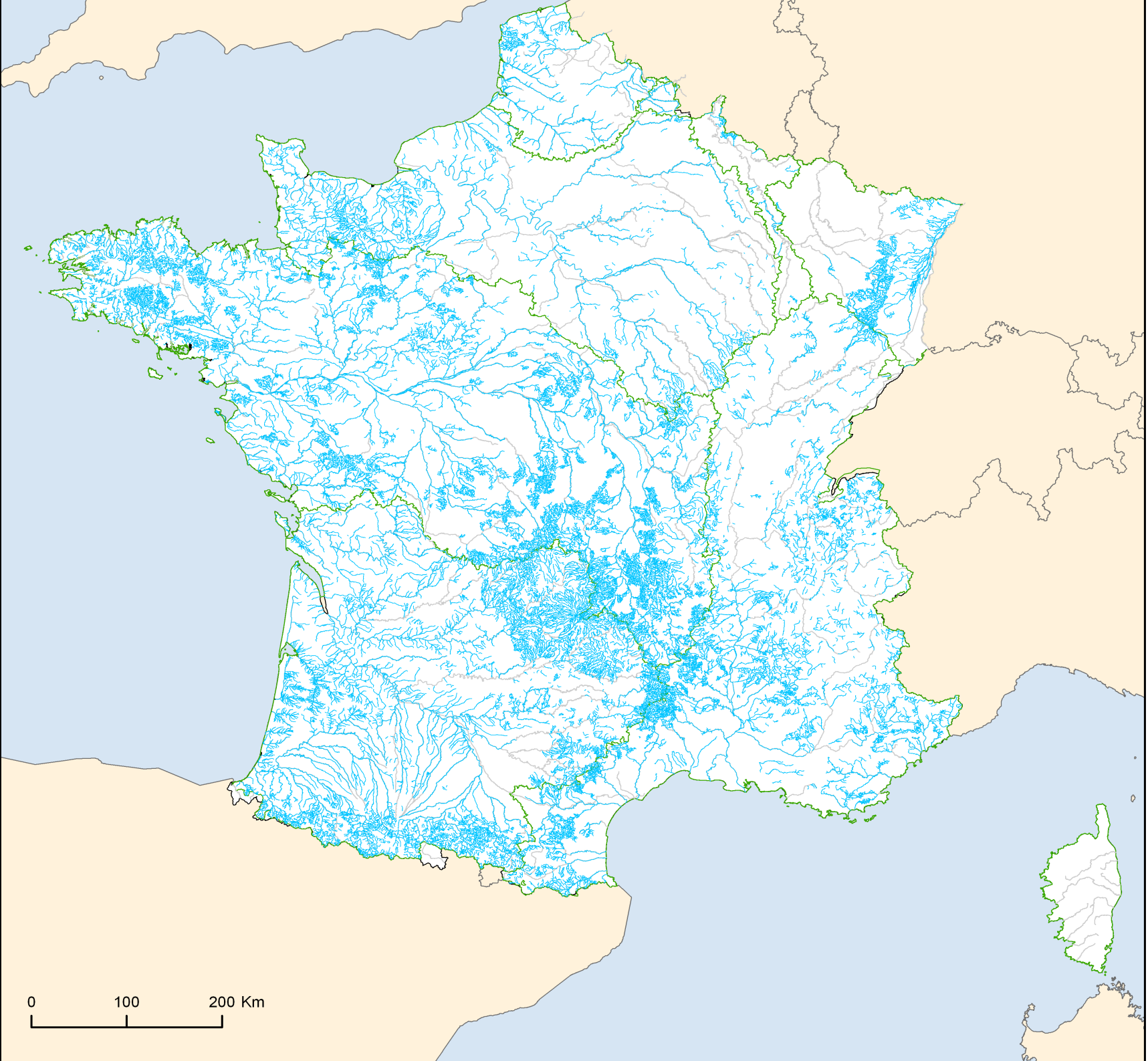
- 1, identify « candidate areas », (biologically rich areas) aquatic N2000 site is one criteria for this identification
- 2, identify areas which need a biological support to achieve or maintain good ecological status
- 3, evaluate links between both areas
- 4, identify a list of “ biological reservoirs”

A long history of rivers' protection relative to hydropower or dams

List 2 : the selection is based on :

- diadromous migratory fish rivers,
 - rivers at risk of failing the environmental objectives due to hydromorphological pressures,
 - and efficient functioning of the “biological reservoirs”, determined in the basin management plan.
- **~10% watercourses**

List 1

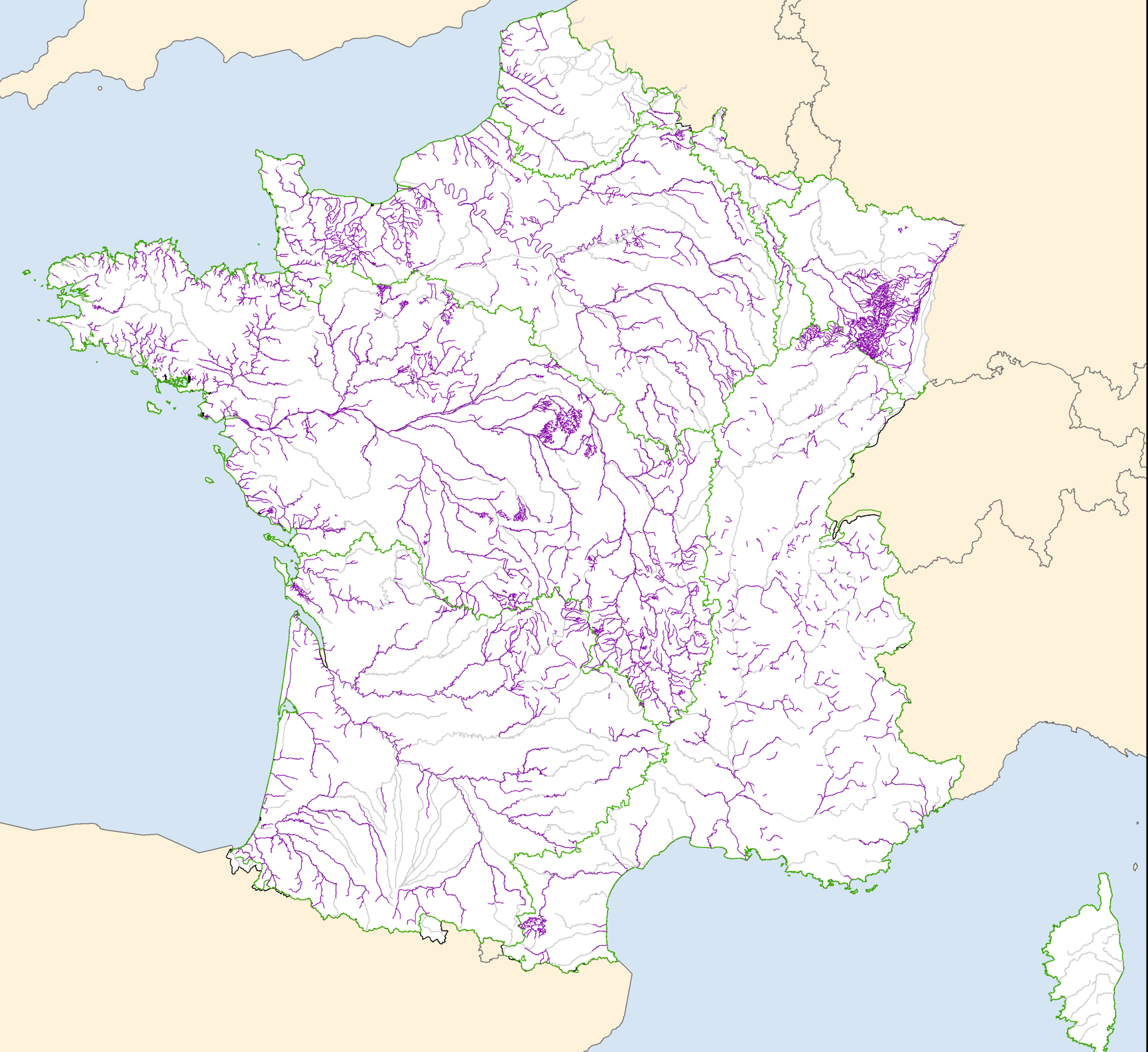


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A small logo in the bottom left corner featuring a blue square with a white cross-like shape. Below it, the text 'Centre de Recherche' is visible. To the right of the logo is a vertical list of letters: 'A', 'D', 'U', 'E'.

0 100 200 Km

List 2



Development of renewable energy planning

SRCAE:

- **Regional schemes for climates, air and energy** have been set out by regional authorities and the State. The aim is to fix regional guidelines and objectives by 2020-2050, in the field of greenhouse gases reduction, energy efficiency and savings, renewable energies development, air pollution policy and climate change adaptation.
- In the field of renewable energies, the schemes identify areas with large or interesting potential or fix development targets.
- The identification of the hydropower potential areas with new dams (**appropriate areas**) is **mainly based on** producers' data and **compatibility with** new lists 1 “no go rivers”, and lists 2 or **biodiversity preservation (Natura 2000**, national parks, endemic species, etc.) which constitute “less or non appropriate areas”.

Target and remaining potential of hydropower

The target set by the multi-annual investment plan (PPI) in France is to increase the average annual production by **3 Twh** and the power capacity by **3000 MW** by 2020

	2006	2012	2013	Evolution
Installed power (MW)	25 358	25 607	n.c.	+ 249
Production (GWh)	65 375	61 357	61 873	-3 502

Evolution of demands for a feed-in tariff in process (File d'attente = demands in process)

Evolution de la file d'attente (MW)

	File d'attente au 31 décembre 2013	File d'attente au 30 juin 2014
RPT	348	457
RPD	95	105
Total	443	562

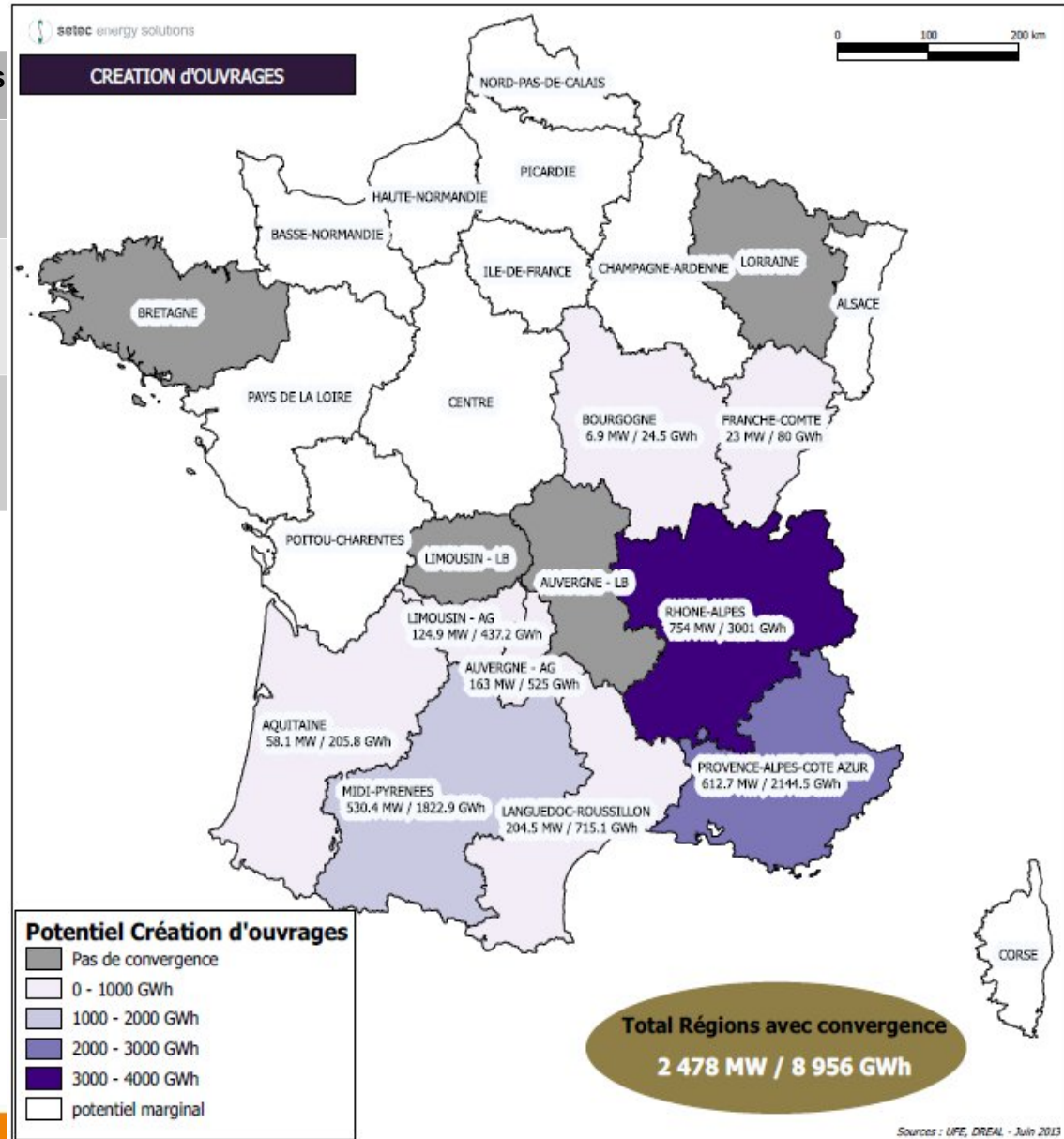
Demands in process represent 20 % of necessary capacities to achieve the target

This is not enough, and justifies a call for tenders with a financial support

Target and remaining potential of hydropower

Repartition of the potential : Potential by new plants:

		List 1 rivers	Other rivers
New plants	Authorisation (gross power < 4,5 MW)	≈ 580 MW 1,9 TWh	≈ 170 MW 0,9 TWh
	Concession (gross power ≥ 4,5 MW)	≈ 1600 MW 5,8 TWh	≈ 490 MW 1,7 TWh
Equipment of existing dams	Authorisation	≈ 260 MW - 470 MW (0,9 Twh – 1,7 Twh)	



Preparation of calls for tenders

2 types of tenders:

1 for small plants and 1 for concessions

The aim of the call for tenders is to deliverer a right to produce electricity and fixed the additional remuneration compared with market price (financial aid)

After the call for tenders, for the successful projects, the environmental license will be examined within the ordinary procedure

To lower the risk that the environmental license will be refused, a preliminary environmental assessment is required and the score is weighted between 3 criteria : financial aid level, energy efficiency and environmental impact

Preparation of calls for tenders

1 call for small hydropower under authorisation (<4,5 MW) divided in 2 lots:

- **New plants.** Draft terms : minimum power of the plant [*remains to be defined*], for a total of [*remains to be defined* : x MW], not on lists 1

- - **Equipment of existing dams.** Draft terms : no conflict with an intention of dam removal, mini power of the plant [*remains to be defined*], not on list 1 “diadromous fishes”, and without bypassed rivers on others criteria of lists 1, for a total of [*remains to be defined* : x MW]

Weighted score between 3 criteria : financial / energy / environmental

A preliminary environmental assessment is required (light) for the environmental score and a great focus is given in the score at “the sensibility” of the site : (for example if the project is on a **Natura 2000 site, the score will be lowered**)

Preparation of calls for tenders

1 call for concessions (>4,5 MW) :

For concessions, the State has first to choose the interesting areas (with not too many or important environmental stakes)

- This assessment of potential sites is in process.
- Quite a lot of potential sites seem to be located on or close to a Natura 2000 site...

Thanks for your attention