

Enhancing the public-private partnership to foster the CCS deployment

The French example

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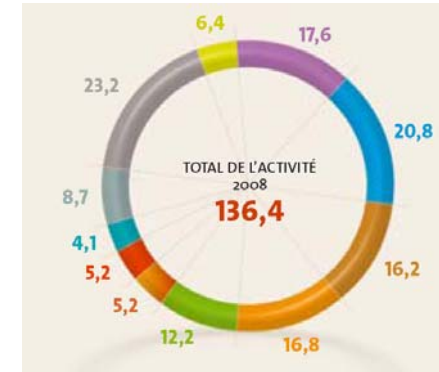
Géosciences pour une Terre durable

brgm

BRGM introduction

> Public institute for research and expertise in Earth Sciences (EPIC).

- Quality certification ISO 9001.
- Carnot label (research partnership)
- placed under the supervision of the Ministry of Research and the MEEDDAT.



> Two targets :

- To understand geological phenomena, to develop methodologies and new techniques, to produce & distribute relevant and quality data
- To distribute necessary advice and tools to local and central administration in order to be able to manage natural resources, natural hazards, pollution of soil and water, regional development

> Four missions :

- technological Research, Development and Innovation
- Support to public policies and information of the citizens
- International Co-operation and development aid
- Prevention and monitoring of the old mining sites



CO2 at BRGM

> **Two objectives:**

- to recognize, to characterize and to qualify the **deep aquifers** favorable for storage and to assess their storage capacity
- to characterize the potential **impacts on the environment** and the **risks** related to storage, and to propose **safety criteria** in order to bring an expertise to the administration, the European Commission and the private companies.

> **Three research and development orientations**

- to consolidate a **reference position** for the assessment of the storage capacities and the behavior of the injected CO2 in deep aquifer
- to build and develop the capacity of **public expertise** on the environmental impact and the safety criteria for geological storage
- to ensure, in the compliance with the rules of quality and deontology, a **scientific support to the private sector**.

For an urgent deployment

- > Among the main issues, national and international policies are of first order :**
 - Adequate policy
 - Financial Incentive
 - Stakeholders confidence
 - Public awareness
 - Management of possible conflicts of interest
 - Safety state guaranty

- > A strong partnership is essential between all the stakeholders**

France example

> The framework :

- The EU Energy package (2008) under French Presidency
 - A market framework: inclusion of CCS in the **CO2 European Trading System** (ETS)
 - A storage regulation framework (the geological **CO2 storage directive**)
 - An incentive framework (the **NER 300**) to support commercial scale demonstrations

> The national actions :

- National global policy
 - A **Climate Strategic Plan** (2007) including Factor 4 objective
 - **Grenelle forum** between stakeholders (2007-2008)
 - **Grenelle1 law** (2009) – no new coal fired power plant without CCS
 - **Grenelle2 law** (2010) – a regulation for CO2 storage exploration
 - **A Green Industry Strategy** (2010)



The French Regulation framework

> « Grenelle 1 » Law

- **CHAP V – To intensify research in the field of the sustainable development**
 - Article 19: [...] **specific program** will be dedicated to Clean Technologies. **A legal framework will be defined for the Carbon Capture and Storage technologies and dedicated financings will be allocated**
- **Amendment N° 1106 Rect**
 - " Any project of new coal fired power plant will have to be designed in order to be equipped as soon as possible with **devices allowing CO2 capture, transport and storage** "

> " Grenelle 2 " Law: a national commitment for the environment

- **a specific section is added within book II of the Environment code.**
 - It concerns **exploration** of geological formations appropriate for underground storage of gases made up of mainly CO2
 - It allows **tests of injection**



The French Green Industry strategy

> A new strategy: the Green industry

- To identify the industrial and technological stakes for the CCS Industry
- To create national champions leading the world market
- To facilitate the successful economical conditions for job creation

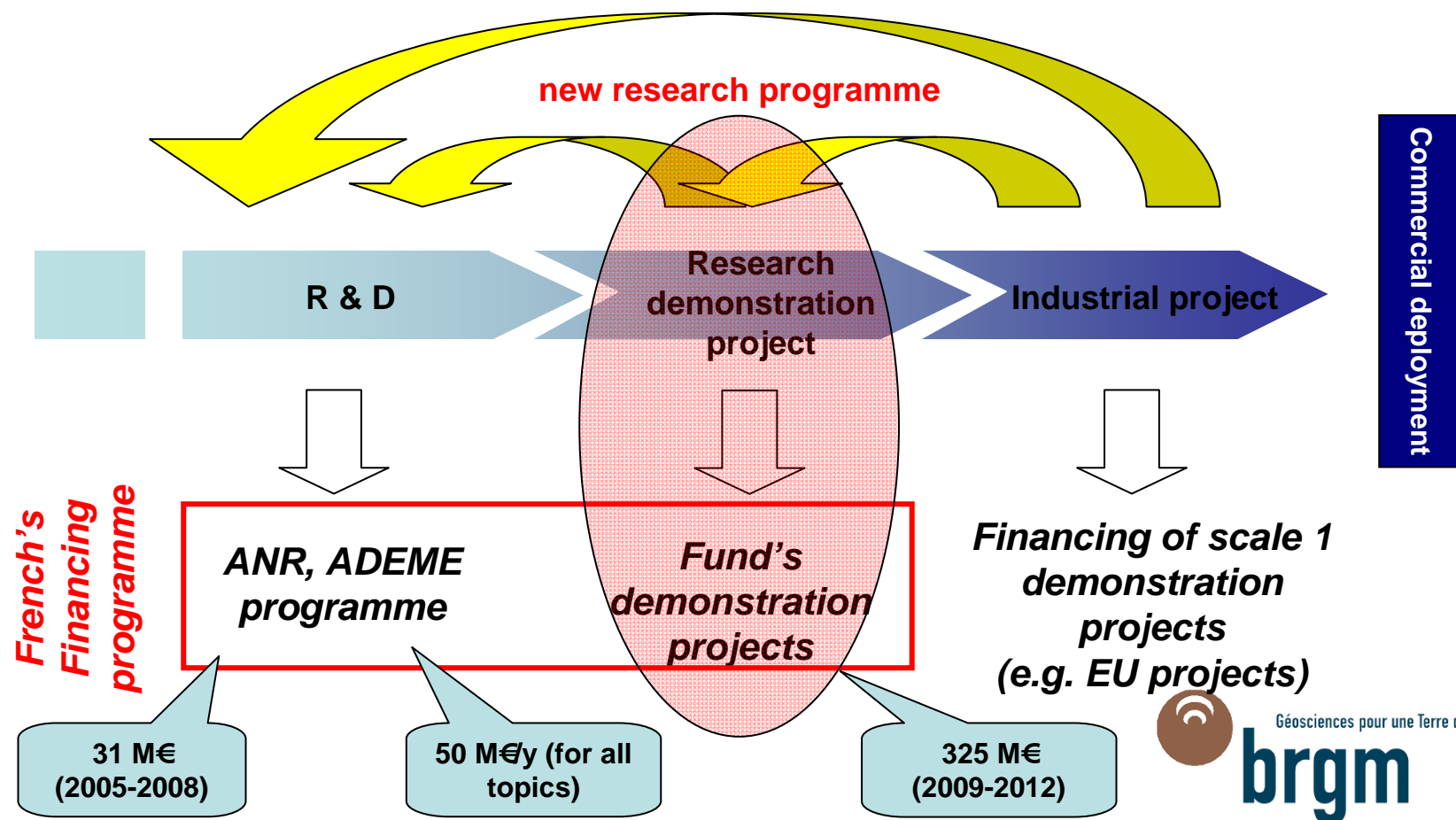
> Setting up of specific funds

- Managed by ADEME, a Public Agency for Environment and Energy Management, to validate technological options in the field of new energy technologies by using the demonstration stage



Incentives

Research Demonstrator Fund in the National Institutional Organization of Energy Research



Conclusion

To foster CCS deployment

> France is setting up a global strategy based on public-private partnership

- To set up an integrated strategy to enhance research in the field of environment and energy (from fundamental research to demonstration)
- To set up adapted regulations
- To set up specific funds in order to boost a new Green Growth